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SARIOSIYO TUMANI AHOLISI SALOHİYATI DINAMİKASI VA ULARDAN MEHNAT RESURSI SIFATIDA FOYDALANISH MASALALARI

***Annotatsiya:** Mazkur maqola Sariosiyo tuman aholisi, milliy va etnik tarkibi, aholining xo'jalikdagi faoliyati haqida ma'lumotlar berilgan. Shuningdek, tuman aholisini mehnat resursi sifatida baholash, aholining bandlik darajasi va ishsizlik masalalariga to'xtalib o'tilgan.*

***Kalit so'zlar:** aholi soni, tug'ulish, aholining yosh tarkibi, aholining etnik tarkibi, mehnat yoshidagi aholi, aholining bandlik darajasi.*

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ISSUES OF POTENTIAL DYNAMICS OF THE POPULATION OF THE SARIASIYA DISTRICT AND THEIR USE AS A LABOR RESOURCE

***Annotation:** this article provides information about the population, National and ethnic composition of the Sariasia district, about the activities of the population on the farm. It also touched on the issues of assessing the population of the district as a labor resource, the level of employment of the population and unemployment.*

***Keywords:** population, birth, age composition of the population, ethnic composition of the population, population of working age, employment level of the population.*

Kirish. Aholi–takror barpo bo‘luvchi biologik organizm hisoblanadi. Tug‘ilishning yuqoriligi ma’lum hududlar uchun arzon ishchi kuchi sifatida ijobiy qaralsa, aksariyat mamlakatlar uchun ishsizlik darajasining oshib borishiga, ta’lim, sog‘liqni saqlash kabi ijtimoiy sohalar rivojlanmagan hududlar uchun salbiy masalalarni keltirib chiqaruvchi kuch sifatida qoraladi. Ma’lum bir hudud aholisini o‘rganishda unga ishchi kuchi, mehnat resursi sifatida qarash muhim omillardan hisoblanadi.

Mavzuga oid adabiyotlar sharhi. Surxondaryo viloyatida 2025 yil 1-yanvar holatiga ko‘ra 2 945 500 kishi istiqomat qilmoqda. Shundan, eng ko‘p aholiga ega bo‘lgan tumanlarga Denov (420,2 ming), Jarqo‘rg‘on (238,3 ming), Sho‘rchi (228,5 ming), Qumqo‘rg‘on (255,5 ming) tumanlari kiradi. Mazkur tumanlarda viloyat aholisining 39,7% qismi yashaydi (1-jadval).

Birgina Sariosiyo tumanida viloyat aholisining 7,9 % qismi yashaydi. Ammo tumanning urbanizatsiya ko‘rsatgichi viloyat urbanizatsiya ko‘rsatgichidan ancha past. Urbanizatsiya darajasi past tumanlarga Bandixon (17,9 %), Sariosiyo (19,1 %), Jarqo‘rg‘on (19,9 %), Uzun (23,2%), Qiziriq (26,5%), Sherobod (29,8 %) tumanlari kiradi. Mazkur tumanlarda rbanizatsiya ko‘rsatgichlari 30 % ga ham yetmaydi.

Viloyatdagi Angor (48,5 %), Boysun (41,8 5), Oltinsoy (40,2 %) tumanlarida shaharlarda yashovchi aholi salmog‘i viloyat urbanizatsiya ko‘rsatgichlaridan ancha yuqori. Qolgan qishloq tumanlarida urbanizatsiya ko‘rsatgichlari 30-40 % atrofida.

1-jadval.

Surxondaryo viloyati hududlari bo‘yicha aholi sonining taqsimlanishi (ming kishi hisobiga)

	Jami aholi (01.01.2025)	Shu jumladan		Urbanizatsiya darajasi (% hisobida)
		Shahar aholisi	Qishloq aholisi	
Surxondaryo viloyati bo‘yicha	2945,5	1064,1	1881,4	36,1
Termiz shahri	207,3	207,3	0	100
Oltinsoy tumani	197,4	79,3	118,1	40,2
Angor tumani	147,0	71,3	75,7	48,5
Bandixon tumani	85,3	15,3	69,9	17,9
Boysun tumani	127,1	53,2	73,8	41,8
Muzrabot tumani	156,8	57,3	99,5	36,5
Denov tumani	430,5	151,7	278,8	35,2
Jarqo‘rg‘on tumani	244,0	48,7	195,3	19,9
Qumqo‘rg‘on tumani	261,6	84,8	176,8	32,4
Qiziriq tumani	126,9	33,7	93,2	26,5
Sariosiyo tumani	232,9	44,5	188,4	19,1
Termiz tumani	87,2	27,2	60,0	31,2
Uzun tumani	192,4	44,7	147,7	23,2
Sherobod tumani	214,9	64,1	150,8	29,8
Sho‘rchi tumani	234,2	80,8	153,4	34,5

Manba: Jadval ma'lumotlari Surxondaryo viloyati statistika boshqarmasi ma'lumotlari asosida mualliflar tomonidan tahlil qilindi.

Sariosiyo tumanida 2025 yil 1-yanvar holatiga ko'ra 232900 kishi istiqomat qilmoqda. Bugungi kunda tumanda 18 ta millat vakillari ahil-inoq bo'lib istiqomat etmoqdalar. Jumladan o'zbeklar 58%, tojiklar 39% ni tashkil etsa, bundan tashqari rus, ukrain, tatar, koreys, arman, afg'on, lo'li, qozoq, polyak millatlariga mansub aholi ham bor [1; 6-bet].

Tadqiqot metodologiyasi. Sariosiyo tumani 61 ta mahalla fuqarolar yig'inidan iborat bo'lib, eng katta mahalla fuqarolar yig'ini hududi 10 000 gektarga yaqin bo'lsa eng kichigi 32 gektar atrofida hududga ega. Qiziqarli holat shundan iboratki, eng kichik beshta mahalla fuqarolar yig'ining to'rttasidan Sharg'un shahri tarkib topgan. Buning sababi ushbu kadastr massivlarida aholi zichligi katta va qishloq xo'jaligiga mo'ljallangan yerlar mavjud emas. Masalan, Sharg'un shahrida joylashgan eng kichik mahalla fuqarolar yig'ini yani kadastr massivi sifatida qayd etilgan Madankon mahallasida 1118 ta turar joy fondidagi ko'chmas mulk obyekti mavjud bo'lsa, eng katta kadastr massivi bo'lgan Chosh mahalla fuqarolar yig'inida esa atigi 264 ta yakka tartibdagi turar joy yer uchastkalari mavjud. Bundan ko'rinib turibdiki aholi zichligi shahar hududlarida zich, tog'li hududlarda juda siyrak joylashgan.

Tahlil va natijalar. Tuman qishloq xo'jaligida paxtachilik, g'allachilik, chorvachilik taraqqiy etgan. Aholining asosiy qismi qishloq xo'jaligida band. Sanoat ham tumanda salmoqli o'rin tutadi. Sharg'un toshko'mir koni, marmar, fosfor konlari, rux foydali kazilmalari mavjud. Sariosiyo tumanida bugungi kunda 3 ta qo'shma korxona, 34 ta kichik korxona, 2 ta temirbeton buyumlari korxonasi, 2 ta shag'al saralash zavodlari, 1 ta Sariosiyo parrandachilik korxonasi faoliyat yuritmoqda. Mazkur korxonalarda mehnatga yaroqli aholining asosiy qismi band. Qo'shma korxonalardan „Miftox“ O'zbekiston-Rossiya, „Lajer“ O'zbekiston-Tojikiston (pivo ishlab chiqaradigan) korxonalari ishlab turibdi. Tuman hududidan Kalif - Termiz - Sariosiyo - Tojikiston „Do'stlik“ tabiiy gaz quvuri hamda Termiz-Dushanbe temir yo'li o'tgan. Bu esa aholining yashash tarziga ijobiy ta'sir ko'rsatmoqda.

Tumanda 11 ta shirkat, 229 ta fermer va dehqon xo'jaliklari faoliyat ko'rsatadi. Tumanda Uzun o'rmon xo'jaligi, Hisor dorivor o'simliklar xo'jaligi, asalchilikka ixtisoslashgan xo'jalik mavjud. 2003 yilda Tuman hududining 5765 ga maydonga paxta, 3300 ga maydonga g'alla, shuningdek, sabzavot, beda, yem-xashak ekinlari ekilgan. Tumanda meva va uzum yetishtiruvchi xo'jaliklar ham bor. Tuman jamoa va shaxsiy xo'jaliklarida 51 ming bosh qo'y va echki, 7 ming bosh ot boqiladi, shuningdek, qoramol, parrandachilik fermalari ham bor. Yirik hisor qo'ylari yetishtiriladi. Ekinzorlar Hasanxon kanali, Katta va Kichik Damariq kanallaridan sug'oriladi.

Tumanda 2022 yilda 43 ta maktabgacha ta'lim tashkiloti (7181 nafar tarbiyalanuvchi), 2024 yilda 92 ta umumiy o'rta ta'lim maktabi (44377 nafar

o'quvchi), 1 ta texnikum (726 nafar o'quvchi), 1 ta kasb hunar kolleji (256 nafar o'quvchi), 1 ta kasb-hunar maktabi (256 nafar o'quvchi) faoliyat ko'rsatadi. Sariosiyo tumanida 25 ta ambulator-poliklinikalar, 6 ta mehmonxona, 4 ta shifoxona muassasasi, 41 ta kutubxona, 3 madaniyat uyi, 11 klub, xalq teatri, ashula va rake ansambli ishlab turibdi. Stadion va boshqa muassasalar mavjud. Bundan tashqari Xondiza dam olish majmuasi aholiga xizmat ko'rsatadi. Tuman hududi orqali Toshkent -Dushanbe, Uzun -Sharq'un poyezdlari o'tadi. Tuman markazidan Termiz, Toshkent shaharlariga avtobuslar qatnovi yo'lga qo'yilgan.

Sariosiyo tumanining Qorovultepa hududidan topilgan buyumlar bu yerda milodning I-III asrlarida ham madaniy hayot mavjud bo'lganidan guvohlik beradi. Ilk o'rta asrda (V-VIII asrlar) tuman xududida bir qancha qal'a – shaharlar mavjud bo'lgan. Bulardan yiriklari: Kultepa, Nonvoytepa, Xumdontepa, Xo'roztepa, Kofirqal'a (Navandaqtepa), Qo'rg'ontepa, Boburtepa, Beshkapa, Hisortepa va boshqalar. Tumanning tog'li qismida yuqori paliolit, must'e davriga oid manzillar (Xushdara, Podaxona, Namozgoh, Qo'rg'onjuvoz, Darianhor va boshqalar) uchraydi. X-XII asrlarda Xumdontepa juda rivojlangani haqida ma'lumotlar bor. Arab - fors manbalarida tilga olingan Xumdon qishlog'i shu joy o'rniga to'g'ri keladi.

Shag'un shahri 1973-yil tashkil etilgan. Aholisi 12 mingdan ortiq. Hisor tog'larining yonbag'ridagi xushmanzara yerda joylashgan. Sharq'un ko'mir koni 1941-yilda o'rta va yuqori yura davriga mansub ko'mir yotqiziqlari ichida topilgan. Shahardagi asosiy jamoat binolari shu konning faoliyati bilan bog'liq. Shahardan Sharq'un ko'mir konigacha osma sim yo'li o'tkazilgan. Uylar asosan bir qavatli. Shaharning shimoliy qismida Shahtiyor ko'chasi bo'ylab ikki qavatli uylar qurilgan. Shaharda bir necha bilim yurtlari, musiqa maktabi, kinoteatr, savdo rastalari, istirohat bog'i bor. Tumanda ko'plab yirik inshootlar korxonalar, kichik korxonalar qurilishi jadal davom etmoqda. Keyingi vaqtda neft mahsulotlari bazasi, un zavodi majmuotini o'z ichiga olgan yirik tayyorlov korxonasi, yangi paxta zavod, maktablar, agrobank, xalq banki binolari qurildi.

Xulosa va takliflar. Sariosiyo tumani viloyatda eng tez aholi soni o'sayotgan tumanlardan hisoblanadi. Tumanda 2023 yilda iqtisodiy faol aholi soni 84900 kishini, ishsizlar soni 6400 nafarni, ishsizlik darajasi esa 7,7% ni tashkil etgan. Ishsizlik darajasi viloyat ko'rsatgichidan 0,2 % ga ko'p. Ishsizlik darajasi ko'rsatkichlarini pasaytirish uchun tumanda ish o'rinlari sonini ko'paytirish, maktab bitiruvchilarini kasb-hunarga yo'naltirish, faoliyati to'xtagan korxonalar faoliyatini yo'lga qo'yish, aholiga imtiyozli kreditlar berish orqali o'zini-o'zi band qilishni yo'lga qo'yish mumkin. Mazkur ishlar bajarilsa tuman aholisi orasida ishsizlik ko'rsatkichlari sezilarli darajada kamayadi.

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GEOGRAFIYA TA'LIMIDA O'QUVCHILARDA EKOLOGIK BILIM VA MADANIYATNI SHAKLLANTIRISH

***Annotatsiya:** Ushbu maqolada Qoraqalpog'istondagi maktablarda tahsil olayotgan o'quvchilarda ekologik bilim va madaniyatni shakllantirishda geografiya fanining ahamiyati tushuntirilib, muayyan taklif va tavsiyalar ishlab chiqilgan.*

***Kalit so'zlar:** ekologik bilim, ekologik madaniyat, ekologik inqiroz, tabiiy resurs, biologik xilma-xillik, atrof-muhit.*

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FORMATION OF ECOLOGICAL KNOWLEDGE AND CULTURE IN STUDENTS THROUGH GEOGRAPHY EDUCATION

***Abstract:** This article explains the significance of geography in the formation of ecological knowledge and culture among students in schools of Karakalpakstan and develops certain proposals and recommendations.*

***Keywords:** ecological knowledge, ecological culture, ecological crisis, natural resource, biodiversity, environment.*

Davlatimiz Prezidenti Sh.M. Mirzyoevning rahbarligida qabul qilingan 2022 — 2026 yillarga mo'ljallangan Yangi O'zbekistonning rivojlantirish strategiyasini amalga oshirishga oid Davlatt Dasturida;

Yoshlarga oid davlat siyosatini takomillashtirish bo'yicha:

Jismoniy jiqatdan sog'lom, ma'naviy va intellektual rivojlangan, mustaqil fikrlaydigan, jiddiy hayotiy nuqtai nazarga ega, Vatanga sodiq yoshlarni tarbiyalash, demokratik islohotlarni chuqurlashtirish va fuqarolik jamiyatini rivojlantirish borasida ularning ijtimoiy faolligini oshirish; [1]

Yosh avlodning ijodiy va intellektual qobiliyatini qo'llab-quvvatlash hamda ro'yobga chiqarish, bolalar va yoshlar o'rtasida sog'lom turmush tarzini shakllantirish, ularni jismoniy tarbiya va sportga keng jalb etish hamda boshqa yoshlarga mo'ljallangan davlat siyosatini amalga oshirish vazifalari maqsad qilib qo'yildi.

O'zbekiston Respublikasi Prezidenti Sh.M.Mirziyoev o'zining «YANGI O'ZBEKISTON-STRATEGIYASI» asarida «Yangi O'zbekistonni barpo etish – bu shunshaki hoqish-istak, sub'ektiv hodisa emas, balki tub tarixiy asoslapiga ega bulgan, mamlakatimizdagi mabjud siyosiy-huquqiy, ijtimoiy-iqtisodiy, ma'nabiy-ma'rifiy baziyatning o'zi taqoza etayotgan, xalqimizning asriy orzu-intilishlariga

mos, uning milliy manfaatlariga to'la jabob beradigan ob'ektiv zaruratdur»[2] deb qayd etkaniday ushbu vazifalarni amalga oshirishda, ayniqsa, o'rta ta'lim maktablarining ta'lim-tarbiya ishlarini yanada takomillashtirish, bu ishlarda pedagogik jamoaning ta'lim-tarbiya berish turlarini boyitish, yangi pedagogik texnologiyalar asosida yoshlarni har tomonlama kamol toptirish g'oyat muhimdir.

Bugungi kunning eng dolzarb masalalaridan biriga aylangan ekologik muammolarni hal etishda, albatta, yoshlarda ekologik bilim va madaniyatni shakllantirish g'oyat muhim ahamiyatga ega.

Inson dunyoga kelar ekan, u avvalo o'z uyi, qishlog'i, ko'chasi, tug'ilgan maskani, keyin butun dunyoni anglay boshlaydi, mehr qo'yadi, uni Vatan deb ardoqlaydi. Vatan oiladan boshlanadi deganlarining ma'nosi shu.

Inson tabiat bilan uzviy bog'liq. U tabiat bilan aloqa va munosabatda bo'lmasdan, yashashi mumkin emas. Inson hayotini tabiatdan, tabiiy boyliklardan ayri holda tasavvur qilish mumkin emas.

XXI asr eshiklarini dadil ochgan yurtimiz mustaqilligi bizga Vatan tushunchasi, tug'ilgan yurt, ona tilimiz, madaniyatimiz, qadriyatlarimiz, o'zligimizni anglash baxti berdi, eng muhimi yetti otamiz, ajdodlarimizni, ularning kimligi, yashagan davri, hayotdagi o'rini bilish, ajdodlarimiz xotirasini e'zozlash, ular maskan tutgan joylarni bilishga bo'lgan qiziqish va burchimizni uyg'otdi.

Tabiatni e'zozlash, atrof-muhitni muhofaza qilish haqidagi ko'rsatmalar ajdodlarimizdan asrlar osha o'ta ma'naviy meros sifatida ilhom manbai bo'lib kelgan. Tabiatga mehribonlik inson dunyoga kelgan paytidan, go'daklik chog'idan uning qalbiga singa boshlaydi. Tabiatga mehri kuchli bo'lgan insonning el-yurtga, Vatanga bo'lgan mehr-muhabbati ham yuksak bo'ladi. Ta'lim-tarbiyada, ayniqsa, tabiatni e'zozlash haqidagi sharq xalqlariga xos hikmatli so'zlar ko'p. Buning uchun avvalo kichik maktab yoshidagi o'quvchilarni ekologik madaniyatli yoshlar etib tarbiyalashimiz kerak. [6]

Vatanimizda ekologik sharoit va ekologik tarbiyaga mustaqilligimizdan keyin katta e'tibor qaratildi. Ungacha esa O'zbekistondagi ekologik muammolar e'tiborga olinmagan. Shu sababli mamlakatimizdagi ekologik vaziyat bir qancha muammolarni keltirib chiqarmoqda. Bu muammolarni hal etishda ekologik tarbiya ta'lim tizimining ustuvor yo'nalishlaridan biriga aylandi.

Endilikda atrof-muhit, tabiat boyliklariga e'tiborsiz bo'lish butun sayyoraga jiddiy zarar yetkazishi mumkinligi aniq bo'lib qoldi. Inson bilan tabiat o'rtasidagi munosabatlar muammolarini hal etish zarurati tug'ildi.

Shu yo'nalishda ekologik holatni sog'lomlashtirish ustuvor ishlardan biri bo'lib qoldi.

Geografiyaning boshlang'ich kursi bo'lgan "Tabiiy geografiya"ni o'rganuvchi o'quvchilarda ekologik madaniyatni shakllantirish, ularga tabiat, atrof-muhit bilan qanday munosabatda bo'lishni o'rgatish ta'lim tizimining dolzarb masalasiga aylandi.

Yangi asrning navqiron insoni o'zida ekologik tarbiya elementlarini ham namoyon eta olishi zamon talabi bo'lib qoldi. Ekologik bilim - atrof-muhit haqidagi chuqur bilim, tabiatni asrash tuyg'usiga ega bo'lish, o'simliklar hamda hayvonlarga

g'amxo'rlik ko'rsatish, tabiat boyliklaridan oqilona foydalanish, ularni ko'paytirish masalasiga qaratilgan amaliy faoliyatning yuksak ko'rsatkichidir.

Ana shu xususiyatlarni o'zida namoyon eta olgan insonni ekologik tarbiya sohibi deb atash mumkin.

Ortiqcha suvni iflos qilmaslik, suv havzalarini iflos qilmaslik, chiqindilarni duch kelgan joyga to'kmaslik, turar joylarni ozoda saqlash, ko'chat va gullarni sindirmaslik hamda ularni ekish, hayvonlarga, qushlarga g'amxo'rlik qilish, hovli oldi va ko'chalarni gulzorlarga aylantirish kabi harakatlarni amalga oshirish ekologik madaniyatning eng oddiy ko'rinishidir.

Ekologik ta'lim va tarbiya - insonni tabiatga qadam qo'ygan paytidan boshlab, butun umri davomida tabiatdan oqilona va ongli ravishda foydalanish, yosh avlodlarni tabiatga hurmat va e'tibor bilan qarash, tabiiy boyliklarni ko'paytirish tuyg'usiga tarbiyalash, bog'lar, gulzorlar barpo etishga moslashtirish, inson qalbida ezgu tuyg'ular uyg'otishdan iboratdir.

Bugungi kunda ekologiya, ekologik ta'lim masalalariga katta e'tibor qaratilmoqda. Geografiya darslarida dars va darsdan tashqari vaqtlarda ekologik bilim muntazam ravishda berib borilmoqda. Ekologik ta'lim berish maqsadida darsliklar tarkibiga ham bir qancha mavzular kiritilib, bu albatta o'quvchilarning bilim va tarbiyasini oshirishga yordam beradi. [8]

Geografiyaning boshlang'ich kurslarida ekologik ta'lim dars va darsdan tashqari vaqtlarda amalga oshiriladi. Darsdan tashqari vaqtlarda o'quvchilarni tabiat qo'yniga, tabiat muzeylariga sayohatga olib chiqib, hasharlar, suhbatlar o'tkazish orqali ekologik tarbiya elementlari shakllantiriladi.

Dars jarayonida o'quvchilar ekologik tarbiyani o'qituvchining tushuntirishi hamda darsliklarda berilgan mavzular orqali oladilar.

Sinfdan va maktabdan tashqari ishlar shaxsni har tomonlama kamol toptirish va uni hayotga tayyorlash uchun keng imkoniyatga ega. Bu ishlar o'quvchilarning qiziqishlariga muvofiq ravishda ixtiyoriylik asosida tashkil etilishi lozim. O'quvchilar sinfdan tashqari ishlarda o'zlarini qiziqtirgan mashg'ulotlarni tanlab oladilar va ular bu ishlarga o'zlari shaxsiy tashabbus asosida qatnashadilar. [4]

Xulosa qilib aytganda, ekologik tarbiya berish orqali o'quvchilar:

- tabiat, uning komponentlari, ular o'rtasidagi qonuniyatlar haqidagi ilmiy-amaliy bilimga ega bo'ladi;
- umuminsoniy ekologik dunyoqarash shakllanadi;
- tabiat boyliklari zaxiralarini asrab-avaylash va ulardan oqilona foydalanish ko'nikmalari hosil bo'ladi.

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O'ZBEKISTONDA SANOAT TARMOG'INI RIVOJLANTIRISHDA KICHIK BIZNESNING O'RNI

***Annotatsiya.** Mazkur maqolada O'zbekistonda sanoat tarmog'ini rivojlantirishda kichik biznesni o'rni, xususan sohada davlat boshqaruvi tizimini takomillashtirish, bozor munosabatlarini keng joriy qilish, axborot-kommunikatsiya texnologiyalarini keng joriy etish, shuningdek, ilm-fan yutuqlaridan samarali foydalanish kabi masalalarga e'tibor qaratilgan.*

***Kalit so'zlar:** aloqa, tadbirkorlik, biznes, atrof-muhit, investisiya, tadbirkorlik faoliyati, xorijiy investisiyalar, investisiya tizimi.*

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THE ROLE OF SMALL BUSINESS IN THE DEVELOPMENT OF THE INDUSTRY IN UZBEKISTAN

***Abstract.** The article examines the role of small business in the development of the industrial sector of Uzbekistan, in particular, such issues as improving the public administration system in the industry, the widespread introduction of market relations, the widespread introduction of information and communication technologies, as well as the effective use of scientific achievements.*

***Keywords:** communication entrepreneurship, business, environment, investment, entrepreneurial activity, foreign investment, investment system.*

Kirish.

Bugungi kunda sanoat tarmog'i jahon iqtisodiyotining barqaror o'sishiga salmoqli hissa qo'shib kelayotgan yetakchi tarmoqlardan hisoblanadi. Mazkur tarmoqning o'z salohiyatini namoyon etishida kichik biznes korxonalarining imkoniyatlaridan foydalanish ahamiyatli ta'sir ko'rsatadi. Zero, kichik biznesning iqtisodiyotning harakatchanligi va moslashuvchanligini ta'minlash, undagi raqobat muhitini kuchaytirish, yangi ish o'rinlarini yaratish, sanoat kooperatsiyalari orqali yirik korxonalar samaradorligini oshirish kabi ijtimoiy-iqtisodiy funksiyalaridan sanoat ishlab chiqarishini tashkil etishda foydalani sh tarmoqning faoliyat samaradorligini sezilarli darajada oshiradi. Shunga ko'ra, keyingi yillarda rivojlangan mamlakatlarda kichik sanoat korxonalarining faoliyatini kengaytirishga alohida e'tibor qaratilmoqda.

Butun jahonda global raqobatning keskinlashuvi sharoitida qayta ishlash

sanoati tarmoqlari va aholining qishloq xo'jaligi xomashyosi va oziq-ovqat mahsulotlariga bo'lgan talablarini qondiruvchi qishloq xo'jaligi tarmog'ining ahamiyati oshib bormoqda. Statistik ma'lumotlarga ko'ra, "bugungi kunda jahon qishloq xo'jaligi iqtisodiy faol aholining 1 mlrd. kishidan ziyodini bandligini ta'minlamoqda, shuningdek jahonda ishlab chiqarilgan jami mahsulotlarning 5 foiziga yaqini mazkur tarmoq hissasiga to'g'ri keladi. Prognoz ma'lumotlari shuni ko'rsatadiki, 2050 yilga borib, jahon aholisi 9,1 mlrd. kishiga yetishi mumkin. Bu holatda jahon aholisining go'sht va sut mahsulotlariga bo'lgan talabi hozirgi kunga nisbatan 2,5-3,0 barobarga ortishi kutilmoqda"[1].

Dunyoda tovarlar bozori infratuzilmasi o'zgarishi, chakana va ulgurji savdoning zamonaviy ko'rinishlari paydo bo'lishi, korxonalarning raqobat va iste'molchi uchun kurashdagi innovatsion faolligi hamda ularning maqsad, manfaat, funktsiya va jarayonlaridagi farqlar zamonaviy savdo marketingida sezilarli o'zgarishlarni talab etadi. Savdo marketingining asosiy ob'ektlari hisoblangan ishlab chiqaruvchilar, distribyutorlar, ulgurji va chakana savdo korxonalari o'rtasidagi biznes munosabatlariga asoslangan uzoq muddatli hamda o'zaro manfaatli hamkorlik strategiyalarini ishlab chiqish masalalari ustuvor vazifalar sifatida qaralmoqda.

Respublikamizda meva-sabzavot mahsulotlari savdo-logistika, sotish va saqlash jarayonlarini muvofiqlashtirish, biznes yuritishda samarali marketing strategiyalaridan foydalanish asosida iqtisodiy o'sishga erishishga qaratilgan yo'nalishlarga alohida e'tibor berilmoqda [2].

O'zbekistonda agrar sektor sohasi aholining oziq-ovqat va qishloq xo'jalik mahsulotlariga bo'lgan talabini ta'minlash bilan birga, mamlakat eksport salohiyatini oshirishga xizmat qilib, o'tgan yillar davomida sohaga ixtisoslashgan fermer xo'jaliklari faoliyatini rag'batlantirish va rivojlantirish masalalariga alohida e'tibor berilmoqda.

Tahlil va natijalar.

Mamlakatimizda o'tgan yillar davomida qishloq xo'jaligi tarmog'i asosan paxta va g'alla ekinlari uchun ixtisoslashganligi sababli, yuqorida keltirilgan jadval ma'lumotlarida don va dukkakli don ekinlari tarkibida g'alla judda katta ulushga ega ekanligini ko'rishimiz mumkin. Keyingi o'rinlarda makkajo'xori doni, sholi va boshqa turdagi dukkakli ekin (no'xat, loviya, yasniq)larni yetakchilik qilib kelayotganligini ko'rishimiz mumkin bo'ladi. Ayni paytda jami yetishtirilgan dehqonchilik mahsulotlarida fermer xo'jaliklarining ulushi 53,1 foizni, jami yetishtirilgan chorvachilik mahsulotlarida esa 5,3 foizni tashkil etmoqda.

Qishloq xo'jaligida yetishtirilgan mahsulotlar, ming tonnada[6].

Mahsulot turi	2015 y	2020 y	2021 y
Don va dukkakli ekinlar	8 173,5	7 636,0	7 634,6
Kartoshka	2 586,8	3 143,8	3 285,6
Sabzavotlar – jami	9 390,0	10 431,4	10 850,2
Oziqbop poliz	1 853,6	2 134,4	2 285,3
Mevalar va rezavorlar	2 467,9	2 812,6	2 852,6
Uzum	1 518,2	1 606,9	1 695,3
So'yish uchun mol va parranda (tirik vaznda)	2 033,4	2 519,6	2 635,1
Sut	9 027,8	10 976,9	11 274,2
Olingan tuxum	5 535,4	7 781,2	7 788,4
Asal, tonna	10 157,0	13 357,8	14 066,9
Qirqib olingan jun, tonna	36 029	35 422	36 345
Olingan qorako'l terilar	1 032,0	1 152,1	1 252,4
Pilla, tonna	26 293,0	20 941,9	22 769,9

Yuqoridagi 1-jadvalda ko'radigan bo'lsak qishloq xo'jaligida yetishtirilgan mahsulotlarning statistik ma'lumotlari bo'lib ushbu mahsulotlarni etishtirishda xamda ularni qayta ishlash jarayonlarida sanoat sohalari ahamiyati kattadir. Jadvalda don va dukkakli ekinlar 2015 yili 8173,5 ming tonna, 2021 yili esa 7634,6 ming tonna mahsulot etishtirilgan. Kartoshka 2015 yili 2586,8 ming tonna, 2021 yili 3285,6 ming tonna etishtirilgan. Sabzavotlar esa 2015 yil 9390,0 ming tonna, 2021 yili 10850,2 ming tonna etishtirilgan. Shuningdek, 2015 yili 26293,0 ming tonna pilla olingan bo'lsa 2021 yili esa 22769,9 ming tonna pilla olingan. Ushbu olingan va etishtirilgan mahsulotlarni qayta ishlashda tadbirkorlarning o'rni ular sanoat sohalari faoliyatini rivojlanishida beqiyosligidir. Bundan tashqari tadbirkorlar barcha sanoat sohalarni rivojlantirmoqda.

Olingan statistik ma'lumotlarda tashqi savdo aylanmasidagi meva-sabzavot mahsulotlari eksportida asosiy hamkor davlatlar Rossiya (umumiy hajmdan 30,5%), Qozog'iston (20,5%), Afg'oniston (6,6%), Xitoy (5,7%), Turkiya (4,5%) va Qirg'iziston (4,3%) hisoblanadi. Daniya, Yamayka, Amerika samoasi va Janubiy Afrika davlatlariga birinchi marotaba 2021 yilda meva-sabzavot mahsulotlari eksporti amalga oshirildi. Shuningdek, meva-sabzavot mahsulotlari eksporti turlari va geografiyasi yildan yilga kengayib bormoqda. Bolgariya, Shri-Lanka, Indoneziya, Filipin, Gresiya, Qatar, Xorvatiya va Malta davlatlariga birinchi marotaba 2021 yilda meva-sabzavot mahsulotlari va ulardan qayta ishlangan mahsulotlar eksporti amalga oshirildi[6].

Bizga ma'lumki, xususiy tadbirkorlik, kichik biznesni jadal rivojlantirish asosida mulkdorlar sinfini shakllantirish, tegishli institutlar tizimini tashkil etish,

kichik va xususiy tadbirkorlik faoliyati sohasiga kredit resurslarini keng jalb qilish va xorijiy sarmoyalar olib kirish uchun maqbul sharoit yaratib berilgan.

Kichik biznes va xususiy tadbirkorlik faoliyatini innovatsion rivojlanishni ifodalovchi mazkur jarayon, yangi mahsulotlar va xizmatlar uchun g'oyalarni izlash, eng istiqbolli g'oyalarni oldindan tanlash, investorlarni izlash, yangi mahsulot yoki xizmatlarning bozor imkoniyatlarini kengaytirish uchun xizmat qiladi. Maqsadli bozor talablarini qondirishning potentsial imkoniyatlari va yangi texnologik imkoniyatlar o'rtasidagi integrasion aloqadorlik innovatsion ishlanmalarni muvaffaqiyatli tijoratlashtirishga barcha bosqichlarini samarali tashkil etish imkoniyatlarini yaratib beradi. Ayni vaqtda, kichik biznes va xususiy tadbirkorlik subyektlari faoliyatini yanada rivojlantirish, uning mamlakatni ijtimoiy-iqtisodiy rivojlantirishdagi o'рни va ahamiyatini yanada oshirish ular faoliyatini moliyalashtirish tizimini takomillashtirish zaruratini yuzaga keltiradi.

Asosan, sanoat sohaslarini rivojlantirishda tadbirkorlik subyektlarini davlat tomonidan qo'llab-quvvatlash asosan soliq imtiyozlarini o'рни muhim bo'lmoqda. Tadbirkorlik subyektlari uchun har bosqichda soliqqa tortish va soliq ma'murchiligini yengillashtirish, moliyaviy qo'llab-quvvatlash va tadbirkorlik ko'nikmalarini oshirishga qaratilgan mexanizmlar belgilandi. 2023-yil 1 yanvardan boshlab: -mikro biznes uchun aylanmadan olinadigan soliqning yagona 4 foizli soliq stavkasi joriy etildi [6].

Xulosa qilib shuni aytish lozimki, Bugungi kunda qishloq xo'jaligi tarmog'ida tadbirkorlikning rolini oshirish yuzasidan quyidagi tadbirlarni amalga oshirish maqsadga muvofiq:

- xorijiy investitsiyalarni kiritish bo'yicha xorijiy firma va agroklastlar bilan hamkorlikni yanada kengaytirish, eksportbop mahsulotlar ishlab chiqaradigan texnologiyalarni olib kelish, respublikada tashkil etilayotgan xalqaro yarmarkalarning imkoniyatlaridan keng foydalanish;

- qishloq xo'jaligi korxonalariga o'z mahsulotlarini qayta ishlaydigan zamonaviy texnologiyalarni sotib olishi uchun yaratilgan keng imkoniyatlardan foydalanishga ko'maklashish choralari ko'rish;

- qishloq joylarida tashkil etiladigan sanoat korxonalarini xom ashyo, elektr energiyasi, gaz bilan uzluksiz ta'minlash hamda kommunikatsion tarmoqlarni qurishni amalga oshirish va boshqalar.

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ELECTRONIC PRESCRIPTIONS AND MEDICATION CONTROL APPLICATIONS: DIGITAL PHARMACEUTICAL SOLUTIONS

Annotation: *This article analyzes the role and significance of electronic prescription systems and drug control applications in the field of modern pharmaceuticals. Thanks to the rapid development of digital technologies in medicine, the possibility of using electronic solutions for prescribing, dispensing and controlling the consumption of drugs is expanding. Electronic prescription systems allow you to control the flow of medications in an automated manner by simplifying the information exchange between doctors and pharmacists, reducing the number of incorrectly prescribed medications. The article also presents examples from the experience of Uzbekistan and international, discusses the existing problems and future directions of development.*

Keywords: *Electronic prescription, digital pharmacy, drug control, medical information systems, health technology, pharmaceutical innovation, control of drug consumption, e-health, digital medicine, doctor-pharmacist information exchange*

Introduction

The use of digital solutions in different areas of the healthcare system is due to penetration of modern information technologies into the medical field. Especially in the pharmaceutical sector, the introduction of electronic prescription systems, drug control applications and digital monitoring platforms play an important role in improving the quality of medical services, ensuring patient safety and automating healthcare processes. Abandoning traditional paper prescriptions, issuing them in electronic format will not only reduce medical errors, but also serve to prevent the possibility of incorrect or illegal dispensing of drugs in pharmacies.

This article is aimed at an in-depth analysis of the role of modern electronic prescription systems and drug control applications in practice, their effectiveness, convenience and reliability in the healthcare system. The study examines the digital pharmaceutical systems in use in Uzbekistan and foreign countries, their advantages and disadvantages are compared. In particular, the focus will be on aspects such as preventing miswriting or over-prescribing of medicines, strengthening control over a single database of patient histories, and reducing bureaucratic barriers in the healthcare system through the digitization of medical services.

The main purpose of the article is to identify the opportunities to transparently provide medicines through introduction of digital pharmaceuticals, optimize the work of medical workers and improve the quality of patient services. At the same time, technical feasibility of existing systems, user feedback, legal and information security aspects are also considered. The results of this study will serve in the future to develop practical recommendations for the widespread introduction

of electronic prescription systems in healthcare institutions, strengthening pharmaceutical control and improving the system.

Research methodology

This study aims to study in depth the efficiency, level of application and importance of digital pharmaceutical systems in the healthcare system of electronic prescriptions and medicines. A mixed approach – that is, a combination of qualitative and quantitative analyses is used in research. On the one hand, the technical and functional capabilities of existing systems, their role in practice are qualitatively analyzed, on the other hand, user experience, level of effectiveness and existing problems are studied on the basis of statistical data.

The subjects of the study were electronic prescription systems and pharmaceutical control applications, and their application in healthcare, ease of use, safety issues and user experience were selected as subjects. Data collection was collected on the basis of primary sources – questionnaires, interviews and practical observations, while scientific articles, government reports, relevant technical documents and international experience were analyzed as secondary sources. Questionnaires were conducted among pharmacists, doctors, and patients using an electronic prescription system. The interviews, on the other hand, were organized in a semi-structured format and contributed to an in-depth analysis of real cases.

In the data analysis, descriptive statistical methods (percentages, averages) were used, and charts and graphs were used for their visualization. Where necessary, the degrees of connectivity between the systems were clarified by correlational analyses. Excel, SPSS or Python software tools were used as the analysis tool. In addition, their strengths, weaknesses, opportunities and risks were analyzed using the SWOT analysis method on existing systems.

Medical institutions and pharmacies in Uzbekistan were selected as the main area of the study, and international digital pharmaceutical systems were also studied for comparison. However, the study also took into account the possibility that complete technical documentation may not be available because some systems are closed or are developed commercially, and that subjective user opinions may affect the results.

Throughout the study, all information was collected while adhering to the principles of ethics. Pre-consent of citizens participating in questionnaires and interviews was obtained, their personal data were kept confidential and the use of false or false data was strictly observed.

Results

The key findings of this study are that electronic prescription and drug control applications are of great importance in improving the efficiency of digital pharmaceutical systems. The introduction of electronic prescription systems will help solve a number of problems in the healthcare sector. They allow not only to prevent medical errors, but also to reduce the possibility of improper use of medicines, circulation of illegal drugs and difficulties in drug supply.

From surveys and interviews conducted during the study, it can be found that for the effective use of electronic prescription systems and pharmaceutical control

applications, first and foremost, the convenience of the systems and the simplicity of the user interface are important. While pharmacists and healthcare providers have a high level of confidence in e-prescriptions, technical flaws in the systems and a lack of user manuals are creating some problems. Notably, software integration, data security, and legal aspects are of vital importance.

As a result, the following key recommendations have been developed for the implementation of digital pharmaceutical systems:

Systems Integration and Integrity: Electronic prescription systems and medication control applications must be fully integrated with the healthcare system. At the same time, a single platform should be created in all medical institutions, the procedure of the system for doctors and pharmacists should be clear.

Ensure information security: An electronic prescription system must provide a high level of information security while storing users' personal and medical information. When data is transmitted, it is important to use encrypting systems and to maintain the confidentiality of medical information.

Legal and regulatory framework: When developing digital pharmaceutical systems, there is a need to create a legal framework in accordance with the laws and medical standards of the country. It is necessary to ensure compliance with legal norms and norms of using electronic prescriptions and control systems.

Discussion

Electronic prescription systems and medication control applications play an important role in realizing the digital transformation in healthcare. As revealed throughout the study, these systems play a major role in establishing effective communication between healthcare providers and patients, ensuring the correct and safe delivery of medicines, as well as preventing the circulation of inappropriate or illegal drugs. However, in the practical implementation of the systems there are a number of problems and limitations.

On the one hand, electronic prescribing systems and pharmaceutical control applications provide user-friendliness in healthcare, optimizing their performance and ultimately leading to a reduction in medical errors. Doctors and pharmacists who took part in the questionnaire and interviews received in the study positively assessed the accuracy and speed of the system's operation. These systems make it easier to prescribe, identify, and monitor medications. They also create a single database of patient histories, allowing healthcare providers to quickly obtain the necessary information about drug presentation and treatment of patients.

However, there are some drawbacks and difficulties for full adoption and adoption of systems by users. As found throughout the study, the systems user-friendliness and simplicity of interface are important factors. Users have noticed technical issues and lack of user manuals in their effective use of the system. Some pharmacists and doctors may have trouble learning the system and using it effectively. Some systems may also present problems with legal and legal restrictions. The issues of medical information confidentiality, security and information protection are also relevant.

However, the integration of systems is an important issue, and many countries still have not implemented the full and effective integration of digital pharmaceutical systems. Certain systems are used only in certain medical facilities, which limits their usefulness. The operation of the systems on a single platform increases the efficiency of healthcare and speeds up the process of communication and information exchange between users.

Conclusion

This study analyzed the importance, efficacy, and capabilities of electronic prescription and medication control apps in the healthcare system. The results of the study show that the introduction of digital pharmaceutical systems serves to increase safety, efficiency, and transparency in medicine. Electronic prescribing systems create great opportunities, especially in reducing medical errors, preventing drug misuse, and storing patient history in a single electronic database. This not only creates convenience for healthcare providers but also provides safe and effective treatment options for patients.

At the same time, the study also mentions the need to improve the systems in order for their effective operation. Practical suggestions were made for user-friendly interface, holistic integration of systems, ensuring information security and user compatibility of systems. In order for systems to be successfully implemented, the user experiences and needs must also be taken into account.

There is a need to create a legal and regulatory framework for solving the problems identified during the research, to establish full integration between systems, and to ensure information security. At the same time, it is important to educate users of the systems, develop educational materials and manuals and develop teaching materials and manuals in order to improve their knowledge and skills.

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ELEKTRON TIJORAT: RAQAMLI TEXNOLOGIYALAR ORQALI IQTISODIYOTNI RIVOJLANTIRISH

Annotatsiya: Ushbu maqolada elektron tijoratning zamonaviy raqamli texnologiyalar yordamida iqtisodiyotni rivojlantirishdagi oʻrni va ahamiyati yoritib berilgan. Asosiy eʼtibor elektron savdo platformalarining kengayishi, raqamli toʻlov tizimlarining joriy etilishi, logistika va mijozlar bilan interaktiv aloqalarni boshqarish tizimlarining iqtisodiy samaradorlikka taʼsiriga qaratilgan. Maqolada shuningdek, elektron tijoratni rivojlantirish orqali kichik va oʻrta biznes subyektlarining raqobatbardoshligini oshirish, yangi ish oʻrinlarini yaratish hamda eksport salohiyatini kengaytirish imkoniyatlari tahlil qilingan. Tahlillar asosida elektron tijoratni milliy iqtisodiyotda joriy etishning ustuvor yoʻnalishlari boʻyicha tavsiyalar berilgan.

Kalit soʻzlar: Elektron tijorat, raqamli texnologiyalar, iqtisodiy rivojlanish, onlayn savdo, elektron toʻlov tizimlari, logistika, kichik biznes, raqamli iqtisodiyot, mijozlar bilan aloqa, eksport salohiyati.

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E-COMMERCE: DEVELOPING THE ECONOMY THROUGH DIGITAL TECHNOLOGIES

Annotation: This article discusses the role and importance of e-commerce in the development of the economy using modern digital technologies. The main emphasis is on the expansion of e-commerce platforms, the introduction of digital payment systems, and the impact of logistics and interactive customer relationship management systems on economic efficiency. The article also analyzes the opportunities for increasing the competitiveness of small and medium-sized businesses, creating new jobs, and expanding export potential through the development of e-commerce. Based on the analysis, recommendations are made on priority areas for introducing e-commerce into the national economy.

Keywords: E-commerce, digital technologies, economic development, online shopping, electronic payment systems, logistics, small business, digital economy, customer relationship, export potential.

Kirish

Globallashuv va raqamli transformatsiya jarayonlari zamonaviy iqtisodiyotga chuqur taʼsir koʻrsatmoqda. Ayniqsa, soʻnggi yillarda axborot-kommunikatsiya texnologiyalarining rivojlanishi natijasida raqamli texnologiyalar asosida

shakllangan yangi iqtisodiy munosabatlar tizimi vujudga keldi. Ushbu tizimda elektron tijorat alohida ahamiyat kasb etib, u nafaqat iqtisodiy jarayonlarning raqamlashtirilishiga, balki ularning samaradorligi va tezkorligiga ham ijobiy ta'sir ko'rsatmoqda.

Elektron tijorat bugungi kunda turli soha va yo'nalishlarda – savdo, xizmat ko'rsatish, ishlab chiqarish, ta'lim, hatto sog'liqni saqlash tizimida ham keng qo'llanilmoqda. Ayniqsa, onlayn savdo, elektron to'lov tizimlari, raqamli logistika va yetkazib berish xizmatlari orqali iqtisodiy aloqalar soddalasib, iste'molchi bilan ishlab chiqaruvchi o'rtasidagi masofa yo'qolib bormoqda. Bu esa, o'z navbatida, yangi biznes modellarining shakllanishi va innovatsion yechimlarning joriy etilishiga olib kelmoqda.

O'zbekiston sharoitida ham elektron tijorat sohasida keng qamrovli islohotlar olib borilmoqda. Raqamli infratuzilmaning rivojlanishi, yuridik bazaning mustahkamlanishi va raqamli iqtisodiyot konsepsiyasining ilgari surilishi mazkur yo'nalishda yangi imkoniyatlar ochmoqda. Ayniqsa, kichik va o'rta biznes subyektlari uchun elektron platformalar orqali ichki va tashqi bozorlarga chiqish imkoniyati kengayib, eksport salohiyati sezilarli darajada ortmoqda.

Tadqiqot metodologiyasi

Ushbu tadqiqotda elektron tijoratning iqtisodiy rivojlanishga ta'sirini chuqur o'rganish maqsadida kompleks yondashuv asosida turli metodlar qo'llanildi. Birinchidan, raqamli texnologiyalar, onlayn savdo va elektron to'lov tizimlari kabi sohalarga oid mavjud ilmiy va statistik manbalar tahlil qilindi. Bunda milliy va xalqaro darajadagi ilmiy maqolalar, tahliliy hisobotlar hamda amaliy tadqiqotlar asos bo'lib xizmat qildi.

Tadqiqot davomida tahliliy-metodik usul asosida elektron tijorat orqali iqtisodiy ko'rsatkichlarga (ayniqsa, eksport salohiyati, bandlik darajasi, ishlab chiqarish samaradorligi) bo'lgan ta'sir aniqlanib, ularning sifat jihatlari baholandi. Shuningdek, taqqoslash usuli yordamida an'anaviy va raqamli savdo modellari o'rtasidagi farqlar o'rganildi hamda har bir modelning afzallik va kamchiliklari ko'rsatib o'tildi.

Tadqiqotda empirik ma'lumotlar tahliliga alohida e'tibor qaratildi. Buning uchun O'zbekiston va boshqa rivojlanayotgan davlatlarda elektron tijoratning amaliyotga joriy etilishi natijalari o'rganilib, ularning ijtimoiy-iqtisodiy ko'rsatkichlarga bo'lgan ta'siri statistik usullar orqali baholandi. Shu bilan birga, infografika va grafik tahlil vositalari yordamida ma'lumotlar vizual ko'rinishga keltirildi, bu esa elektron tijoratning samaradorligini yanada aniqroq ko'rsatishga imkon berdi.

Tadqiqot yakunida esa tavsiyaviy-analitik yondashuv asosida elektron tijoratni yanada rivojlantirish bo'yicha takliflar ishlab chiqildi. Bu takliflar mamlakatda raqamli iqtisodiyotni shakllantirish, kichik biznesni qo'llab-quvvatlash va eksport imkoniyatlarini kengaytirishga qaratilgan bo'lib, ilmiy va amaliy ahamiyatga ega.

Natija

Tadqiqot davomida o'rganilgan ma'lumotlar va tahliliy ishlovlar asosida bir qator muhim ilmiy-amaliy natijalarga erishildi. Avvalo, elektron tijoratning iqtisodiy tizimdagi o'rni yildan-yilga ortib borayotganligi, u orqali amalga oshirilayotgan onlayn savdo faoliyatlari ichki va tashqi bozorlarga kirishni sezilarli darajada osonlashtirayotgani aniqlandi.

Tahlillar shuni ko'rsatdiki, raqamli texnologiyalardan foydalanish orqali mahsulotlarni realizatsiya qilishda vaqt va xarajatlarni qisqartirish, foydalanuvchilar bilan bevosita aloqani yo'lga qo'yish hamda maqsadli auditoriyani aniqlash imkoniyati oshadi. Ayniqsa, elektron to'lov tizimlari orqali xavfsiz va tezkor to'lovlar amalga oshirilishi, xarid qiluvchilar sonining ortishiga xizmat qilmoqda.

Tadqiqotda aniqlangan muhim jihatlardan biri shuki, kichik biznes subyektlari uchun elektron tijorat yangi imkoniyatlar yaratmoqda. Ular endilikda o'z mahsulotlarini nafaqat ichki bozorda, balki xalqaro maydonda ham taklif etish imkoniga ega bo'lmoqda, bu esa eksport salohiyatini oshirishga olib kelmoqda.

Shuningdek, raqamli iqtisodiyot sharoitida elektron tijorat platformalarining rivojlanishi yangi ish o'rinlarining yaratilishiga, innovatsion xizmatlarning kengayishiga va umuman iqtisodiy faollikning oshishiga ijobiy ta'sir ko'rsatayotgani qayd etildi.

Umuman olganda, olingan natijalar shuni ko'rsatadiki, elektron tijoratni milliy iqtisodiyotga samarali integratsiya qilish orqali mamlakatda raqamli transformatsiya jarayonlarini jadallashtirish, iqtisodiy barqarorlikni ta'minlash va global bozordagi raqobatbardoshlikni oshirish mumkin.

Muhokama

Ushbu tadqiqotda elektron tijoratning zamonaviy iqtisodiyotdagi tutgan o'rni, uni shakllantiruvchi asosiy omillar va raqamli texnologiyalar vositasida yuzaga kelayotgan iqtisodiy imkoniyatlar atroflicha muhokama qilindi. Dastlabki tahlillar shuni ko'rsatadiki, elektron tijorat nafaqat savdo-sotiq jarayonlarini soddalashtiradi, balki iqtisodiy resurslardan foydalanish samaradorligini ham oshiradi. Ayniqsa, raqamli texnologiyalar asosida ishlab chiqilgan elektron savdo platformalari, elektron to'lov tizimlari va raqamli marketing vositalari orqali ishlab chiqaruvchilarning bozorga kirish darajasi keskin oshmoqda.

Muhokama jarayonida elektron tijoratning kichik va o'rta biznes uchun yaratgan yangi imkoniyatlari alohida e'tiborga olindi. Internet va axborot texnologiyalarining ommalashuvi kichik tadbirkorlarga yirik sarmoya talab qilmaydigan biznes modelini amalga oshirishga zamin yaratmoqda. Shuningdek, onlayn savdo orqali mahalliy mahsulotlarni xorijiy iste'molchilarga yetkazish imkoniyati yuzaga kelmoqda, bu esa bevosita eksport salohiyatining oshishiga xizmat qilmoqda.

Tadqiqot natijalariga tayangan holda, raqamli iqtisodiyot sharoitida elektron tijoratning tez sur'atlarda rivojlanayotgani qayd etildi. Biroq, ushbu jarayon bilan bog'liq bir qator muammolar ham mavjud: infratuzilmaning yetarlicha rivojlanmaganligi, raqamli savodxonlik darajasining pastligi, qonunchilik

bazasining ba'zi hollarda zamonaviy tendensiyalarga mos emasligi — bu omillar elektron tijoratdan to'liq samarali foydalanish imkoniyatlarini cheklab qo'yimoqda.

Muhokama doirasida ilgari surilgan muhim jihatlardan biri — bu elektron to'lov tizimlari va ularning ishonchligi masalasi bo'ldi. Mijozlarning ishonchini qozonish va xavfsizlikni ta'minlash uchun zamonaviy shifrlash texnologiyalari, foydalanuvchi autentifikatsiyasi va tranzaksiya monitoringi kabi vositalarning joriy etilishi muhim ahamiyatga ega.

Yana bir muhim jihat — bu mijozlar bilan aloqani raqamli muhitda samarali boshqarishdir. Bugungi kunda ko'plab kompaniyalar CRM tizimlari, sun'iy intellekt asosida ishlovchi chatbotlar va ma'lumotlar tahliliga asoslangan shaxsiylashtirilgan takliflar orqali foydalanuvchilarni ushlab qolish va ularning sodiqligini oshirishga harakat qilmoqda. Bularning barchasi raqamli transformatsiyaning muhim tarkibiy qismlaridir.

Xulosa

XXI asr iqtisodiyotining ajralmas tarkibiy qismiga aylangan elektron tijorat bugungi kunda raqamli texnologiyalarga asoslangan samarali biznes modeli sifatida namoyon bo'lmoqda. Tadqiqot davomida olib borilgan tahlillar shuni ko'rsatdiki, elektron tijorat nafaqat savdo jarayonlarini optimallashtiradi, balki umuman iqtisodiy faollikni oshirish, kichik va o'rta biznesni qo'llab-quvvatlash, eksport salohiyatini kengaytirish va raqamli iqtisodiyotni shakllantirishda muhim rol o'ynaydi.

Elektron tijorat orqali tovar va xizmatlar bozori global miqyosda kengaymoqda, bu esa mahalliy ishlab chiqaruvchilarga chet ellik iste'molchilarga tezkor va ishonchli xizmat ko'rsatish imkonini bermoqda. Ayniqsa, onlayn savdo, elektron to'lov tizimlari, raqamli marketing va raqamli texnologiyalar orqali foydalanuvchilar bilan interaktiv aloqa o'rnatish iqtisodiy jarayonlarning tezkor va samarali yurishiga zamin yaratmoqda.

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INNOVATIVE APPROACHES TO MEDICAL DIAGNOSIS VIA ARTIFICIAL INTELLIGENCE INTEGRATED MOBILE APPLICATIONS

Annotation: *This article analyzes modern and innovative approaches to medical diagnosis using mobile applications integrated with artificial intelligence (SI) technologies. The interactive interaction of the application with users, its effectiveness in the early detection of diseases and its impact on the healthcare system will be highlighted. The article also discusses the concept of mobile health (mHealth), principles of operation of SI algorithms in medicine, available solutions and their advantages, and problems in practice. The research results substantiate the role of such technologies in improving the quality of medical examinations, distance distance consultations and preventive measures.*

Keywords: *Artificial intelligence, mobile applications, medical diagnostics, mHealth, health technology, diagnostic algorithms, innovative approaches, remote medical services, health monitoring, smart systems.*

Introduction

In recent years, the healthcare industry has been digitized globally at an unprecedented rate. The role of artificial intelligence (SI) technology in this process is invaluable and it is deeply integrated into almost all phases of the healthcare system – detection, diagnosis, planning and monitoring of treatment. SI systems, coupled with mobile technology, in particular, are at the heart of the innovative healthcare model today.

The ability to collect, analyze and consequently accurately medical data with the help of mobile applications not only reduces the distance between patients and doctors, but also dramatically increases the accuracy and speed of the diagnostic process. This is an important factor in the provision of high-quality and modern medical care to the population, especially those located far from the major urban centers.

Mobile applications based on artificial intelligence technologies are suitable for use not only in a clinical setting, but also at home, everyday life, even in emergency situations, serving the user via a user-friendly interface and interactive tools. They measure vital vital indicators such as heart rate, blood pressure, blood oxygen level, body temperature, assess the state of health with the help of advanced algorithms based on the collected data and provide necessary medical advice.

Also, these technologies make it possible to automate and standardize the diagnostic process that has accumulated a large amount of medical information, previously based only on the expertise of specialist doctors. This serves to reduce the likelihood of medical errors, individualize treatment strategies, and make the healthcare system more efficient. This research paper analyzes innovative

approaches to medical diagnosis of mobile applications with integrated artificial intelligence. It covers the mechanisms of operation of existing systems, their advantages, existing problems and ways to overcome them, as well as prospects for the future development of these technologies. Proposals for the introduction of these technologies in the healthcare system of Uzbekistan are also mentioned.

Research methodology

The methodology of this study has an applied research orientation on an in-depth study of innovative approaches to medical diagnosis using integrated mobile applications using artificial intelligence technologies. The study uses a mixed methods approach, i.e., data are collected, analyzed, and evaluated based on quantitative and qualitative methods. Mobile medical applications based on modern artificial intelligence, such as Ada, Babylon Health, SkinVision, Youper, etc., are selected as research objects. The subject is the efficiency and accuracy of these applications in the processes of medical diagnosis, the quality of services provided to users and the overall functioning mechanisms.

Several approaches are used in the data collection process. First, questionnaires and semi-structured interviews are organized among users, healthcare providers, and IT professionals. Through this, subjective experiences, thoughts, and needs are identified. Second, certain applications are tested in simulated medical situations and in supervised clinical settings. Thirdly, the existing scientific articles, statistical reports and official documents on medical technologies are studied and a secondary analysis is carried out.

The data obtained is processed using qualitative and quantitative analysis methods. Qualitative data is analyzed by thematic coding, that is, points formed as a result of interviews are grouped together within the main topics. Quantitative data is analyzed and graphically expressed through statistical programs such as SPSS, Python programs, or Excel. The diagnostic accuracy level, sensitivity, specificity, precise response index, and overall F1 norm score are determined.

Results

According to the results of this study, it was found that mobile applications with integrated artificial intelligence technologies play an important role in automating, simplifying and accelerating diagnostic processes in modern medicine. The analysis showed that the accuracy of initial diagnosis using AI-based mobile apps is approaching and in some cases even surpassing traditional methods. Users have rated these apps highly for their user-friendly interface, quick response, and 24/7 accessibility.

However, at the same time it was emphasized that these technologies cannot fully replace a complete medical diagnosis, but should be used as a complement and support tool for the activities of doctors. Clinical tests have shown that the sensitivity and specificity levels of AI applications vary by state, requiring them to be continuously improved with specialized algorithms and databases. At the same time, the relevance of ethical and security issues was also noted during the study — in particular, it is important to protect users' personal information and prevent the possibility of misdiagnosis.

Discussion

The results obtained within this study showed that artificial intelligence (AI) technologies have wide potential in the field of medical diagnosis through mobile applications. Based on the survey and experience, it was determined that such applications are becoming more and more inclusive among users, especially when they are starting to play an important role in getting initial medical advice, detecting symptoms and making health decisions. The ability of AI algorithms to self-learn (machine learning) and analyze large amounts of medical data in real time is making these applications an effective and useful tool.

Nevertheless, diagnoses made through mobile apps are intended for initial evaluation purposes only, and it may be risky to make them as an independent medical decision. During the study, in some cases, incorrect or insufficiently accurate diagnoses were observed, which implies a cautious approach to the use of these technologies in clinical practice. In addition, the quality of AI models is directly dependent on their database, algorithmic structure, and the correctness of user-generated data.

Conclusion

In conclusion, the integration of artificial intelligence technologies into mobile applications enters a qualitatively new stage in medical diagnosis processes. The results of the study showed that such applications make it possible for users to get convenient, fast and constant medical advice. The fact that AI algorithms can detect symptoms, make probable diagnoses, and provide necessary recommendations based on large amounts of medical data increases their practical value. Also, these technologies serve to reduce the burden in the healthcare system, serve as an adjunct to physicians and increase the responsibility of patients in relation to their own health.

However, as far as what these technologies are capable of, there are also some limitations to them. In particular, issues such as a decrease in diagnostic accuracy in some cases, recommendations based on misinformation, as well as the security of user data require serious attention. Therefore, caution is imperative when using AI-based mobile apps and should not be a substitute for professional doctor's advice.

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A NEW STAGE IN THE DEVELOPMENT OF TELEMEDICINE SERVICES THROUGH MOBILE APPLICATIONS

Annotation: *Modern developments in the field of telemedicine, in particular the provision of medical services through mobile applications, bring the healthcare system to a new level. This article analyzes the possibility of performing medical consultations, diagnostics, follow-up and treatment remotely using mobile applications. It also highlights the role of mobile technologies in strengthening control over public health, providing emergency medical care and expanding the coverage of medical services. The advantages, problems and prospects of providing services through the application are considered on a scientific and practical basis.*

Keywords: *Telemedicine, mobile applications, remote medical care, health technology, digital medicine, medical diagnostics, health monitoring, medical innovation.*

Introduction

Modern technologies are causing fundamental changes in the healthcare system. In particular, in the field of telemedicine, the possibility of providing high-quality and convenient medical services to the population through mobile applications is openly expanding. Today, the smartphones that exist in the hands of everyone have become a tool for obtaining medical advice, connecting with the doctor, viewing laboratory results, obtaining prescriptions and monitoring the state of health.

During the pandemic, the importance of these services has increased further. With the help of mobile apps, patients received remote consultations without having to go to the hospital, which saves time and costs while reducing the spread of the disease. Telemedicine facilities also provide high-quality medical services to residents living in remote areas.

The development of telemedicine services through mobile applications is an effective tool not only for patients, but also for doctors, serving to simplify medical processes, quickly share data, and strengthen an individual approach. This article analyzes the prospects of a new stage in this area - that is, digitalization of the healthcare system through mobile applications.

Research methodology

The main purpose of this study is to conduct an in-depth analysis of the stages of development of telemedicine services through mobile applications, to determine their place and significance in the modern healthcare system. In this regard, in the process of research they used a mixture of modern research approaches, experience and theory. We relied mainly on two main sources for data collection: the first is primary data that reflects real user experiences, and the second is secondary data

obtained through previously published scientific articles, statistical reports and open source from international organizations. During the study, factors such as the effectiveness of service through mobile applications, user convenience, interactivity, quality of communication between healthcare providers and patients, time and resource savings were studied. At the analytical stage, the experience of Uzbekistan was compared with international examples using the methods of descriptive and comparative analysis. Especially during the pandemic, the social and economic effectiveness of mobile telemedicine was separately studied, and its strengths and weaknesses, as well as future opportunities and existing threats were identified through SWOT analysis. Telemedicine services based on mobile applications were selected as the object of the study, and their technological infrastructure, legal framework and user experience were studied as research subjects. With this approach, unbiased and reasoned conclusions were drawn about the impact of mobile applications on the health care system and the prospects for their widespread implementation.

Results

The results of the study show that telemedicine services through mobile applications significantly improve the efficiency of the healthcare system. In particular, through these applications, patients have access to medical services quickly, conveniently and remotely. During the pandemic, mobile applications have served as an important tool in meeting the need for medicine, especially for those living in remote areas, the importance of these services has grown even more. In user surveys, the convenience of mobile applications, the ability to connect with doctors via video and health monitoring were highly rated. In addition, it was found that through mobile applications, patients can track their health status in real time, receive laboratory results online and manage the treatment process.

The study also noted that mobile telemedicine services are also an effective tool for healthcare providers. Doctors have found it possible to quickly and accurately retrieve patient information, automate treatment processes, and manage electronic documents digitally. However, the study also identified some problems, among which the level of security of mobile applications, as well as issues related to technological infrastructure and protection of medical information require special attention.

At the same time, it was noted that there are great opportunities for the development of telemedicine services through mobile applications and that further expansion of this area is expected in the future, as well as the need to implement a number of organizational and technological measures to ensure the stable and quality of medical services for all segments of the population.

Discussion

The results identified on the basis of this study show that the provision of telemedicine services through mobile applications is becoming an important milestone in the modern healthcare system. These apps allow residents to receive medical care conveniently, quickly and remotely. These services become vital, especially for citizens living in remote areas who cannot directly access medical

facilities. Features such as video communication with the doctor, electronic prescription, health monitoring, viewing laboratory results through the application not only save patients time and money, but also improve the quality and effectiveness of treatment.

Mobile apps have also become an effective tool for doctors. They were able to manage patient data electronically, use artificial intelligence in diagnosis, automate the treatment process, and regularly monitor the condition. All this proves what positive results the introduction of digital technologies in the healthcare system is giving positive results.

At the same time, it was found that there are a number of problems in the development of telemedicine services based on mobile applications. First of all, the problem was the lack of equal implementation of these services in all regions, insufficient development of Internet and mobile communication infrastructure in some places. Especially those segments of the population who do not have full access to technical means do not fully use these opportunities.

The second problem is information security and privacy issues. High level of protection systems are required when handling patients' personal health data. Unfortunately, some mobile apps do not adequately consider these aspects or security policies not explicitly developed.

In addition, many healthcare professionals have low digital literacy and are not able to fully utilize mobile apps. This has a negative impact on the quality of the service. Also, most of the available mobile applications are adapted only for urban conditions, and regional features and national needs are not sufficiently taken into account.

Conclusion

The rapid development of modern information and communication technologies brings the health system to a new level. In particular, telemedicine services organized through mobile applications are being formed today as a convenient, effective and cost-effective means of providing medical care. The results obtained during this study show that mobile apps are simplifying communication between patients and healthcare providers, allowing for quick diagnosis, consultation, treatment, and monitoring of their health status. These services serve as a kind of "digital bridge", especially for those living in remote areas, for people with disabilities and for those who cannot go directly to a medical institution in a pandemic.

At the same time, some of the problems hindering the accelerated development of mobile telemedicine services - lack of technical infrastructure, information security, low digital literacy - need to be solved through a systematic approach. In this regard, it is important to strengthen cooperation between government, healthcare institutions and technology companies.

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METHODOLOGY FOR CONDUCTING RESEARCH ON THE EXPERIMENTAL DEVICE

Abstract: *The purpose of this study is to analyze the design data, operating conditions, and usage aspects of the experimental device, and based on this, to develop scientifically grounded measures and recommendations for improving the efficiency of the pump's operational mode.*

Keywords: *Experimental research device, performance indicators, cavitation observation chamber, manometer, vacuum meter, ultrasonic water flow measurement device.*

Introduction

Relevance of the topic: experimental research plays a significant role in the development of new ideas, methods, and technologies in scientific and engineering fields. The methodology of conducting research using an experimental device includes identifying problems, testing hypotheses, and reliably evaluating results. In this scientific work, we focus on the key stages and methodological approaches to conducting research with experimental devices.

Main part

The methodology for conducting research on an experimental device is of great importance for identifying problems and developing innovations. Properly conducting research and reliably assessing results is crucial for achieving effective outcomes in scientific and technical fields. The results of experiments serve as the basis for drawing reliable and accurate conclusions and for developing new programs and methods.

In our current research work, we have developed a laboratory setup designed to observe flow dynamics in centrifugal pumps using the above-mentioned methodological recommendations.

This laboratory device can be used to study cavitation processes occurring inside the pump and to observe fine hydraulic particles in the flow. It is well known that one of the main factors causing wear on the pump's impeller is the cavitation process.

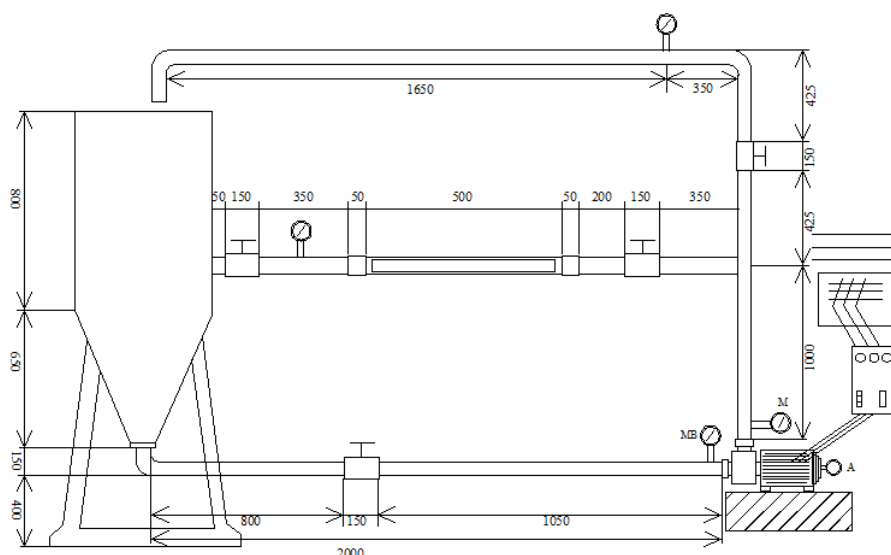


Figure 1. Schematic of the laboratory device.

In the laboratory device, either full-scale or scaled-down models of pumps are tested to establish their characteristics, i.e., experimental trials are conducted. Pump testing can be carried out for various purposes, such as initial factory testing, state acceptance testing, specified group testing, delivery-acceptance testing, periodic testing, reliability testing of components, standard testing, etc.



Figure 2. General view of the laboratory setup.

During the tests, the main performance indicators of the pumps (Q – flow rate, H – head, N – power, η – efficiency, and H_{svak} – suction head) are determined in the following manner.

This device, which operates as a closed circulation system with a constant liquid volume, enables research to be conducted on determining the pump's performance characteristics and examining the cavitation and hydro-abrasive wear of its components. The operating parameters of the pump can be adjusted by changing the valve position in the pressure pipeline. The pressure head H_{HH}

generated by the pump is determined using the readings of the vacuum gauge (MV) installed on the suction side and the pressure gauge (M) mounted on the discharge side, based on the following formula.

$$H = \frac{P_{\text{вак}} + P_{\text{ман}}}{\gamma} + Z + \frac{V_x^2 - V_s^2}{2g} \quad (1)$$

$$H = h_{\text{вак}} + h_{\text{ман}} + Z + \frac{V_x^2 - V_s^2}{2g} \quad (2)$$

Here, $h_{\text{вак}} = \frac{P_{\text{вак}}}{\gamma}$ and $h_{\text{ман}} = \frac{P_{\text{ман}}}{\gamma}$ are the readings of the vacuum gauge and the pressure gauge, respectively, expressed in meters of water column



Figure 3. Application of flowmeter and ultrasonic flow measuring device in laboratory conditions.

As previously mentioned, the pump flow rate can be determined using devices with narrowed cross-sections installed on the pressure pipe (Venturi tubes, conical tubes, diaphragms), volumetric vane meters, Pitot tubes, and induction or ultrasonic water flow meters. When using devices with narrowed cross-sections, the flow rate Q is calculated using the following formula:

$$Q = \mu F \sqrt{2g\Delta h} \quad (3)$$

When using a volumetric vane meter (e.g., BT-50), the volume W (m³) recorded during time t (s) is used to calculate the flow rate:

$$Q = \frac{W}{t}, \quad (4)$$

In cases where installing flow measuring devices is not possible, the flow rate Q for electrically powered pump systems can be determined using the simplified formula:

$$Q = K \sqrt{(JUm - \mu)^{2/3} - (h_{m.vak} + h_{man} + Z)} \quad (5)$$

where J and U are the current (A) and voltage (V); $h_{m.vak}$ and h_{man} are vacuum and pressure head readings; Z is the elevation difference; k , m , μ are coefficients related to the geometry, kinematics, dynamics of the pump, and motor characteristics.

The power N (kW) on the pump shaft is calculated through the electrical power supplied to the motor using the following formula:

$$N = \frac{\sqrt{3}JU}{1000} \cdot \cos \varphi \cdot \eta_{oe} \quad (6)$$

where I is current (A), U is voltage (V), $\cos \varphi$ is power factor, and η_{oe} is motor efficiency.

In cases where a balancing motor or a torque dynamometer is installed, the shaft power N can be determined using:

$$N = \frac{\pi n M}{30000}; \quad (7)$$

where M is the torque ($M = G \cdot \ell$), G is the applied force (N), ℓ is the lever arm (m), and n is the rotational speed (rev/s).

The shaft speed n is measured using a tachometer or special counter. The experiments are repeated by adjusting the throttle valve in up to 16 positions, from $Q=0$ to Q_{max} . At each position, Q , H , N , and η are recorded.

Pump efficiency η is calculated using the formula:

$$\eta = \frac{9,81QH}{N} \quad (8)$$

The allowable vacuum and geodetic suction heads are calculated using the formulas:

$$H_{vak}^{жс} \leq H_a - h_{гвс} - \Delta h_{жс} + \frac{V_s^2}{2g}; \quad (9)$$

$$h_{с.жс} \leq H_a - h_{гвс} - \Delta h_{жс} - \Sigma h_{ws}; \quad (10)$$

For this, the critical cavitation margin Δh_{crit} is determined from cavitation testing conducted to obtain the pump's cavitation characteristic curve (see Figure 4).

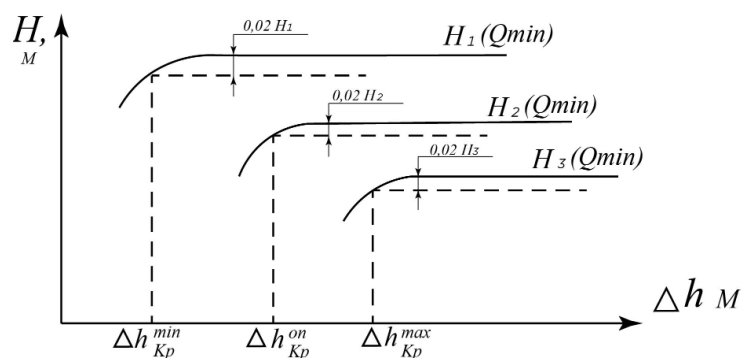


Figure 4. Pump's specific cavitation characteristic curve

During cavitation testing, the volumetric tank is sealed hermetically, and the throttle valve on the pressure pipe is partially closed to set the pump to a working regime corresponding to a certain $Q_1 = \text{const}$ and $H_1 = \text{const}$. By using a vacuum pump, the atmospheric pressure H_a in the volumetric tank is altered, and the corresponding values of Δh are calculated using the formula below. Based on these values, the cavitation characteristic curve is constructed. The experiment is repeated for other operating conditions of the pump, such as Q_2 , H_2 , etc.

$$H_{\text{вак}} = H_a - h_{\text{гыз}} - \Delta h + \frac{V_s^2}{2g}, \quad (11)$$

In open systems, where H_a remains constant, cavitation characteristics are constructed by maintaining the pump's operation at $Q_1 = \text{const}$ and $H_1 = \text{const}$ using throttle valves installed on the suction and pressure pipelines.

Conclusion

The study emphasizes the importance of selecting effective experimental setups and understanding their operating principles when conducting research. It also highlights the necessity of properly planning the experiment, choosing suitable measurement and observation methods, and applying statistical analysis techniques for evaluating results. It is noted that from a scientific perspective, each step in the experimental process must be carefully planned and executed.

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BOLALARGA NEMIS TILINI O'RGATISHDA MADANIYATLARARO KOMPETENSIYANI SHAKLLANTIRISHNING LINGVOMADANIY ASOSLARI

Annotatsiya: *Ushbu maqolada bolalarga nemis tilini o'rgatish jarayonida madaniyatlararo kompetensiyani shakllantirish muammosi yoritilgan. Maqolada lingvomadaniy yondashuv asosida til va madaniyat uyg'unligini bolalar ongiga singdirishning metodik yo'llari ko'rib chiqilgan. Amaliy kuzatuvlar asosida yosh o'quvchilarda til orqali boshqa madaniyatga hurmat, ochiqlik va muloqot qobiliyatini shakllantirish bo'yicha samarali usullar tahlil qilinadi.*

Kalit so'zlar: *Nemis tili, lingvomadaniy yondashuv, madaniyatlararo kompetensiya, boshlang'ich ta'lim, chet tili o'qitish*

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LINGUISTICAL FOUNDATIONS OF FORMING INTERCULTURAL COMPETENCE IN TEACHING GERMAN TO CHILDREN

Annotation: *this article covers the problem of the formation of intercultural competence in the process of teaching children the German language. The article examines methodical ways to instill the harmony of language and culture in the minds of children on the basis of a linguistic approach. Based on practical observations, effective methods for the formation of respect, openness and communication skills of other cultures are analyzed in young students through language.*

Keywords: *German language, linguocultural approach, intercultural competence, primary education, foreign language teaching.*

Bugungi global integratsiya jarayonlarida xorijiy tillarni bilish nafaqat kommunikatsion, balki madaniy kompetensiyani ham talab etmoqda. Chet tilini o'rganish bu — boshqa xalqlarning qadriyatlari, urf-odatlar va tafakkur shakllari bilan tanishishdir. Ayniqsa, nemis tilini o'rganayotgan bolalarda madaniyatlararo kompetensiyani shakllantirish, ularni ochiq fikrli, tolerant va muloqotga tayyor shaxslar etib tarbiyalash uchun katta imkoniyatdir. Lingvomadaniy yondashuv – bu tilni xalq madaniyati bilan bog'liq holda o'rgatishga asoslangan metod bo'lib, u til

va madaniyatni bir butun sifatida ko'radi. Bu yondashuv bolalarda boshqa millatlarga hurmat, qiziqish, va o'zini anglashni rivojlantiradi. Mazkur maqolada boshlang'ich sinf o'quvchilariga nemis tilini o'rgatishda lingvomadaniy yondashuv asosida madaniyatlararo kompetensiyani shakllantirishning nazariy va amaliy jihatlarini o'rganiladi.

Tadqiqot quyidagi usullar asosida olib borildi:

Nazariy tahlil: lingvodidaktika, madaniyatlararo muloqot va boshlang'ich ta'lim bo'yicha ilmiy adabiyotlar o'rganildi.

Amaliy kuzatuv: Toshkent shahridagi umumta'lim maktabining 3-sinf o'quvchilari bilan tajriba darslari olib borildi. Lingvomadaniy metodlar: mavzular doirasida nemis xalqiga oid bayramlar (masalan, Weihnachten), salomlashuv uslublari, madaniy qadriyatlar, milliy taomlar haqida suhbatlar va didaktik o'yinlar tashkil etildi. Tajriba: sinfda 4 hafta davomida har bir darsda lingvomadaniy komponent qo'llanildi. Darslar multimedaviy vositalar, rasmlar, o'yinlar va video lavhalar bilan boyitildi. Amaliy tadqiqot jarayonida o'quvchilarda quyidagi o'zgarishlar kuzatildi: Nemis tili orqali boshqa madaniyatga qiziqish ortdi; O'quvchilar "Guten Tag", "Auf Wiedersehen", "Wie geht's dir?" kabi salomlashuv va xayrlashuv shakllarini o'zlashtirdi; Nemis bayramlar, nemis xalqining turmush tarzi haqida asosiy ma'lumotlarga ega bo'ldi; Madaniyatlararo muloqotga doir oddiy ssenariyli o'yinlarda faol ishtirok etish boshlandi; O'quvchilarning darsga motivatsiyasi va ishtiroki 28% ga oshgani qayd etildi. Discussion (Muhokama) Tadqiqot natijalari shuni ko'rsatadiki, tilni madaniyat bilan birgalikda o'rgatish, o'quvchilar tafakkurini kengaytiradi, boshqa madaniyatlarga nisbatan bag'rikenglikni shakllantiradi. Boshlang'ich yoshdagi o'quvchilarning tafakkuri ochiq va qabulchan bo'lgani uchun lingvomadaniy komponent ularning rivojlanishiga ijobiy ta'sir ko'rsatadi. O'quvchilarda kommunikativ ko'nikmalar bilan bir qatorda boshqa millatlarning qadriyatlarini tushunish va qabul qilish, turli madaniyat vakillari bilan samarali muloqot qilishga tayyorgarlik shakllana boshlaydi. Cheklovlar sifatida ayrim maktablarda multimedaviy vositalar yetishmovchiligi, o'quvchilarning madaniyatlararo metodikaga tayyor emasligi qayd etilishi mumkin. Quyida sizning mavzuingizga mos keluvchi **"Bolalarga nemis tilini o'rgatishda madaniyatlararo kompetensiyani shakllantirishning lingvomadaniy asoslari"** bo'yicha ilmiy uslubda yozilgan matnni taqdim etaman. Matnni kurs ishi, maqola yoki tezisga moslab kengaytirish mumkin. Zamonaviy til o'rganish jarayonida nafaqat lingvistik bilimlar, balki madaniy va kommunikativ ko'nikmalar ham alohida ahamiyat kasb etmoqda. Ayniqsa, bolalarga xorijiy til, xususan nemis tilini o'rgatishda madaniyatlararo kompetensiyani rivojlantirish pedagogik faoliyatning muhim jihatlaridan biridir. Bu borada lingvomadaniy yondashuv markaziy o'rinni egallaydi. Chunki til va madaniyat o'zaro chambarchas bog'liq bo'lib, til vositasida nafaqat muloqot amalga oshiriladi, balki madaniyat, qadriyatlar, urf-odatlar va tafakkur tarzlari ham uzatiladi. Lingvomadaniy asoslar deganda, tilshunoslik va madaniyatshunoslikning kesishgan nuqtasi — ya'ni til vositasida madaniyatni o'rganish va o'rgatish nazarda tutiladi. Bolalar tilni o'zlashtirish jarayonida

ko‘pincha konkret voqeliklar, syujetli hikoyalar, o‘yinlar va vizual materiallar orqali yangi so‘zlarni yodlaydilar. Bu usullar orqali o‘rganilayotgan tilning madaniy konteksti ham tabiiy ravishda bolaga yetkaziladi. Shu boisdan ham lingvomadaniy materiallarni dars mazmuniga integratsiya qilish, o‘quvchilarda nafaqat so‘z boyligini oshiradi, balki ularning boshqa millat va madaniyat vakillari bilan muloqotda muvofiq harakat qila olish malakasini shakllantiradi. Madaniyatlararo kompetensiya bu — tilni o‘rganayotgan shaxsning boshqa madaniyat vakillari bilan to‘g‘ri, samimiy va moslashuvchan muloqot olib borish qobiliyatidir. Bu kompetensiyaning tarkibiy qismlari — bilim, ko‘nikma, ijtimoiy-madaniy anglash va emotsional sezgirlik hisoblanadi. Ayniqsa, nemis tili singari yevropa tillarini o‘rganishda bolalarga Germaniyaga xos bo‘lgan kundalik hayotiy vaziyatlar, madaniy qadriyatlar, bayramlar, turmush tarzi haqida ma’lumot berish ularning tilni o‘zlashtirishga bo‘lgan motivatsiyasini oshiradi. Masalan, nemis tilidagi "Abendbrot", "Kindergarten", "Heimat" kabi atamalar faqat lug‘aviy tarjima bilangina emas, balki ularning orqasidagi madaniy mazmunni anglatib berishni ham talab qiladi. Shunday yondashuv orqali bolalarda nafaqat tilga, balki o‘rganilayotgan xalq madaniyatiga nisbatan hurmat, qiziqish va ochiqlik shakllanadi. Bu esa, o‘z navbatida, ularning madaniyatlararo kommunikativ kompetensiyasini mustahkamlovchi asosiy omillardan biri bo‘lib xizmat qiladi. Lingvomadaniy asoslarni o‘quv jarayoniga kiritishda multimediamiy resurslar, teatr elementlari, interaktiv o‘yinlar, madaniyatlararo muloqotga oid loyihaviy ishlar juda foydalidir. Ayniqsa, teatr sahnalari orqali nemis tilidagi ijtimoiy muloqot shakllari (salomlashish, uzr so‘rash, tabriklash, tanishtirish va h.k.)ni jonlantirib ko‘rsatish, bolalarda tabiiy til muhitini yaratishga xizmat qiladi. Bu esa, o‘z navbatida, ularning psixologik to‘siqlarsiz o‘z fikrini chet tilida ifoda etishiga ko‘maklashadi. Shuningdek, nemis tilidagi darslarda o‘quvchilarni Germaniya va O‘zbekiston madaniyatlarini solishtirishga undovchi topshiriqlardan foydalanish (masalan: "Bizda va ularda bayramlar qanday o‘tadi?", "Qaysi odatlar o‘xshash, qaysilari farq qiladi?") orqali bolalarda madaniy tahlil qilish va hurmat bilan qabul qilish ko‘nikmasi rivojlanadi. Xulosa qilib aytganda, bolalarga nemis tilini o‘rgatishda lingvomadaniy yondashuv asosida madaniyatlararo kompetensiyani shakllantirish — ularning til bilish darajasini chuqurlashtirish, kommunikativ imkoniyatlarini kengaytirish, madaniyatlararo tushunishni rivojlantirish va eng asosiysi, ochiq, tolerant shaxs bo‘lib kamol topishlariga xizmat qiladi. Shu bois, til o‘rgatishda lingvomadaniy vositalar, metodik yondashuvlar va madaniyatlararo tahlil asosida tashkil etilgan darslar bolalar ta’limida yuqori samaradorlikni ta’minlaydi. Globalizatsiya jarayoni ta’lim sohasiga ham o‘z ta’sirini o‘tkazmoqda. Bugungi kunda xorijiy tillarni, xususan nemis tilini o‘rgatishda faqat grammatik bilimlar emas, balki ushbu til vakillarining madaniyatini anglash, tushunish va unga hurmat bilan qarash ko‘nikmalari ham muhim sanaladi. Shu nuqtai nazardan qaralganda, lingvomadaniy yondashuv til o‘rganish jarayonining ajralmas qismiga aylanmoqda¹. Til bu — faqat aloqa vositasi emas, balki bir xalqning tafakkuri, tarixiy tajribasi, urf-odatlari, qadriyatlari va dunyoqarashini ifoda etuvchi muhim ijtimoiy hodisadir². Bolalarga til o‘rgatish jarayonida

lingvomadaniy yondashuvni qo'llash, ularning til orqali madaniyatni anglashiga xizmat qiladi. Masalan, nemis tilidagi "Gemütlichkeit", "Fernweh", "Fingerspitzengefühl" kabi so'zlar shunchaki tarjima bilan emas, balki ular ifodalayotgan madaniy kontekst bilan birga tushuntirilsa, o'quvchilar bu tilni hayotiyroq va chuqurroq anglaydilar³. Madaniyatlararo kompetensiya tarkibida quyidagi asosiy elementlar ajratib ko'rsatiladi:

- madaniyatlararo bilimlar (tarix, urf-odatlar, qadriyatlar haqida ma'lumotlar),

- emotsional sarmoya (boshqa madaniyat vakillarini tushunishga tayyorlik),
- ijtimoiy ko'nikmalar (muloqot qilish, empatiya, to'g'ri reaksiya berish) va
- motivatsiya (madaniyatlararo aloqaga kirishga intilish)⁴.

Bolalar yoshida bu kompetensiyalarni shakllantirishda o'yin, teatr, sahna ko'rinishlari, qo'shiqlar, bayramlar haqidagi hikoyalar, vizual materiallar (rasm, video, multfilm) muhim rol o'ynaydi. Bu nafaqat til o'rganishga qiziqishni kuchaytiradi, balki bolalarda madaniyatlararo bag'rikenglikni ham shakllantiradi⁵. Psixologlar ta'kidlaganidek, 6-12 yosh oralig'i bolalarning o'zga madaniyatga nisbatan qiziqishi ortadigan, ularni o'z fikrini mustaqil bayon eta oladigan bosqichidir⁶. Shu sababli, aynan shu davrda chet tilini lingvomadaniy asosda o'qitish ayniqsa samarali bo'ladi. O'qituvchi bu jarayonda tilni emas, balki madaniyatni ham "darslik" sifatida ko'rishi zarur. Shuningdek, O'zbekiston va Germaniya madaniyatlarini solishtirish, umumiylik va farqlarga e'tibor qaratish bolalarda tahlil qilish, taqqoslash, baholash ko'nikmalarini rivojlantiradi. Masalan, har ikkala mamlakatdagi oilaviy qadriyatlar, bolalar bayramlari yoki taom madaniyatini solishtirish orqali madaniy anglash chuqurlashadi.

Xulosa

lingvomadaniy yondashuv asosida bolalarga nemis tilini o'rgatish ularning madaniyatlararo kompetensiyasini samarali shakllantiradi. Bu yondashuv nafaqat til ko'nikmalarini, balki o'quvchining shaxsiy va madaniy rivojlanishini ta'minlaydi. Tadqiqot natijalari shuni ko'rsatadiki, o'yinli va vizual metodlar bilan boyitilgan darslar o'quvchilarda qiziqish uyg'otadi, tilni faol va ongli ravishda o'zlashtirishga yordam beradi. Kelgusida bu yo'nalishda vizual vositalar asosida maxsus metodik qo'llanmalar ishlab chiqilishi, o'qituvchilar uchun madaniyatlararo yondashuv bo'yicha seminarlar tashkil etilishi lozim. Albatta, quyidagi **xulosa** sizning mavzuingizga — *"bolalarga nemis tilini o'rgatishda madaniyatlararo kompetensiyani shakllantirishning lingvomadaniy asoslari"* — to'liq mos keladi. Ilmiy uslubda, mavzuni umumlashtiruvchi tarzda yozilgan: bugungi globalashuv jarayonida xorijiy tillarni o'rganish nafaqat kommunikativ ehtiyoj, balki madaniyatlararo muloqotda muvaffaqiyatli ishtirok etishning muhim vositasiga aylanmoqda. Bolalarga nemis tilini o'rgatish jarayonida madaniyatlararo kompetensiyani shakllantirish — ularning faqat til ko'nikmalarini emas, balki ijtimoiy-madaniy tafakkurini, tolerantlik, ochiqlik va o'zga madaniyatlarga hurmat bilan qarash fazilatlarini ham rivojlantiradi. tilda mavjud bo'lgan madaniy qatlamni anglash uchun lingvomadaniy yondashuv zarur bo'lib, u bolalarda o'rganilayotgan tilni hayotiy kontekstda tushunish, real muloqotga tayyor bo'lish va boshqa

madaniyat vakillari bilan to'g'ri aloqada bo'lish kompetensiyasini shakllantiradi. Mazkur yondashuvda o'yinlar, hikoyalar, teatr sahnalashtirishlari, interaktiv topshiriqlar, madaniyatlararo solishtirma tahlillar orqali samaradorlikka erishish mumkin. xorijiy til darslarini lingvomadaniy asosda tashkil etish orqali bolalarda nafaqat til bilimlari chuqurlashadi, balki ularning shaxsiy rivoji, empatiya darajasi va global tafakkuri ham yuksaladi. Shuning uchun til o'rganish jarayonida lingvomadaniy va madaniyatlararo yondashuvlar pedagogik faoliyatning ajralmas va zamonaviy talablariga javob beruvchi yo'nalishidir.

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REVIEW OF THE COUNTRY OF UZBEKISTAN'S MARKET SOPHISTICATION INDEX FROM THE YEARS 2013 AND 2024

Abstract: *This article analyzes the statistical data of the market sophistication index of the Republic of Uzbekistan in the GII for 2013-2024. The study identified the main causes of the market sophistication index's considerable fluctuations over the previous few years. The market complexity index peaked at 27 in 2023, then fell by -42 points over the next 4 years, ranking 69th in 2024, and the reasons for this were explored. The article analyzes the Market sophistication Index of the Republic of Uzbekistan, which covers the macroeconomic stability and Market foundations of the Global Innovation Index, as well as Credit, Investment, Trade, diversification, and market scale from the sub-indices. Several factors have been identified that are obstructing the nation's market sophistication growth.*

Key words: *innovation, global innovation rating, innovation index, market, credit, investment, trade, diversification, innovative development, economic growth.*

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O'ZBEKISTONNING BOZOR RIVOJLANISHI INDEKSINI 2013- 2024-YILLARDAGI MA'LUMOTLARI SHARHI

Annotatsiya: *Ushbu maqolada O'zbekiston Respublikasining GII dagi bozor rivojlanishi indeksining 2013-2024-yillardagi statistik ma'lumotlari tahlil qilindi. Tadqiqotchi bozor rivojlanishi indeksining so'nggi bir necha yillar ichida sezilarli darajada o'zgarishining asosiy sabablarini o'rgandi. Bozor rivojlanishi indeksi 2023-yilda 27 darajaga yetdi, keyingi 4 yil ichida -42 punktga tushib, 2024-yilda 69-o'rinni egalladi. Maqolada global innovatsiyalar indeksining makroiqtisodiy barqarorligi va bozor asoslarini, shuningdek, kredit, investitsiyalar, savdo, diversifikatsiya va sub-indekslar bo'yicha bozor ko'lamini qamrab oluvchi O'zbekiston Mamlakatning bozor rivojlanishi o'sishiga tosqinlik qiluvchi bir qancha omillar aniqlandi.*

Kalit so'zlar: *innovatsiyalar, global innovatsiyalar reytingi, innovatsiyalar indeksi, bozor, kredit, sarmoya, savdo, diversifikatsiya, innovatsion rivojlanish, iqtisodiy o'sish.*

Introduction

Analyzing market challenges for creative growth is generally an important issue. Market sophistication especially intends to prevent the approaching economic crisis, ensure the effective functioning of scientific, technological, and innovative activities in the field, and establish the conditions necessary for the introduction of important creative ideas, changes in the market, access to credit, protection for freshly created employment opportunities, and an increase in company competitiveness. Two academic disciplines that have a relationship strongly linked to science management and economics are directly related to the study of innovation. The first tries to explain innovation's internal aspects, while the second concentrates on the ways that innovation has impacted within organizations. [1] This study explores how Uzbekistan's market development influences the country's capacity to succeed economically. A competent market, in particular, seeks to achieve the successful functioning of scientific and technological innovation activity in the sector while preventing economic crises and simultaneously ensuring innovative upgrades in production that create new jobs and enhance product competitiveness.

Consequently, in our research, we strictly take into consideration the Republic of Uzbekistan's Market Development Index on the global innovation index.

Literature review

The idea of the five degrees of market sophistication was initially presented by management scholar Eugene Schwartz in his book "Breakthrough Advertising." Schwartz often noted that businesses were losing out on important chances to market their goods to consumers. This resulted from the reality that consumers have varying degrees of market sophistication, which marketers must account for when crafting their messaging and advertising. [2] To put it briefly, knowing market sophistication implies that your company is aware of the precise number of comparable goods and/or services that the market you are in is already aware of. [3] Pedro's research aims to analyze the impact of business complexity on marketing knowledge. [4] The main objective of the Vesal study was to examine the interactions between "labor market efficiency" and "business complexity" from a set of global competitiveness indices. [5] Abdullaev analyzed the dynamics of the Business Sophistication Index data for the Republic of Uzbekistan between 2012 and 2020. [6] However, in the subsequent years of 2023 and 2024, there were strong changes in the Uzbekistan Business Sophistication Index, which necessitated its analysis.

Methodology

At the same time, different countries and international organizations employ various techniques to evaluate market sophistication on their own. Such as:

Knowledge assessment methodology (Knowledge Assessment Methodology, or KAM) The knowledge assessment methodology, often known as KAM, is "an interactive benchmarking tool created by the World Bank's Knowledge for Development Program to help countries identify the challenges and

opportunities they face in making the transition to the knowledge-based economy" [7];

NIC stands for National Innovative Capacity. The national innovation system (NIS) theory serves as the primary theoretical foundation for the NIC conceptual framework. In 1987, Freeman introduced the idea of NIS, which he defined as the network of public and private sector organizations whose contacts and activities create, import, alter, and disseminate new technologies (OECD, 1997) [8];

Comparative comparison of innovation performance in EU nations, other European nations, and regional neighbors is provided by the European Innovation Scoreboard (EIS). It evaluates the relative advantages and disadvantages of national innovation systems and assists nations in determining what needs to be addressed [9];

The Global Innovation Index (GII), published by WIPO, ranks around 130 economies based on innovation capabilities and results. As a key reference and "tool for action," it assesses factors like institutions, human capital, infrastructure, investment, knowledge creation, and creative outputs to support economic development. [10]

The Innovation Index rating is based on 7 key indicators:

- institutions;
- human capital and research;
- infrastructure;
- market sophistication;
- business sophistication;
- knowledge and technology outputs;
- creative outputs.

In our study, we consider Global innovation Index the Market sophistication Index of the Republic of Uzbekistan for 2012-2024.

Results and discussion

For companies to thrive and for innovation to take place, market sophistication is the availability of finance and an atmosphere that encourages investment, as well as access to the global market, competition, and market size. Three sub-pillars make up the market sophistication pillar, which is organized according to the overall volume of transactions and market circumstances. (Table 1).

Findings from the Research Out of the 132 economies included in the GII 2024, Uzbekistan comes in at number 82. World economies are ranked based on their capacity for innovation by the Global Innovation Index (GII). The goal of the GII is to capture the many aspects of innovation through its approximately 80 indicators, which are categorized into innovation inputs and outputs. Uzbekistan's market sophistication rankings during the last two years are displayed in the following table (table 1). Uzbekistan's ranking in the GII 2023 and 2024 falls between numbers 69 and 78, according to the statistical confidence range. [17,18]

Table 1

Market sophistication index of the Republic of Uzbekistan

Sub-indices	Score/ Value 2023 y.	Rank 2023 y.	Score/ Value 2024 y.	Rank 2024 y.
Market sophistication	33.9	69	28.9	78
Credit	7.0	121	26.4	66
Finance for startups and scaleups	n/a	n/a	65.8	19
Domestic credit to private sector, % GDP	35.7	90	36.7	84
Loans from microfinance institutions, % GDP	0.2	49	0.2	51
	n/a	n/a	2.4	106
Market capitalization, % GDP	n/a	n/a	8.1	78
Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	n/a	0.0	87
VC recipients, deals/bn PPP\$ GDP	n/a	n/a	0.0	90
VC received, value, % GDP	n/a	n/a	0.0	85
Trade, diversification, and market scale	60.8	51	57.9	61
Applied tariff rate, weighted avg., %	2.6	68	2.7	77
Domestic industry diversification	92.4	42	87.8	44
Domestic market scale, bn PPP\$	334.3	56	371.6	56

Source: Global innovation index
2023,2024.

Market sophistication

The global financial crisis of 2007-2009 determined how important credit was to business performance and became the focus of most government policies. These indicators help to determine the status of credit and the situation of creditors and

investors in the economy. The Credit Index consists of the following sub-indices: Finance for startups and scaleups; Domestic credit to private sector, % GDP; Loans from microfinance institutions, % GDP.

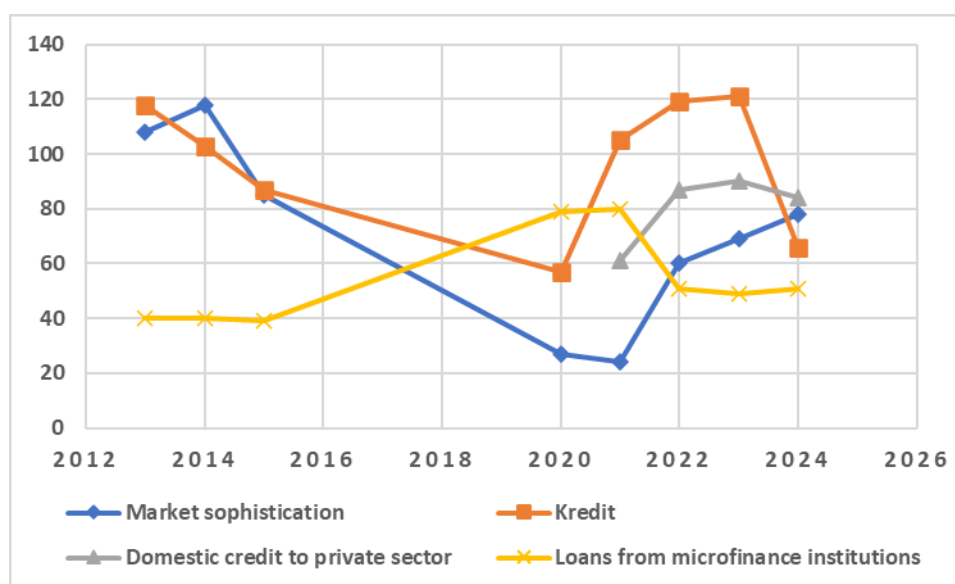


Figure 1. Dynamics of credit indicators in Uzbekistan

If we pay attention to the dynamics of **Credit** indicators in Uzbekistan according to the GII (see Figure 1), we can observe the unstable development of the indicators. Here, Credit has grown by +55 points over the last 2 years and in 2024 ranked 66th in the GII ranking.

Data on **Domestic Credit to private sector** from the **Credit** Index's compilers began to be provided in 2021. It had a rating of 61 in 2021 and 90 in 2023, changing by -29 points. In 2024, it fell to 84th place.

Loans from microfinance institutions ranked 79th in the GII in 2020, then increased by +30 points in 4 years to rank respectively 49th in 2023 and 51st in 2024.

Market sophistication decreased by -42 points in 4 years to rank 69th in 2024. The market complexity index peaked at 27 in 2023, then fell by -42 points over the next 4 years, ranking 69th in 2024, and the reasons for this were explored. The Investment Index consists of the following sub-indices: Ease of protecting minority investors; Market capitalization, % GDP; Venture capital investors, deals/bn PPP\$ GDP.

If we look at the dynamics of investment indicators in Uzbekistan on GII (Table 1), we can see that the data on this indicator for Uzbekistan in 2023 is not provided. Here, in the last 2024 year (Table 1) Investment has shown 106 ranked, and its sub indicators are **Market capitalization** 78, **Venture capital (VC) investors** 87, **VC recipients** 90 ranked.

The **Trade, diversification, and market scale** Index consists of the following sub-indices: **Applied tariff rate**, weighted avg.,%; **Domestic industry**

diversification; Domestic market scale, bn PPP\$

If we look at the dynamics of the Trade, Diversification and Market Size indicators in Uzbekistan according to the GII (see Figure 2), we can observe the unstable development of the indicators. Here, over the past 4 years, Trade, Diversification and Market Size has decreased by +54 points, and the GII ranking has dropped from 108th place in 2020 to 51st place in 2023. In 2024, it has returned to 61st place.

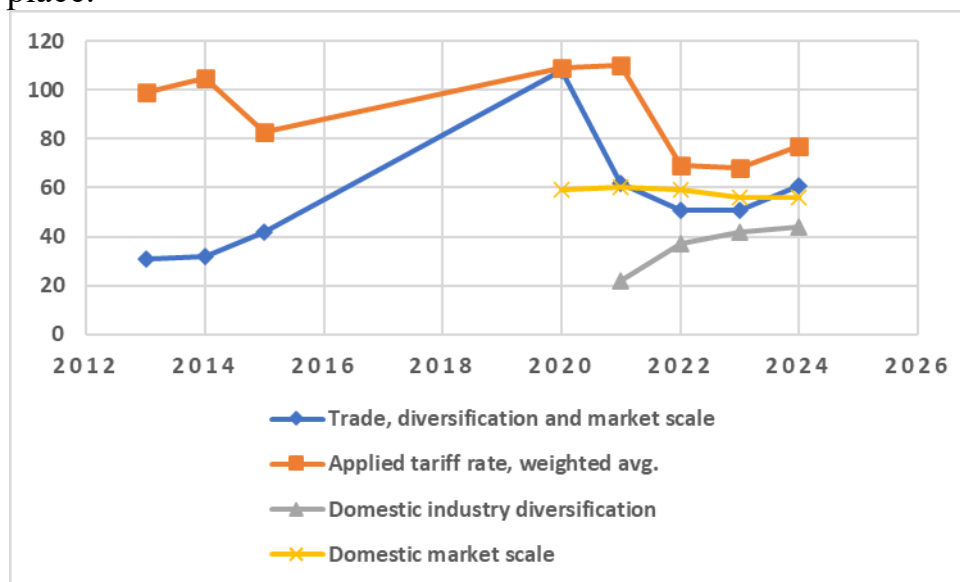


Figure 2. Dynamics of Trade, diversification, and market scale Indicators in Uzbekistan.

Source: Global innovation index - 2013, 2014, 2015, 2020, 2021, 2022, 2023, 2024. [11,12,13,14,15,16,17,18]

The applied tariff rate has increased by +41 points, and the GII ranking has dropped from 109th place in 2020 to 68th place in 2023. In 2024, it has dropped to 77th place.

The domestic market size index ranked 59th in the GII ranking in 2020 and changed positively by +3 points to 56 points in 2023. It remained unchanged at 56 points in 2024.

Data on domestic industrial diversification were presented in 2021 at 22nd place, but in the next 3 years it changed by 20 points to 42nd place. In 2024, it fell to 44th place.

Conclusion

Therefore, the study of the current state of **Market sophistication** index shows that the problem of developing new infrastructure is very complex and requires specialized processing. At the moment, Uzbekistan has a highly developed market. However, this activity is of less interest to organizations and enterprises engaged in innovation, as well as credit and financial institutions offering finance.

From the analysis of Uzbekistans' GII data, the following can be noted: the GII indicator of Uzbekistan has been calculated since 2012. Over this period, the study of the **Market sophistication** index of the Uzbekistan shows a positive trend; the basis of each economy is its market **sophistication** network, which reduces

transaction costs and expands market access

The trends in Uzbekistan's **credit** indicators indicate a mix of successes and shortcomings in financial accessibility and lending practices.

1. We propose the following to improve the ease of getting credit: Expanding lending by the state; Modernizing credit policy and risk assessment; Introducing digital financial services and fintech solutions.

2. The recent decline in credit ratings may be due to: Tight credit policies due to inflationary risks; macroeconomic fluctuations affecting lending capacity; regulatory obstacles to investor confidence.

3. The **domestic credit to private sector** indicator indicates the level of financial resources available to businesses and individuals. A relatively low score may be due to: limited access to credit for startups and small and medium-sized enterprises; conservative banking approach to lending to the private sector; the need for better credit policies to stimulate private sector growth.

4. **Loans from microfinance institutions.** The microfinance sector plays a key role in providing financial opportunities to small businesses and the poor. A downgrade in the rating could be due to: economic difficulties affecting repayment rates; possible changes in financial inclusion policies.

5. We propose the following solutions and recommendations to address the above challenges: strengthening access to credit for businesses and individuals through innovative lending models; increasing the adoption of digital banking and fintech to simplify lending processes; ensuring financial stability by balancing credit expansion with risk management; and stimulating microfinance growth by offering government-backed guarantees or incentives.

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YOSH BOLALARDA PARAZITLARNI ANIQLASHDA FUNKSIONAL-DIFFERENSIAL TENGLAMADAN FOYDALANISH USULI

ANNOTATSIYA: Maqolada yosh bolalar organizmida uchraydigan gelmintlarning turlari, ularning tarqalish xususiyatlari, ko'payish jarayonlari hamda inson tanasiga yetkazadigan zararli ta'siri keng muhokama qilinadi. Ushbu parazitlarning biologik rivojlanish sikli, organizmida qanday sharoitlarda faol harakat qilishi va qaysi omillar ularning ko'payishiga ta'sir ko'rsatishi tahlil qilinadi. Shuningdek, bolalarda gelmintoz kasalliklarini aniqlash va samarali davolash usullari haqida batafsil ma'lumot beriladi. Gelmintlar organizmga tushganidan so'ng, qanday patofiziologik jarayonlar boshlanishi, parazitlar inson organizmida qanchalik tez ko'payishi va ularga qarshi qaysi profilaktik hamda terapevtik chora-tadbirlar samarali ekanligi o'rganiladi.

Kalit so'zlar: gelmintoz infeksiyalari, matematik modellash, kechikkan funksional differensial tenglamalar, statsionar sharoitda davolash.

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METHOD OF USING FUNCTIONAL-DIFFERENTIAL EQUATION IN DETECTION OF PARASITES IN YOUNG CHILDREN

Annotation: The article extensively discusses the types of helminths found in the body of young children, their distribution characteristics, reproduction processes, and the harmful effects they have on the human body. The biological development cycle of these parasites, the conditions under which they are active in the body, and what factors affect their reproduction are analyzed. In addition, detailed information is provided on the methods of diagnosing and effectively treating helminthic diseases in children. What pathophysiological processes begin after helminths enter the body, how quickly parasites multiply in the human body, and what preventive and therapeutic measures are effective against them are studied

Keywords: helminthic infections, mathematical modeling, delayed functional differential equations, inpatient treatment

Kirish:

Maqolada bolalarda gelmintlarni tashxislashda funktsional differensial tenglamalardan foydalanish - statsionar eritmalarning barqarorligini, inson organizmiga zararli ta'sirini tahlil qilish, ya'ni bu zararkunandalardan xalos bo'lish usullarini matematik argumentatsiya qilish usullari. O'zbekistonda kattalarda, ayniqsa yosh bolalarda paydo bo'lgan gelmintlar, protozoalar hamda bakteriyalar va

viruslar keltirib chiqaradigan turli kasalliklarga qarshi faol kurash olib borilmoqda. Aksariyat ota-onalar o'z farzandlarining tanasida yashaydigan parazitlar haqida qisqacha bilishsa-da, ular qanday turdagi ekanligini bilishmaydi. Ma'lumki, gelmintik kasalliklar odamlarda, hayvonlarda va o'simliklarda uchraydi. Bugungi kunda inson organizmida 270 dan ortiq gelmint turlari mavjudligi ma'lum. Biroq, parazitlarning 40 tasi odamlarning doimiy hamrohlari bo'lib, organizmda sezilarli epidemiyalarga olib keladi.

Yosh bolalarda eng keng tarqalgan gelmintlar turi - pinworms. Pinwormlar - o'rtacha kattaligi 10-12 mm dan oshmagan nematodlar sinfiga tegishli kichik gelmintlar. Torso dumaloq, uzun shaklli va uchlarining burchak ko'rinishiga ega. Ushbu turdagi ma'lumotlar va urg'ochi ayollar bir-biridan farq qiladi. O'sish mavsumi davomida ayol tuxum qo'yadi, shuning uchun ular erkaklardan kattaroqdir. Ushbu parazitlarning tarqalishiga kelsak, ularning urug'lari erga cho'kayotganda, havo mo'tadil va harorat 300 dan 400 darajagacha bo'lsa, ularning rivojlanishi juda yaxshi bo'ladi. Havo nam bo'lsa va harorat 100-150 daraja bo'lsa, ularning rivojlanishi sekinlashadi.

Adabiyotlat tahlili:

Parazitar kasalliklar yosh bolalarda keng tarqalgan bo'lib, ularning diagnostikasi tibbiyot va matematik modellash tirish sohasida dolzarb muammo hisoblanadi. An'anaviy usullar (koproparazitologik, serologik, PCR tahlillari) yuqori aniqlikka ega bo'lsa-da, ba'zi hollarda parazitlarning yashirin shakllarini aniqlash qiyin bo'lishi mumkin. Shu sababli, funksional-differensial tenglamalar asosida diagnostik modellar yaratish muhim ilmiy yo'nalishlardan biri hisoblanadi.

Matematik modellash tirish, xususan, funksional-differensial tenglamalar (fdt) tibbiyotda, ayniqsa, infeksiya va parazitar kasalliklarni tahlil qilishda keng qo'llaniladi. Ushbu tenglamalar kasallikning vaqt bo'yicha rivojlanishini hisobga olgan holda, aniq prognozlash imkonini beradi.

Xorijiy va mahalliy tadqiqotlar shuni ko'rsatadiki, funksional-differensial tenglamalarga asoslangan yondashuv yosh bolalarda parazitar kasalliklarni aniqlash samaradorligini oshirishga yordam beradi. Bu usul an'anaviy laboratoriya testlariga matematik modellash tirish vositasida qo'shimcha imkoniyat yaratadi va parazitlarning turli bosqichlardagi rivojlanish dinamikasini hisobga olish imkonini beradi.

Ushbu yondashuv kelajakda parazitologiyada diagnostikaning yangi yo'nalishlarini shakllantirishga xizmat qilishi mumkin.

Tadqiqot metodologiyasi:

Qurtlar parazit bo'lib, ular faqat oshqozon-ichak traktida emas, balki nafas olish organlarida, jigarda, taloqda, mushaklarda, qonda, miyada, ko'zlarda va boshqa organlarda yashaydilar. Ular oqsillar, yog'lar va uglevodlarning tashqi qobig'i bilan oziqlanadi. Ovqat hazm qilish vaqtida ozuqa moddalarining aksariyati gelmintlar tomonidan so'riladi. Kasallikning bunday belgilarining rivojlanishi, o'z navbatida, zaiflik va surunkali charchoqqa olib keladi. Avvalo, ota-onalar yosh bolalarda gelmintlarning o'sishining oldini olish uchun o'z farzandlariga e'tibor

berishlarini talab qiladi. Kasallikning asoratlari bolalarning o'sishiga, tananing ideal rivojlanishiga salbiy ta'sir ko'rsatadi.

Kasallikning matematik modeli parazitlarning tarqalishi, tezligi va tarqalish vaqtini hisobga olgan holda sezuvchanlik xususiyatlarini o'rganish imkonini beradi. Ilgari ekspert modeli asosan kasalliklarni o'rganish uchun ishlatilgan. Ushbu formuladan foydalanib, ushbu kasallikning yashirin ko'rinishlarini qurtlarning oddiy matematik modeli dinamikasining chiziqli differentsiatsiyasida aniqlash mumkin.

Bu erda qurtlarning v-vaqt tarqalishi, e_p —faol qurtlar, e_e —qurtlarning samaradorligi, w-reproduktiv qurtlar.

$$\begin{aligned}\frac{d}{dt}V(t) &= \beta V(t) \left(1 - \frac{V(t)}{V_{mvc}}\right) -_{YVE} E_e(t)V(t), \\ \frac{d}{dt}E_p(t) &= \alpha E_p \left(E_p^0 - E_p(t)\right) + \beta_p g_p(W)V(t - \tau) - \alpha_{AP}V(t - \tau_A)V(t)E_p(t), \\ \frac{d}{dt}E_e(t) &= b_d g_e(W)V(t - \tau)E_p(t - \tau) - \alpha_{AE}V(t - \tau_A)V(t)E_e(t) - \alpha_{Ee}(t), \\ \frac{d}{dt}W(t) &= b_w(V(t) - \alpha_w W(t)). \quad (1)\end{aligned}$$

$$\text{Bu yerda } g_p(W) = \frac{1}{\left(1 + \frac{W}{\theta_p}\right)^2}, g_e(W) = \frac{1}{\left(1 + \frac{W}{\theta_e}\right)^2},$$

Tizim kattaligining biologik ma'nosi yuqoridagi formulada berilgan. Buni hisoblash uchun $S \geq 0$ da $-\tau_A \leq t \leq 0$ Bu intervalda $V(t)$ ma'nosini hisoblash kifoya, $-\tau_A \leq t \leq 0$ bu intervalda qachonki $E_p(t)$, $t \leq 0$ bo'lganda $E_e(0)$ va $W(0)$ anglatadi.

Biroq, izchillik uchun, diapazondagi barcha o'zgaruvchilarning boshlang'ich qiymati $-\tau_A \leq t \leq 0$. Ushbu formulaning biologik ma'nosi quyidagicha: β - Ushbu diapazondagi qurtlarning tezligi; YVE -Uyali natijalar tufayli qurtlarning doimiy tezligini yo'qotish; V_{mvc} -Interstitisial makonda eng keng tarqalgan qurtlar soni; τ -Sitotoksik limfotsitlarning takrorlanish davomiyligini tasniflash; β_p -Sitotoksik limfotsitlarning takrorlanish davomiyligini tasniflash; b_d -sitotoksik limfotsitlarning differentsiatsiyasi; θ_p -Qurtlarni davolash chegaralari davlati; θ_e -Natijalarni energiya holatiga aylantirish uchun qurtlar chegarasi; αE_p -Davolash paytida tabiiy o'lim darajasi; α_{Ee} -qurtlarni davolashda doimiy tabiiy o'lim natijasi; E_p^0 -Raqam-gelmintik taloq muskullari; τ_A -taloq mushaklarining gelmintik bo'lmagan kontsentratsiyasi; α_{AP} -constant rate of precursors of apoptosis; α_{AE} -apoptozning prekursorlarining doimiy darajasi; b_w -kumulatif qurt yukining o'sish darajasi; α_w -Qurtlar yukining ta'siri ostida tananing doimiy tiklanish tezligi.

(1) sistema o'zgaruvchilari vektorini formula bo'yicha aniqlash

$$U(t) = (V(t), E_p(t), E_e(t), W(t))^T. \quad (2)$$

Ushbu formula quyidagi shaklda ham yozilishi mumkin

$$\frac{d}{dt}U(t) = F(U(t), U(t - \tau), U(t - \tau_A)). \quad (3)$$

Yuqoridagilarga asoslanib, biz o'zgaruvchini berilgan $U(t)$ da vektor sifatida ko'rib chiqamiz $-\tau_A \leq t \leq 0$

(3) formulani Nyuton usuli bilan statsionar holatlarda chiziqli bo'lmagan tenglamaga hisoblab chiqdi.

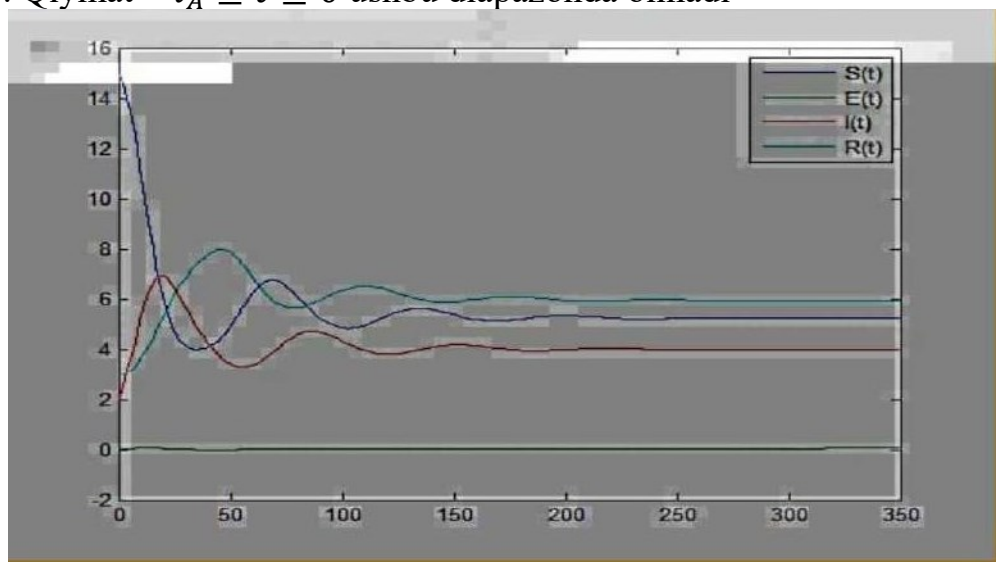
Turli xil parametrlar to'plamlari uchun formula (3) doimiy holatlarga ega. Ushbu tadqiqotda biz ikkita parametrlar to'plamini ishlatdik, ularning har biri barqaror holat topildi. Statsionar holatlar Nyuton usuli yordamida chiziqli bo'lmagan tenglamaga hisoblab chiqildi: $F(U)=0, F(U)=F(U, U, U)$

MUXOKAMA VA NATIJA:

(3) modelning statsionar holatlari talab qilinadigan xususiyatlarga ega parametrlar to'plamlarini izlash va Nyuton uslubiga mos keladigan boshlang'ich qiymatlarda sonli bifurkatsiyalarni ("bifurcus" bo'linish uchun lotincha so'zdan olingan) tahlil natijalariga asoslanadi.

Yuqoridagi formula Matlab dasturida ishlab chiqilgan.

Rasm 1: Qiymat $-\tau_A \leq t \leq 0$ ushbu diapazonda olinadi



Rasm 2: Modelni statsionar eritmaga o'tkazish

Qiymatlarning natijalarini ushbu grafikda ko'rishimiz mumkin.

Yuqoridagilarga qo'shimcha ravishda, simptomlar rivojlanishining oldini olishning yagona usuli bu bolalik davrida enterobiazni davolash uchun test va dori-darmonlarni tayinlaydigan va shifokorning ko'rsatmalariga amal qiladigan shifokorni ko'rishdir:

- Bolalar kiyimlarini alohida saqlang, bir-biringizning kiyimlarini kiymang;
- bolalar o'ynayotgan o'yinchoqlarni vaqti-vaqti bilan sovun bilan yuvish kerak;
- bolalar hojatxonalari, hojatxona pollari, eshik va oluklar, deraza tokchalari, stol va stullarni qaynoq suv, 5% lizol eritmasi, kreolin, oqartiruvchi va boshqalar bilan dezinfeksiya qilish;

- o'yin qum qutisidagi qumni muntazam ravishda zararsizlantirish (dezinfektsiyalash), tozaligi va qumini almashtirish; meva va sabzavotlarni toza suvda yaxshilab yuvib tashlang va keyin iste'mol qiling;

- maktab va bolalar bog'chalari oshxonalarida sanitariya me'yorlariga qat'iy rioya qilish va parazitlarni yo'q qilish, idish-tovoqlarni iloji boricha yopish;

- to'liq pishmagan yoki qovurilmagan go'shtni iste'mol qilmang;

- ota-onalar bilan gelmintik kasalliklarning oldini olish haqida muntazam suhbatlar o'tkazish;

Yuvinishdan oldin bolalar choyshablari va ichki kiyimlarini qaynatib oling, dazmollang va har kuni almashtiring, ertalab anal sohani sovun va iliq suv bilan yuving..

Bundan tashqari, qurtlarni davolashning tabiiy usullaridan foydalaning, oziq-ovqatda qovoq urug'ini va sarimsoqni iste'mol qiling. Albatta, bu tabiiy usullar bilan biz parazitlardan butunlay qutula olmaymiz, lekin ba'zilaridan qutula olamiz.

XULOSA:

Yosh bolalarda parazitlar kasalliklarni aniqlashda funksional-differensial tenglamalardan foydalanish usuli zamonaviy tibbiy informatika va matematik modellashning muhim yo'nalishlaridan biri hisoblanadi. Ushbu usul parazitlarning organizmdagi rivojlanish dinamikasini o'rganish, kasallik tarqalishining matematik modellarini yaratish hamda samarali tashxis qo'yish imkoniyatlarini kengaytirishga yordam beradi. Matematik modellash, xususan, funksional-differensial tenglamalar asosida qurilgan usullar, tashxis jarayonini tezlashtirish va aniqroq prognoz qilish imkonini beradi. Bu usul yordamida parazitlarning hayot sikli, organizmga ta'sir qilish darajasi va infeksiya tarqalishining statistik parametrlari aniqlanadi.

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APPLICATION OF ERROR DETECTION METHODS IN ONLINE INFORMATION SYSTEMS

Abstract. *Development of a successful IT product is a complex multi-stage process with a number of mandatory stages, some of which can take place in parallel. It is important to note that different outsourcing companies define the stages of product development differently, and it is important that the process is completely transparent for the development of client applications. There are various approaches to defining the stages of software development. In this study, much attention is paid to error detection methods and the results of their application are presented.*

Keywords: *application failures, error detection methods, algorithm design, procedure development, application interaction.*

Introduction

The architecture of a communication node consists of physical, logical, and software-based components. Physical elements of the communication node: multiplexers, modems, adapters, computer hardware (ram, processor, input-output channels, etc.). Logical and software structures (elements of these two structures are considered together here and below) are mainly software products: the operating system of the communication node, data flow control programs, programs for logical communication of the processing process, data transfer with the physical device, storage of data structures and logical connections between them, etc. Errors in the software of the node can pose a significant threat, and the use of methods for their detection, localization and recovery allows solving a number of problems. In this paper, this issue will be analyzed in more detail.

Related literature review

A system for ensuring real-time software fault tolerance has been considered in a number of works [1-6]. T. Anderson, j.k. knight and k.m. krishna, a.d. singh present checkpoint-based restart and time-based backup methods as the main models for predicting software reliability. A. Burns et al. Introduced a probabilistic model in scheduling analysis as part of a probabilistic guarantee that all tasks will always be executed on schedule and on time. I. Broster, a. Burns, g. Rodriguez-navas extended this method to can networks to calculate accurate predictions of failure probabilities based on response time probability distributions. However, these approaches have certain limitations and often produce overly conservative results. Safety-critical applications must operate correctly and on time even if they contain errors. G. M. De a. Lima, a. Burns proposed a more correct response time scheduling analysis for fault-tolerant demanding real-time systems, taking into account the recovery of tasks running with high priority, and introduced a special

privilege algorithm to improve the fault tolerance of the system. As a result, attempts were made to consider the relationship between processor overtime and fault tolerance.

Research methodology

The research methodology used methods for collecting and analyzing scientific and practical data to cover the topic of "application of error detection methods in online information systems". Information was collected from scientific sources such as articles, books, and studies by international organizations concerning methods to ensure software reliability and stability of software, concepts of error detection, their localization, and software recovery were studied. The stability of information systems in different countries and the process of recovery from the consequences of their failures were also compared using a comparative analysis method.

The data obtained during the study were systematically analyzed and evaluated in terms of the fault tolerance of the communication channel and the advantages of application recovery methods. Based on this information, innovative approaches can be recommended to improve the stability of information systems.

Analysis and results

A comparison of detection methods (table 1) based on the criteria of complexity and probability of error detection allows us to recommend the following methods for detecting critical errors in the software of a communication node: copy comparison, boundary value testing, element-by-element comparison, and module comparison.

Table 1

Detection methods used for software of economic objects and critical errors detected by them

№	Detection method	What is monitored and what is the essence of the method?	Identification
1	Copy comparison method	Compares the current value α of the parameter Y and the previously saved values β . If $\alpha \neq \beta$ is not equal, then an error is considered to have occurred	MOSK
2	Threshold value method	It is checked that the value of the specified parameter Y does not deviate from the threshold values. The success predicate is taken into account in the interval $\alpha < \varepsilon < \beta$. Here α, β are the minimum and maximum permissible values of the parameter Y . ε - present value.	MOPR

3	Element-wise comparison method	The values of the elements of a given component Q are compared with the elements of a given instance of the component G. The success predicate must be $Q_j = G_j$ for all j, where $j=1,n$; n is the number of elements.	MOESR
4	Modular comparison method	A_j - the address of the element (A_1) is compared with the address of the first element to be multiplied. The success predicate $A_j=(A_1+r)*j$, where $j=2,n$; n is the number of elements, r is the element size.	MOMD

Table 1 describes the execution predicates for each of these methods, and the detected critical errors in the communication node software are described in [7].

To ensure timely localization of errors and data volumes, element-wise or byte-wise monitoring of the communication node software tables, contexts, pools, and queues is performed. Situation check programs have been created for this purpose. Table 4.3 in [8] contains a list of symptoms for these checks, their scope, error causes, critical error types, and corresponding recovery methods.

The scientific works [8,9] present the relationship between the main blocks of the communication node and internal data. It is possible to create an algorithm that adapts to various conditions of communication node failure. This algorithm includes the following steps: launching the necessary procedures from the set of existing situations of the verifier $P(1,1)$, $P(2,1)$, ..., $P(17,1)$, analyzing a certain situation after checking, choosing a solution from the diagnostic table, and the study of the implementation of adaptive action is covered in detail in the following work [10]. Further works are devoted to the software implementation (development) of these algorithms.

Let us consider the development of software tools that increase the reliability of the communication node, including functions and tasks of checking conditions, a solution table and adaptation tools.

To study (research) the developed methods for detecting and eliminating errors, it is necessary to programmatically consider the situations given in Table 1. Table 2 indicates the name, code, purpose of the software tool and its relationship with the situational checks presented in the previous section.

All operational control checks are carried out as a separate procedure. Each of them is performed independently. The functions of these procedures include: selecting actions from the decision table to restore the normal state (table 4.3).

Table 2 lists all the procedures included in the periodic monitoring - PERKONTR. The PERKONTR procedure is a generalized software block (PKB, KKB, etc.) and is included in the communication node software as a separate function with its own flag and status [11,12]. Hereinafter it is referred to as the control and diagnostics block (BCD).

Table 2

Modules for ensuring and monitoring the stability of the information system
of an economic entity

pp	Module identifier code	Tasks of software modules
1	2	3
1-4	OK1- OK4	Procedure for identifying and restoring the normal state of indicators of levels 1-4
5.	OK5	Access control to the FIFO queue buffer address and correction of critical errors
6.	OK6	Access control to the LIFO queue buffer address and correction of critical errors
7.	KONTAB	@ group 1 (fixed data) security and control of value recovery
8.	KONKBAZI	@ group 2 (quasi-variable data) security of values and recovery control
9.	PKI	Run KONTAB, KONKBAZI modules
10.	PROW3	Compare the current total number of buffers in all queues and pools with the initial number of buffers
11.	ANALOS, OSANAL	Checking the correctness of storing values in FIFO queue control elements
12.	SHIBOS	Monitoring and restoring buffers in funds LIFO in ANALOS
13.	PERKONTR	Implementation of RKI, PROW3, ANALOS periodic control procedures
14.	KBAZITRL, COPTRLIN	Copy path/line context after KK creation or destruction
15.	KBAZIKK, COPTKK	Create copies of the KK input/output table of the path/line context
16.	KBAZID	Run the KBAZITRL, KBAZIKK procedures
17.	COPTAB	Copy values of a constant data group after the initial startup
18.	COPTABUD	Copy values of a quasi-variable data group after the initial startup
19.	SHICOP	Copying from long and short buffer addresses
20.	PKCOP	Execute the COPTAB, COPTABUD, SHICOP procedures

When servicing each request to establish or terminate a KK, the channel switching unit starts the procedure for copying the KK tables of the path or line context.

To do this, it is enough to enter one command in the channel switching block. By calling the PKCOP procedure after the initialization phase, the BI block allows the node to copy constants and quasi-variables to the shared memory area.

By calling the PKCOP procedure after the initialization phase, the BI block allows the node to copy constants and quasi-variables from the shared memory area.

The IZBDAT and MONDIAG files serve these purposes and contain copies of this data. Figure 1 shows the relationship between the developed procedures and the data containing additional information. To improve the reliability of the communication node software, all procedures of the software package were implemented in the C language [13].

The layout of the proposed operational control procedures in accordance with the specified structure of the software package and the logical connection of the procedures with the files created during the development of the package can be seen in Figure 1.

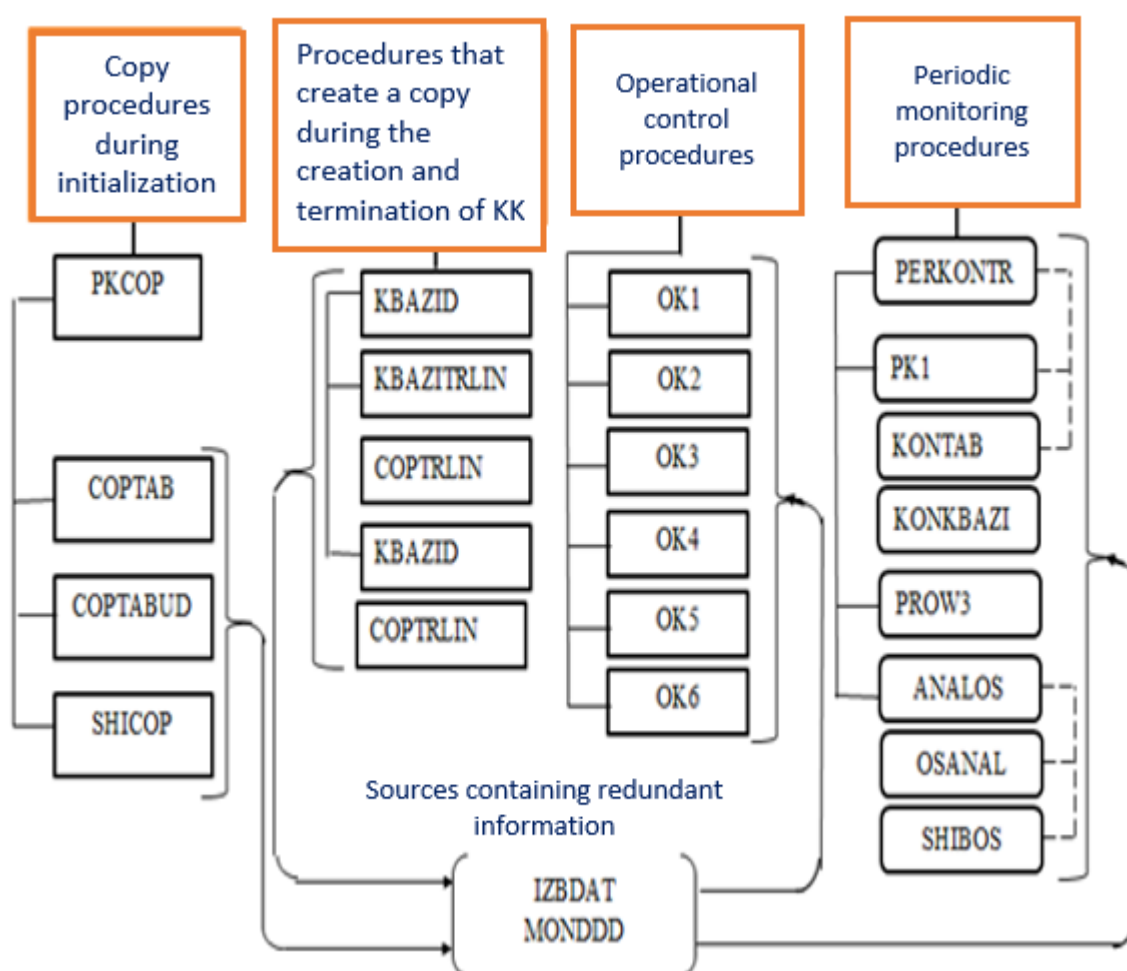


Figure 1. Interrelations and dependencies of modules with redundant information entered into the communication node of an economic entity

The order of execution of operational control procedures is arbitrary. It is developed as a separate procedure (part of the program), which allows adding the necessary procedure to each part of the communication node software. The need for a special study is determined in Table [10]. Its brief analysis shows the feasibility

of using operational control procedures that exist in all main blocks of the node software, with the exception of the PKB block. The OKZ and OK4 procedures are not connected to the BKD block, since the BKD compensation buffers do not interact with the internal data of the input and output tables.

The connection of these procedures to software blocks is carried out by adding these command blocks to the original program code of the communication node to call the above operational control procedures. Then the block (request) is translated and then compiled.

This part considers the algorithm of periodic controls.

Periodic checks are useful for identifying and eliminating critical errors that affect the performance of the communication node. The main procedures of periodic monitoring are: PK1, PROW3, ANALOS. They are carried out under the supervision of the control and diagnostic department. The general scheme of operation of the control and diagnostic unit is as follows:

1. Start the control and diagnostic unit:
2. Run the RK1 procedure.
3. Run the PROW3 procedure.
4. Analysis of PROW3 performance:
 - 4.1. In case of failure (the PROW3 procedure compares the current sum of all buffers in the queue with the value saved during initialization (the state of the software node at startup), and if they are not equal, it is considered that critical error number 7 (cr.osh.7) has occurred), go to point 5.
 - 4.2. If there are no problems, then go to point 6.
5. Run the ANALOS procedure (process).
6. Termination of the control and diagnostic unit.

The algorithm of the procedures included in the control and diagnostic unit is implemented in software.

From the above generalized scheme of the control and diagnostic block operation it is evident that the data management of the constant memory area (procedure PC1) is performed in all cases when the control and diagnostic block occupies processor time. The current sum of all queue buffers is compared with the specified number at the beginning of each periodic control. In necessary situations (if it is necessary to perform the ANALOS procedure, i.e. if the PROW3 procedure detects the loss or damage of a buffer in the communication node software), the state of queues and pools is analyzed in order to identify incorrect connections, parameter violations and incorrect indicators in them. The main tasks of the copying procedures are the creation of copies of constant and quasi-variable data. After the initial initialization and re-initialization (these functions are performed by the BI block), the data must be prepared in triplicate, making two copies. Data copying is performed using the RKSOR procedure. To do this, it is sufficient to enter the RKSOR call command ("variables") in the source text of the BI block; When the BKK block services a request to create or terminate a BKK, changes occur in the KK tables, paths or line contexts. These changes are recorded by the KBAZID procedure, and the data are tripled.

CONCLUSIONS AND SUGGESTIONS

The economic system operates through interconnected structures, including a communication node, a control system, and has a complex architecture consisting of physical, logical, software, etc. The possibility of using a priori adaptation for the data structures of the communication node is analyzed and it is established that its model can be presented as a decision table. This process is carried out using simulation modeling, and in a number of works [7,14] this solution is presented more comprehensively.

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MODERN SCIENCE AND EDUCATION IN THE FIELD OF CONSTRUCTION

Abstract: *The article discusses modern science and education in the field of construction. It is said that one of the main trends in the development of modern sciences and education in the field of construction is the use of new technologies and materials. In addition, modern design and modeling methods make it possible to more accurately predict the behavior of structures in various operating conditions.*

Keywords: *modern sciences, technologies, design, modeling, operation, construction.*

Construction is one of the key sectors of the economy, which plays an important role in the development of society and infrastructure. Modern science and education in the field of construction are becoming increasingly relevant, as they allow solving complex tasks related to the design, construction and operation of buildings and structures. In this article, we will look at the main trends and challenges faced by modern science and education in the field of construction.

One of the main trends in the development of modern science and education in the field of construction is the use of new technologies and materials. For example, 3D printing allows you to create complex structures with high precision, and the use of composite materials can improve the strength and durability of buildings. In addition, modern design and modeling methods make it possible to more accurately predict the behavior of structures in various operating conditions.

Another important trend is the development of ecological construction. Currently, more and more attention is being paid to the use of renewable energy sources, energy efficiency of buildings and reducing the negative impact on the environment. This requires new knowledge and skills from specialists in the field of construction.

One of the main problems faced by modern science and education in the field of construction is the lack of qualified specialists. The construction industry requires

a large number of engineers, architects and other specialists who can work with new technologies and materials. In addition, many specialists do not have sufficient knowledge in the field of ecology and sustainable development.

Another problem is the lack of a single standard for the quality of education in the construction sector. Different countries use different teaching methods, which makes it difficult for experts from different countries to share their experience and knowledge.

Modern science and education in the field of construction face a number of challenges and problems, but also have great potential for development. The use of new technologies and materials, as well as the development of ecological construction, make it possible to solve complex tasks related to the design, construction and operation of buildings and structures. However, in order to achieve these goals, it is necessary to overcome the shortage of qualified specialists and create a single standard for the quality of education in the construction sector.

Problems and challenges in the field of construction and education

1. Lack of qualified specialists

One of the most significant challenges for the construction industry is the shortage of qualified specialists. Despite the development of educational programs in civil engineering universities, there is a clear shortage of professionals with the skills to work with new technologies, modern building materials and design methods. This shortage of specialists leads to a decrease in the quality of construction, an increase in project execution time, and an increase in the number of errors and inconsistencies during the construction process.

Scientific research shows that most of the problems faced by the construction industry, including delays in deadlines and budget overruns, are due precisely to the insufficient level of personnel qualifications. Moreover, technological changes require not only in-depth knowledge of engineering and architecture from specialists, but also the ability to work with high-tech tools and software for design, analysis and modeling (for example, finite element methods, BIM systems and others).

2. New technologies and materials

Modern construction is closely related to the use of new technologies and materials, which requires construction companies to adapt to the rapidly changing technical landscape. In particular, 3D printing technologies, robotization of construction, the use of new types of concrete and steel structures, as well as innovative thermal insulation and environmentally friendly materials open up new opportunities for the design and construction of buildings.

However, despite significant progress in these areas, many construction companies and educational institutions face difficulties in putting these technologies into practice. This is due to both the high initial capital investment and the lack of specialists capable of working with new technologies. It is important that educational institutions can train specialists who have the skills to work with innovative construction methods and modern building materials.

3. Ecological construction and sustainable development

One of the key challenges facing modern construction is the need to move towards environmentally sustainable construction. In the context of global environmental crises such as climate change and the depletion of natural resources, there is a growing demand for environmentally friendly and energy-efficient solutions. This includes the use of renewable and recycled materials, energy-efficient technologies and construction methods, and the design of buildings with minimal environmental impact.

Currently, the field of sustainable construction is actively developing in construction education, however, the introduction of such technologies requires not only training of specialists, but also appropriate changes in legislative and standard regulations. Existing educational programs in many countries do not yet fully integrate environmental standards and principles of sustainable development into courses, which limits the possibility of full-fledged training for modern ecological construction.

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**ISPAN VA O'ZBEK TILIDA SO'ZLASHUVCHILAR TOMONIDAN INSON
YOSHI DAVRLARINI IDROK ETISH BILAN BIRGA KELADIGAN
LINGVISTIK ONGNING STEREOTIPLARINI ANIQLASH
XUSUSIYATLARI**

Annotation: *Tadqiqot ispan tilidagi "Edad" konseptini nominatsiyalarining semantik jixatlarini tarkibiy qismlarini aniqlashga, ular o'rtasidagi tizimli munosabatlarni o'rganishga, shuningdek, ispan va o'zbek tilida so'zlashuvchilar tomonidan inson yoshi davrlarini idrok etish bilan birga keladigan lingvistik ongning stereotiplarini aniqlashga qaratilgan.*

Kalit so'zlar: *edad - yosh, ko'chma ma'nolar, barqaror iboralar, leksik va semantik xususiyatlar, ispan va o'zbek tilida, yosh davrlarini, lingvistik ongn, stereotiplar.*

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**LEXICAL AND SEMANTIC CHARACTERISTICS OF UNITS
REPRESENTING THE CONCEPT OF "EDAD" IN SPANISH AND
UZBEK**

Abstract: *The research aims to determine the components of the semantic aspects of the nominations of the concept of "Edad" in Spanish, to study the structural relations between them, as well as to determine the stereotypes of the linguistic consciousness that accompany the perception of human age periods by Spanish and Uzbek speakers.*

Key words: *edad - age, figurative meanings, stable expressions, lexical and semantic features, in Spanish and Uzbek, age periods, linguistic consciousness, stereotypes.*

Kirish. Tadqiqot ispan tilidagi "Edad" konseptini nominatsiyalarining semantik jixatlarini tarkibiy qismlarini aniqlashga, ular o'rtasidagi tizimli munosabatlarni o'rganishga, shuningdek, ispan va o'zbek tilida so'zlashuvchilar tomonidan inson yoshi davrlarini idrok etish bilan birga keladigan lingvistik ongning stereotiplarini aniqlashga qaratilgan.

"Yosh" tushunchasi inson mavjud bo'lgan lingvomadaniy muhitning eng muhim elementlaridan biridir. Yosh - jismoniy, psixologik va xulq-atvor

rivojlanishining sifat jihatidan o'ziga xos davri bo'lib, unga xos xususiyatlar bilan tavsiflanadi. Shaxsning yoshi kognitiv jarayonlarda, uning idrokida, xotirasida, tafakkurida, nutqida, shaxsiyat xususiyatlarida, qiziqishlarida, mulohazalari, qarashlari, xulq-atvor motivlarida namoyon bo'ladi. Yosh tushunchasi bolalarning intellektual va shaxsiy rivojlanishida yosh normalarini o'rnatish uchun asos bo'lib xizmat qiladi.

“Edad” konseptining sanab o'tilgan ma'nolari bizga ispan tilida bo'lgani kabi, o'zbek tilida xam "yosh" tushunchasi vaqt va rivojlanish tushunchalari bilan uzviy bog'liq degan xulosaga kelishimizga imkon beradi. O'zbek tilida “yosh” leksemasi birovning yoki biror narsaning rivojlanishi, o'sishi, ulg'ayish davri, yashash vaqti, yillari, yer tarixidagi davrlar, asr, yil, oy, soat, soniya va dakikalar ma'nolarini ham bildiradi. Biroq, ispan va o'zbek tillarining leksikografik manbalari ma'lumotlarini taqqoslash “Edad” konseptini yosh leksemalarining talqinida ba'zi nomuvofiqliklar mavjudligini aniqlashga imkon berdi.

Mavzuga oid adabiyotlarning tahlili (Literature review). Konsept va bu bo'yicha olib borilgan ishlar o'zbek tilshunosligida maqtanarli darajada emas. Internet sahifalari orqali kuzatishlarimiz natijasida rus tilshunosligida olib borilgan tadqiqotlar nihoyatda ko'pchilikni tashkil etishining guvohi ham bo'ldik. Rus olimlari tomonidan berilgan ta'riflar, nazariyalar, tasniflar konseptologiya bo'yicha bajarilajak ishlar uchun nazariy asos bo'lsa ajab emas. O'zbek tilshunosligida tahlil va talqin vositasi hamda termin sifatida “konsept” atamasi 1990- yillardan boshlab qo'llanila boshlagan. Bugungi kunga qadar ko'plab olimlar bu borada o'z tadqiqotlarini olib borgan bo'lsa-da, yakdil bir qaror sifatida uning aniq ta'rifini berishgan emas. Konsept zamonaviy tilshunoslikning yadrosi sifatida takomillashib borayotgan tadqiqot sohasidir. U bevosita inson ongi, idroki bilan bog'liq bo'lgan jarayon bo'lib, oliy tafakkur mahsuli sifatida namoyon bo'ladi. Bu tushunchaga juda ko'plab olimlar o'zlarining ta'riflarini berishgan. Birmuncha yangi hisoblangan bu yo'nalish bo'yicha o'zbek tilshunosligida ham tadqiqot ishlari ko'lami ortmoqda. Shu o'rinda Sh. Safarov, N.Mahmudov, T. Mardiyev, E.Mamatov, M. Rahmatova, O'.Yusupov, G. Hoshimov kabi olimlarning tadqiqotlarini alohida ta'kidlash joiz.

Bundan tashqari T.Mardiyev “Do'st/friend”, “baxtsizlik”, “mehr-muhabbat”, “yurak” konseptlari bo'yicha ham ilmiy izlanishlar olib borib, tadqiqotlari jarayonida o'zbek va ingliz tili materiallarini o'zaro solishtirgan holatda lingvomadaniy ko'rinishda leksik-semantik, etnik jihatdan tahlil qilib bergan. Xuddi shu yo'nalishda M.M.Rahmatovanning ham filologiya fanlari bo'yicha falsafa doktori (PhD) dissertatsiya mavzusi “Ingliz, o'zbek va tojik milliy madaniyatida “Go'zallik” konseptining lisoniy xususiyatlari” deb nomlanib, olima bu tadqiqot ishida ingliz, o'zbek va tojik tillari maqollarida aks etgan “go'zallik konsepti doirasida go'zallik prototip ma'nolarining botiniy go'zallik, zohiriy go'zallik, muhit, hodisa, predmet go'zalliklari kabi aksiologik xususiyatlari asoslab berilgan.

Tilshunos olim O'.Q. Yusupov konsept haqida fikr yuritar ekan, uni shunday ta'riflaydi: konseptni “tashqi yoki ichki dunyodagi biror bir narsa yoki hodisa haqidagi ongimizdagi bilimlar majmuasi, u haqidagi obrazlar va unga bo'lgan ijobiy, salbiy, neytral munosabatlar, ya'ni baholashlardir. Konsept bilan

tushunchani aysbergga o'xshatish mumkin. Agar konsept aysberg bo'lsa, uning suvdan chiqib turgan qismi tushunchadir"[13, 49].

Tadqiqod metodologiyasi (Research Methodology).

Tadqiqod metodologiyasiga asosan "Edad" konseptini taxlil qilish jarayonida semantik tuzilishini komponentli tahlil usuli, konseptual-ta'riflash usuli, stilistik va qiyosiy tahlil usullaridan keng foydalanildi. Ispan va o'zbek tilidagi "Edad" konseptini ifodalovchi so'z birikmalar, frazeologik iboralar, maqol va matallardagi, gap va so'z birikmalardagi sintaktik qurilishi, asosiy ko'rinishlari, ularning morfologik va ba'zi ma'noviy uslubiy xususiyatlarini yoritish va qiyoslash bilan bog'liq ilmiy izlanishlar olib borildi.

Tadqiqotda adekvat holatda o'rganishni ta'minlashga qaratilgan metodlar majmui: nazariy taxlil, chog'ishtirma tahlil, leksik, stilistik taxlil qo'llanildi. Mazkur ilmiy izlanish ispan va o'zbek tillarda "Edad" so'zi bilan bog'liq bo'lgan ko'chma ma'nolarni o'rganishga bag'ishlanadi. Unda turlicha tizimdagi tillarda "Edad" so'zi bilan mavjud bo'lgan barqaror iboralar qo'llanilishining o'xshash va farqli stilistik xususiyatlari aniqlanadi, shuningdek ikki halq muqobil barqaror birikmalarining semantik funksional xususiyatlari tahlil qilinadi.

Taxlil va natijalari (Analysis and results)-

Semantikani tahlil qilish jarayonida va til birliklarini aktuallashtirish misolida ispan va o'zbek madaniyatiga xos bo'lgan "Edad" konseptini idrok etishning milliy o'ziga xos xususiyatlarini aniqlashga e'tibor qaratiladi.

"Edad" so'zi lotincha *cecum* (abadiylik, doimiylik) so'zidan kelib chiqan bo'lib. *Tempus* so'ziga nisbatan u uzoqroq vaqtni bildirish uchun ishlatilgan. Leksemaning substantiv xususiyati u bildirayotgan hodisaning ham ma'lum xususiyat va holatlarga ega ekanligini ko'rsatadi. Aksariyat ispancha lug'atlarda leksemaning asosiy ma'nosi "kimdir tug'ilgandan yoki biror narsa boshlanganidan beri o'tgan vaqt" sifatida tan olingan. [Priberam]; [Infopédia]; [DLLP].

Eng keng tarqalgan ma'no – "ma'lum bir kuch darajasi bilan tavsiflangan hayot davri". Bu ma'no "inson hayotining ma'lum bir bosqichi" ma'nosi bilan o'xshashlikni ochib beradi.

"Edad" konsepti yuqoridagilardan tashqari quyidagi ma'nolarni ham bildiradi:

- ✓ hayot bosqichi; umr ko'rish davomiyligi
- ✓ davr, zamon; tarixiy davr;
- ✓ vaqt ko'rinishlari; cheklangan muddat;
- ✓ qarilik, keksalik;
- ✓ vaqt davomiyligi;
- ✓ geoxronologik masshtabning (geologik) birligi, bosqich.

"Edad" konseptining noaniqligi uning turli ma'nolarida bir vaqtning o'zida bir nechta sinonimik qatorlarning bir qismi bo'lishiga imkon beradi, ham semantik, ham stilistik sinonimlarni oladi:

✓ "birovning tug'ilishidan yoki biror narsaning paydo bo'lishidan, o'sib unishidan buyon o'tgan vaqt" ma'nosida "Edad" konsepti quyidagi sinonimlarga

ega: año, años (yil, yillar), enero (yanvar), invierno (qish). (keksa odamlarga nisbatan), primavera (baxor) (yoshlarga nisbatan qo'llaniladi);

✓ “muayyan kuch darajasi bilan ajralib turadigan hayot davri” ma’nosida “Edad” konsepti quyidagi sinonimlarga ega: infancia (bolalik), juventud (yoshlik), viejez (keksalik);

✓ "hayot davri" ma’nosida ; "umrning davomiyligi" – period (davr), generacion (avlod) degan ma’noni anglatadi;

✓ “keksalik, qarilik” ma’nosida – anciedad (juda qarilik; antiklik, qadimiylik), feliz edad (baxtli yosh), tercera edad (uchinchi yosh), edad de planeta (sayyora yoshi), otono de la vida (hayotning kuzi), invierno de la vida (hayot qishi), fase final de la vida (hayotning oxirgi bosqichi) ma’nolfrini anglatadi.

Ko‘rinib turibdiki, “Edad” konsepti o‘zining turli integrallik xususiyati bilan xarakterlanadigan tushuncha mazmunini bildiradi. Leksema ko‘plab konseptual sohalarni tushunish mumkin bo‘lgan kontekst sifatida birlashtiradi.

- Xulosa va takliflar (Conclusions / Recommendations).

Xulosa qilib aytganda insonning yoshi ko‘p jihatdan uning ijtimoiy mavqeini belgilaydi. Yoshga bog‘liq “Edad” konsepti til sohasiga "bolalik, o‘smirlik, yoshlik, o‘rta yosh va qarilik" tushunchalari bilan bir qatorda kiritilgan muhim tushunchadir. Ushbu komponentlar o‘rganilayotgan konsepsiya sohasining dinamik qiyofasini tashkil qiladi. Shunday qilib, o‘rganilayotgan "yosh" tushunchasi markaziy va periferik qatlamlarni o‘z ichiga olgan murakkab tuzilishga ega ekanligi aniqlandi.

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WIND AND SOLAR ENERGY: DEVELOPMENT PROSPECTS

***Annotation.** The rapid growth of global energy demand and the urgent need to mitigate climate change have positioned wind and solar energy as crucial alternatives to fossil fuels. This analysis explores the development prospects of wind and solar power, considering their principles, technological advancements, environmental benefits, and the challenges associated with their integration into modern energy systems. It highlights the increasing global investments and policy support driving the expansion of these renewable sources. Furthermore, it examines the economic and logistical factors influencing their deployment, including cost reductions, manufacturing scalability, and grid integration requirements.*

***Keywords:** Wind energy, solar energy, renewable energy, energy transition, sustainability, energy Security*

Wind energy. For a long time, seeing what destruction storms and hurricanes can bring, people wondered whether it was possible to use wind energy. Windmills with fabric sails were first built by the ancient Persians over 1.5 thousand years ago. Later, windmills were improved. In Europe, they not only ground flour, but also pumped out water, churned butter, as, for example, in Holland. The first electric generator was designed in Denmark in 1890. After 20 years, hundreds of similar installations were already operating in the country [1-4]. Wind energy is very large. According to estimates by the World Meteorological

Organization, its reserves amount to 170 trillion kWh per year. This energy can be obtained without polluting the environment. But the wind has two significant drawbacks: its energy is highly dispersed in space and it is unpredictable - it often changes direction, suddenly dies down even in the windiest areas of the globe, and sometimes reaches such a force that it breaks wind turbines. Construction, maintenance, and repair of wind turbines that operate around the clock in any weather in the open air are not cheap. A wind power plant of the same capacity as a hydroelectric power station, thermal power plant, or nuclear power plant must occupy a larger area in comparison with them. In addition, wind power plants are not harmless: they interfere with the flights of birds and insects, make noise, and reflect radio waves with rotating blades, creating interference with television reception in nearby settlements [4].

The operating principle of wind turbines is very simple: the blades, which rotate due to the force of the wind, transmit mechanical energy to the electric generator via a shaft. The generator in turn produces electricity. To obtain wind energy, various designs are used: multi-bladed "daisies"; propellers like airplane propellers with three, two, and even one blade (then it has a counterweight); vertical

rotors, resembling a barrel cut lengthwise and mounted on an axis; a kind of "standing on end" helicopter propeller: the outer ends of its blades are bent upward and connected to each other [3]. Vertical designs are good because they catch the wind from any direction. The rest have to turn downwind. To somehow compensate for the variability of the wind, huge "wind farms" are built. Wind turbines there are located in rows over a vast area and work on a single network. On one side of the "farm" the wind may blow, while on the other it is calm. Wind turbines cannot be placed too close to each other, so that they do not block each other. Therefore, the farm takes up a lot of space. Such farms exist in the USA, France, England, Ukraine (the Autonomous Republic of Crimea), and in Denmark, a "wind farm" was placed in the coastal shallows of the North Sea: there it does not bother anyone and the wind is more stable than on land. To reduce dependence on the inconstant direction and strength of the wind, flywheels are included in the system, partially smoothing out gusts of wind, and various types of batteries. Most often they are electric. But they also use air (the wind turbine pumps air into cylinders; coming out of there, its smooth stream rotates a turbine with an electric generator) and hydraulic (the force of the wind raises the water to a certain height, and, falling down, rotates the turbine). Electrolysis batteries are also installed. The wind turbine produces an electric current that decomposes water into oxygen and hydrogen. They are stored in cylinders and, as needed, burned in a fuel cell (i.e., in a chemical reactor where the energy of the fuel is converted into electricity) or in a gas turbine, again receiving current, but without the sharp fluctuations in voltage associated with the vagaries of the wind.

Wind power is the most developed area of practical use of natural renewable energy resources. The total installed capacity of large wind power plants (WPP) in the world is estimated today at 44,000 MW. The unit capacity of the largest wind power plants exceeds 1 MW. In many countries, a new industry has even emerged - wind power engineering. The world leaders in wind power are the USA, Germany, the Netherlands, Denmark, India, etc. In particular, Germany plans to produce up to 30% of all electricity in the country using wind by 2030. The fairly wide distribution of wind power plants is explained by their relatively low specific capital investment compared to other renewable energy sources.

2. Solar energy. The sun, as is known, is the primary and main source of energy for our planet. It warms the entire Earth, sets rivers in motion and gives power to the wind. Under its rays, 1 quadrillion tons of plants grow, which in turn feed 10 trillion tons of animals and bacteria. Thanks to the same Sun, the Earth has accumulated reserves of hydrocarbons, i.e. oil, coal, peat, etc., which we are now actively burning. In order for humanity to be able to satisfy its energy needs today, about 10 billion tons of conventional fuel are required per year. Solar energy is based on the fact that the flow of solar radiation passing through an area of 1 sq. m., located perpendicular to the radiation flow at a distance of one astronomical unit from the Sun (at the entrance to the Earth's atmosphere), is equal to 1367 W / sq. m. (solar constant) [2-3]. Through absorption, when passing through the Earth's atmosphere, the maximum flow of solar radiation at sea level (at the Equator) is

1020 W / sq. m. However, it should be taken into account that the average daily value of the solar radiation flux through a single horizontal section is at least three times less (due to the alternation of day and night and changes in the angle of the sun above the horizon). In winter, in temperate latitudes, this value is two times less. The following methods of obtaining energy from solar radiation are known: 1. Obtaining electricity using photocells. 2. Conversion of solar energy into electrical energy using heat engines: a) steam engines (piston or turbine) using water vapor, carbon dioxide, propane-butane, freons; b) Stirling engine, etc. 3. Heliothermal energy - conversion of solar energy into thermal energy by heating the surface that absorbs the sun's rays. 4. Solar balloon power plants (generation of water vapor inside the balloon due to heating the surface of the balloon, covered with a selectively absorbing coating, by solar radiation). Disadvantages of solar energy. Construction of solar power plants requires large areas of land due to theoretical limitations for first- and second-generation photovoltaic cells. For example, a 1 GW power plant may require an area of several tens of square kilometers. Construction of solar power plants of such capacity may lead to a change in the microclimate in the surrounding area, so photovoltaic stations with a capacity of 1-2 MW are mainly installed near the consumer or even individual and mobile installations. Photovoltaic converters operate during the day, as well as in the morning and evening twilight (with lower efficiency). At the same time, the peak of electricity consumption occurs precisely in the evening hours. In addition, the electricity they produce can fluctuate sharply and unexpectedly due to weather changes [2-3]. To overcome these shortcomings, solar power plants use efficient electric batteries. Today, this problem is solved by creating unified energy systems that combine various energy sources that redistribute the produced and consumed power. Today, the price of solar cells is relatively high, but with the development of technology and the rise in prices of fossil fuels, this disadvantage is gradually being overcome.

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EDUCATIONAL INTEGRATION AND INNOVATION IN SCIENCE TEACHING

Annotation. *The article presents methods of educational integration and innovation in teaching future exact sciences (mathematics, physics, chemistry), analyzes the meanings of the words integration and innovation. The introduction of the words integration and innovation into science and their current use are described.*

Keywords: *education, integration, innovation, pedagogical innovative technology, pedagogical innovation science.*

The basis of comprehensive education of students is the formation of a scientific worldview in them. The role of exact sciences in the implementation of this task in higher educational institutions is of great importance. Because, in order to successfully implement the task of training high-level personnel in our republic, it is necessary to give priority to the teaching of mathematics, physics, chemistry and biology from exact and natural sciences at all levels of education, especially in general education schools, academic lyceums and vocational schools, and in the higher education system, as Western countries, Japan, and South Korea have proven by the fact that they have achieved global successes in the field of science and technology due to the development and in-depth teaching of these subjects.

In the process of education and upbringing, new tasks cannot be implemented today with the old method. Every day, many new things and new innovations enter our country. New innovations come with their own concepts, “language”, and gradually raise the level of scientific and technical development. The pedagogical development of our homeland is no exception, of course. The tree of our current national pedagogy drinks water from two life-giving rivers. One is the national educational experience formed over millennia and formed from the particles of gems, and the other is the achievements of advanced, proven innovative technologies of the world. In order to ensure the unity of science and practice, the activities of higher educational institutions should not be an exception. Without mastering the fundamental essence of such concepts as “innovative technologies”, “pedagogical diagnostics”, “cybernetic pedagogy”, “test-rating”, and without using them in the educational process, it will be difficult for us to achieve our worthy position in world pedagogical integration. In this sense, we will not be mistaken if we say that the word “integration” means unification [1].

Integration - why has it become a necessity in today's educational process? Why do we need to abandon the old-fashioned organization of the educational process, which has been used for so many years, and take a new approach to

designing the educational process? To answer such questions, first of all, it is necessary to understand the main directions of the radical reforms being carried out in the field of education. These directions are:

- reforming the content and system of education;
- reforming educational management;
- creating a mechanism for education based on a market economy;
- forming new views of parents, teachers and students on the educational process;
- and finally, the main driving force of these radical reforms is the implementation of new pedagogical innovations in practice.

There is a need for a new approach and organization to designing the educational process based on the new education system, content, curriculum, and textbooks.

The concept of “innovation” has long been widely used in the world pedagogical lexicon. This concept is combined with the concepts of “innovation”, “reform”. In a broad sense, any change in the education system is a pedagogical innovation. Initially, these concepts were applied to socio-economic and technological processes, and then to any innovations in the education system. That is why it is called pedagogical innovative technology. By now, the science of pedagogical innovation has been formed. Pedagogical innovation is considered as a doctrine of pedagogical innovations, their evaluation and assimilation by the pedagogical team, and finally, their application in practice.

The current concept of pedagogical innovative technology is the product of the creative activity of a wide range of teachers. It is only necessary to fully develop the concept of pedagogical innovative technology, understand its scientific essence and apply it to the educational process. Pedagogical innovative technology is the implementation of the previously planned goal in consistent and sequential practical activities, in the educational process. Any educational process takes place in a certain pedagogical system. Pedagogical innovative technology answers the question of what methods of teaching will give a good result. It has its own system, in which the sequence, interdependence, and integrity of components are preserved. The controllability of pedagogical innovative technology is that it allows for planning, diagnosing, and making corrections to the educational process. In this case, the expected result of education is achieved, time is saved, which means the effectiveness of pedagogical innovative technology[2].

The verifiability of pedagogical innovative technology means that the developed model should give the same results when used by other teachers. In short, only with a new approach to the educational process, creativity and originality are applied, the effectiveness of education will rise to a new level, namely:

- the student's responsibility, accountability and duty for the educational process will increase;
- the skills of independent acquisition of knowledge and free thinking will be formed;
- an environment will be created for a person to find his place in society faster.

To do this, today we need to move from the mandatory call to the student "you need to know this" to instilling in him an inner confidence and aspiration "I need this and I am able to know this and apply it in life."

Pedagogical innovative technology is the application of a certain project in practice in the pedagogical system[3].

If we think about the formation of education in the current conditions, as Y.A. Comenius wrote in his work "Great Didactics", only lessons and conversational forms of education are not enough to meet modern requirements. Our teachers, along with the stereotyped 5-stage lesson, should also widely use forms of education outside the classroom, which teachers call non-standard lessons in their experience, such as lectures, practical exercises, competitions and discussions, independent work, conferences, and trips. To do this, teachers need to test the structure and stages of each form of education outside the classroom, determine its effectiveness, and test its superiority over traditional lessons. Of course, this will not happen by itself, it requires knowledge of the theory of education, its current problems, creativity, and constant research. The main factor that ensures students' interest in subjects is the content and its essence. Nowadays, at a time when science and technology are rapidly developing, it is not difficult to define the content, essence, tasks, and approaches of teaching specific subjects in a general way.

We must not forget that the creation of alternative versions of textbooks for exact sciences (mathematics, physics, chemistry) at all levels of the continuous education system and their use in the educational process will greatly contribute to a high level of quality education.

The organization of exact sciences in all educational institutions based on modern pedagogical technology at the level of modern requirements depends on the scientific and educational system of education and the choice of students and teachers. As mentioned above, not involving students and pupils in all educational systems in secondary things that distract them from studying and various activities that are far from the content of education is also of great importance in solving current problems in the education system and achieving high efficiency.

In conclusion, it can be said that the professional skills of future teachers studying in the field of exact sciences allow for the effective preparation of students for school education. The results of the study of the activities of future teachers of the field of exact sciences from the pedagogical, psychological, organizational and methodological perspectives show that their personal qualities and professional training play a significant role in increasing the effectiveness of students' educational activities. Accordingly, the professional skills, knowledge and creativity of future teachers of the field of exact sciences are the main factors in the formation of conscious activity and independence in students. The work of future teachers of the field of exact sciences at school during pedagogical practice is of great importance in the formation of professional skills in them.

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THE ROLE OF BABUR'S SCIENTIFIC AND SPIRITUAL HERITAGE IN THE EDUCATION OF YOUTH IN A SPIRIT OF PATRIOTISM

***Abstract.** The article highlights the role of Z.M. Babur's scientific and spiritual heritage in educating young people in the spirit of patriotism, and presents the interpretation of the concept of patriotism in the "Boburnoma".*

***Keywords:** patriotism, sense of homeland, perfect person, humanity, striving for freedom, freedom*

Historically, Patriotism is also a set of feelings that have developed in the process of social development of people related to the fate of their homeland, the struggle of peoples for the inviolability and independence of the territory in which they live. It is manifested in pride in the past and present of the homeland, in the protection of its interests.

Patriotic education is a purposeful, systematic and coordinated activity of state bodies, public organizations and associations in the education of young people in the spirit of patriotism. The main goal of this is to form in the minds of young people a sense of civic position, social values and loyalty to their constitutional duties. In general, the main goal of the reforms being carried out in our country is to prepare the ground for the spiritual upliftment of our people, in particular, to educate young people in the spirit of humanity, patriotism, and to develop a scientifically based educational system for their development as morally and aesthetically perfect people [3].

Patriotism is a mature spirituality. The role and importance of the spirituality of young people in the development of society is enormous. Every person living in society should strive to serve the Motherland with their beliefs, goals and interests for its great future. One of the important factors of such development is the sense of patriotism in people.

One of our thinkers, whose works are especially praised for the idea of patriotism, is Zahiriddin Muhammad Babur. In his work "Boburnoma", it is emphasized that true patriotism can only be inherent in a mature person. Zahiriddin Muhammad Babur's deep feeling of patriotism in a foreign land is expressed in his works. The desire for freedom, the need to live freely is a feeling inherent in man. A person can live freely and freely only in his homeland. Therefore, the issue of fighting for the freedom of the homeland has long been the main theme of the works of scholars and teachings expressing noble ideas. "Boburnoma" also provides some information about the life and work of the great Uzbek poet, public figure and commander Zahiriddin Muhammad Babur. Although the poet was the king of a great country like India, he showed loyalty and faith in his homeland. He lived a

lifetime longing for Andijan. He suffered from his fate. He preferred to live as a beggar in his native land rather than be a king in another land. However, he could never give up this game of bitter fate. He wrote in one of his rubaiyats:

My soul has been troubled by fate

I have said everything wrong.

I have left my homeland and turned to India,

oh my God, what a sad face it has become.

This feeling, this heartfelt longing for the homeland is artistically expressed in the story "The Scent and the Taste"[2]: Mirzo Babur, guided by the sky, went to a land called India and became its sultan. India was a land with many gardens and abundant fruit. Babur, thinking "let there be a monument of me," had a garden built in a beautiful part of India. He brought seedlings from various countries to this largest garden in the world and planted them. The people named this garden, which became famous throughout the world, "Boghi Baburiy". The trees in the garden bore fruit and bore so much fruit that they could not be accommodated anywhere. The edge of "Boghi Baburiy" was berry-filled. Onions, carrots, cucumbers, and watermelons grew there. But there were no melons or watermelons. The king planted melons one year, but they didn't grow, he planted them the second year, but they didn't grow, he planted them the third year, but they still didn't grow. The melons were ready to grow, but the first year they lost their harvest while still in bloom, the second year the vines "died", and the third year they withered before they were ripe. Babur Shah kept demanding that he find melons.

"If you don't plant melons this year and cook them, I will punish you all," he said angrily.

The gardener was really at a loss as to what to do. Finally, without informing Babur Shah, he decided to bring melons from faraway Fergana. Babur Shah went hunting for several months and when he returned, he asked the gardener for melons. The gardeners took the melons brought from Fergana. Babur Shah smelled the melon and asked, "Where did it grow?"

"It grew in the garden of Baburi," replied the gardener.

"No, it smells different. Melons with such a smell do not grow here, they only grow in one country. You are deceiving me," said Babur Shah.

"If I have deceived you, do as you please, my king. This melon grew in the garden of Baburi," said the gardener, without going back on his word.

Babur Shah was intoxicated by the smell of the melon and was about to cut it. The melon burst open without the knife touching it. Babur Shah looked at the gardener and said:

- You are lying, tell me where you got the melon from. The melon that bursts open without the knife touching it grows only in the land I know. You did not answer my question correctly, are you not afraid of the severity of my anger? - he said.

Knowing that Babur Shah could not be deceived, the gardener was forced to tell the truth.

- We brought it from the Fergana region, - he said with tears in his eyes. Babur Shah was heartbroken by the gardener's words and almost cried. The great poet,

great commander and public figure Zahiriddin Muhammad Babur, who longed for his homeland, even as a king, had a great dream of returning to his homeland even as a beggar. However, this dream turned into a dream.

The economic, social, political and spiritual development of our country cannot be imagined without the life of the younger generation, without raising them as well-formed individuals in all respects. Of course, we must start their growth as perfect people today.

herefore, as our esteemed first president noted: "The future of our homeland, the tomorrow of our people, the prestige of our country in the world community, first of all, depends on how our children grow up, grow up, and become the kind of people they become and enter life. We must never forget this truth"[2].

Therefore, we must make young people realize from an early age that the Uzbek nation is a child of a great people, and instill it in their minds and consciousness. Only then will they be formed from a young age in a spirit of deep respect and faith in the customs, rituals, traditions and values of our great people, and will be brought up in a spirit of loyalty to the ideas of our great ancestors and great grandfathers. Raising them in the spirit of such an idea and vision requires immense responsibility, pedagogical experience and research on the part of educators. To achieve this goal, it is important to familiarize young people with the knowledge, struggle, and courage of our ancestors, to love the homeland, to honor the motherland, to become a worthy generation, mature children, and to live and continue education.

The desire to create conditions for young people, who make up the majority of our population, to find their place in life is one of the main principles of our state policy. The true essence of these works is clear as day. The homeland lies at the heart of every idea and ideology. For example, the Hadith states that loving one's homeland is part of faith.

The homeland is the most sacred place for every person who understands their identity and values their generations and ancestors. A person forms a sense of patriotism based on the fact that they feel a high responsibility to improve their spiritual development and live in harmony with the interests of the homeland and the people.

Patriotism is a spiritual and moral virtue that expresses a person's love and attitude towards the place, land, and country where they were born, raised, and matured.

The feeling of patriotism is reflected in the people's deep knowledge of their history and pride in it, in preserving the material and spiritual heritage created by their great ancestors like the apple of their eye and passing it on to future generations, in studying the traditions, customs, and traditions of their ancestors, and continuing what has become their value, especially in sincerely feeling the future of our state, the stability of its independence, the greatness of its future, and in earnestly helping to build such a future, in hundreds of qualities. After all, the fate of any nation in all times is determined by the education of its youth, who are its future. Zahiriddin Muhammad Babur, with his life and work, took a worthy place

in the social development of the country. Studying his life and work, fighting for the prosperity of the Motherland, and loving the country with all our hearts should serve as a beacon of life for the young generation that is growing up.

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EDUCATIONAL INTEGRATION AND INNOVATION IN SCIENCE TEACHING

Annotation. *The article presents methods of educational integration and innovation in teaching future exact sciences (mathematics, physics, chemistry), analyzes the meanings of the words integration and innovation. The introduction of the words integration and innovation into science and their current use are described.*

Keywords: *education, integration, innovation, pedagogical innovative technology, pedagogical innovation science.*

The basis of comprehensive education of students is the formation of a scientific worldview in them. The role of exact sciences in the implementation of this task in higher educational institutions is of great importance. Because, in order to successfully implement the task of training high-level personnel in our republic, it is necessary to give priority to the teaching of mathematics, physics, chemistry and biology from exact and natural sciences at all levels of education, especially in general education schools, academic lyceums and vocational schools, and in the higher education system, as Western countries, Japan, and South Korea have proven by the fact that they have achieved global successes in the field of science and technology due to the development and in-depth teaching of these subjects.

In the process of education and upbringing, new tasks cannot be implemented today with the old method. Every day, many new things and new innovations enter our country. New innovations come with their own concepts, “language”, and gradually raise the level of scientific and technical development. The pedagogical development of our homeland is no exception, of course. The tree of our current national pedagogy drinks water from two life-giving rivers. One is the national educational experience formed over millennia and formed from the particles of gems, and the other is the achievements of advanced, proven innovative technologies of the world. In order to ensure the unity of science and practice, the activities of higher educational institutions should not be an exception. Without mastering the fundamental essence of such concepts as “innovative technologies”, “pedagogical diagnostics”, “cybernetic pedagogy”, “test-rating”, and without using them in the educational process, it will be difficult for us to achieve our worthy position in world pedagogical integration. In this sense, we will not be mistaken if we say that the word “integration” means unification [1].

Integration - why has it become a necessity in today's educational process? Why do we need to abandon the old-fashioned organization of the educational

process, which has been used for so many years, and take a new approach to designing the educational process? To answer such questions, first of all, it is necessary to understand the main directions of the radical reforms being carried out in the field of education. These directions are:

- reforming the content and system of education;
- reforming educational management;
- creating a mechanism for education based on a market economy;
- forming new views of parents, teachers and students on the educational process;
- and finally, the main driving force of these radical reforms is the implementation of new pedagogical innovations in practice.

There is a need for a new approach and organization to designing the educational process based on the new education system, content, curriculum, and textbooks.

The concept of “innovation” has long been widely used in the world pedagogical lexicon. This concept is combined with the concepts of “innovation”, “reform”. In a broad sense, any change in the education system is a pedagogical innovation. Initially, these concepts were applied to socio-economic and technological processes, and then to any innovations in the education system. That is why it is called pedagogical innovative technology. By now, the science of pedagogical innovation has been formed. Pedagogical innovation is considered as a doctrine of pedagogical innovations, their evaluation and assimilation by the pedagogical team, and finally, their application in practice.

The current concept of pedagogical innovative technology is the product of the creative activity of a wide range of teachers. It is only necessary to fully develop the concept of pedagogical innovative technology, understand its scientific essence and apply it to the educational process. Pedagogical innovative technology is the implementation of the previously planned goal in consistent and sequential practical activities, in the educational process. Any educational process takes place in a certain pedagogical system. Pedagogical innovative technology answers the question of what methods of teaching will give a good result. It has its own system, in which the sequence, interdependence, and integrity of components are preserved. The controllability of pedagogical innovative technology is that it allows for planning, diagnosing, and making corrections to the educational process. In this case, the expected result of education is achieved, time is saved, which means the effectiveness of pedagogical innovative technology[2].

The verifiability of pedagogical innovative technology means that the developed model should give the same results when used by other teachers. In short, only with a new approach to the educational process, creativity and originality are applied, the effectiveness of education will rise to a new level, namely:

- the student's responsibility, accountability and duty for the educational process will increase;
- the skills of independent acquisition of knowledge and free thinking will be formed;

- an environment will be created for a person to find his place in society faster.

To do this, today we need to move from the mandatory call to the student "you need to know this" to instilling in him an inner confidence and aspiration "I need this and I am able to know this and apply it in life."

Pedagogical innovative technology is the application of a certain project in practice in the pedagogical system[3].

If we think about the formation of education in the current conditions, as Y.A. Comenius wrote in his work "Great Didactics", only lessons and conversational forms of education are not enough to meet modern requirements. Our teachers, along with the stereotyped 5-stage lesson, should also widely use forms of education outside the classroom, which teachers call non-standard lessons in their experience, such as lectures, practical exercises, competitions and discussions, independent work, conferences, and trips. To do this, teachers need to test the structure and stages of each form of education outside the classroom, determine its effectiveness, and test its superiority over traditional lessons. Of course, this will not happen by itself, it requires knowledge of the theory of education, its current problems, creativity, and constant research. The main factor that ensures students' interest in subjects is the content and its essence. Nowadays, at a time when science and technology are rapidly developing, it is not difficult to define the content, essence, tasks, and approaches of teaching specific subjects in a general way.

We must not forget that the creation of alternative versions of textbooks for exact sciences (mathematics, physics, chemistry) at all levels of the continuous education system and their use in the educational process will greatly contribute to a high level of quality education.

The organization of exact sciences in all educational institutions based on modern pedagogical technology at the level of modern requirements depends on the scientific and educational system of education and the choice of students and teachers. As mentioned above, not involving students and pupils in all educational systems in secondary things that distract them from studying and various activities that are far from the content of education is also of great importance in solving current problems in the education system and achieving high efficiency.

In conclusion, it can be said that the professional skills of future teachers studying in the field of exact sciences allow for the effective preparation of students for school education. The results of the study of the activities of future teachers of the field of exact sciences from the pedagogical, psychological, organizational and methodological perspectives show that their personal qualities and professional training play a significant role in increasing the effectiveness of students' educational activities. Accordingly, the professional skills, knowledge and creativity of future teachers of the field of exact sciences are the main factors in the formation of conscious activity and independence in students. The work of future teachers of the field of exact sciences at school during pedagogical practice is of great importance in the formation of professional skills in them.

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SPIRITUAL IMPROVEMENT AND SOCIAL REFORMS: COLLABORATIVE APPROACHES IN EDUCATING A COMPLETE PERSONALITY

Abstract. *This article extensively discusses the relevance of cooperation between the family, educational institutions and the mahalla in the process of raising a person. Today, the need to raise a well-rounded generation is emphasized in order to ensure the effectiveness of reforms in the social, economic and spiritual spheres in our country. The socialization of the family, the pedagogical role of educational institutions and the spiritual and educational activities of the mahalla together play an important role in raising a person*

Keywords. *personal upbringing, family environment, educational institution, neighborhood, harmonious generation, family and society, socialization process, spiritual growth, upbringing of the younger generation*

Currently, deep, wide-ranging economic, political, and social reforms are being implemented in our country. Society is moving towards spiritual uplift and renewal. Raising the spirituality of society is a priority of state policy.

Such changes taking place in Uzbekistan require a substantive renewal and implementation of the main tasks of the family, parents, neighborhood, and educational institution in the education of a person in the direction of "Cooperation between family, neighborhood, and educational institution."

The diversity of methods of cooperation between family, school and community in educating a person is justified by the relevance of the topic.

When improving education, it is necessary to pay attention, first of all, to the following:

- instill in the younger generation a sense of identity, awareness of our sacred traditions, the noble dreams of our people formed over many centuries, and the high goals and tasks set before our society today;

- educate in the spirit of loyalty to a single idea-national ideology that unites young people, preserves the integrity of our people and state, and calls our people and country to the highest goals, regardless of the individualism that exists in our society today;

- educate young people in the spirit of striving to arouse due respect for Uzbekistan in the international community and in the international arena;

- educate the younger generation in the spirit of patriotism, loyalty to the people and country, high humanity and human qualities;

• Raising the younger generation in the spirit of being worthy successors of our great ancestors, while simultaneously mastering the universal achievements of the world and our time, is the most urgent issue in educating students and youth in Uzbekistan.

The changes taking place in Uzbekistan require a substantive renewal and implementation of the main tasks of the family, parents, neighborhood, and educational institution in the education of a person in the direction of “Cooperation of Family, Neighborhood, and Educational Institution”. The family is the initial and extremely important community for a person, in which the process of his socialization takes place, in which the foundations of his morality and worldview are formed. The family, unlike other educational institutions, is capable of influencing all aspects and facets of a person throughout his life, and usually does so. This enormous scale of the educational task of the family is combined with the deep specificity of its ideological and psychological impact. This makes it not only highly influential, but also a necessary link in the process of personality formation[1].

It is known that in a variety of conditions of activity, a person's abilities are most effectively developed, his creative potential is revealed, and a person can be involved in various types of activity anywhere except the family. The value and importance of family education is also that what is acquired in the family during the period of small personality remains for a lifetime. That is why the obligation of parents to comprehensively educate individuals is legally established. However, experience shows that parents often consider themselves fully prepared for educational work and do not consider it necessary to acquire special pedagogical knowledge. This feature of parents was noted in his time by the famous pedagogue and psychologist K.D. Ushinsky. “The art of upbringing,” he said, “has such a feature that it is familiar and understandable to almost everyone, and to some it seems very easy - the less a person is familiar with this work theoretically and practically, the more understandable and easy it seems to him. Almost everyone admits that upbringing requires patience, some think that innate abilities and skills, that is, skills, are needed for this; but very few people are convinced that in addition to patience, innate abilities and skills, special knowledge is also needed[2].”

The lack of such knowledge leads to many mistakes in family upbringing, which group trainers (tutors) cannot help but take into account when working with parents. In this regard, the following mistakes of parents in raising individuals can be distinguished[3]:

1. Inadequate communication of parents with individuals. They talk little about themselves, their work, are little interested in the life of the school community, the interests of their own person, his public work, his attitude to this work, etc. Inadequate communication leads to the alienation of individuals from their parents, deprives adults of the opportunity to exert a more active influence on the individual.

2. Inconsistency of parental educational influence - checking their studies from time to time, punishing for any misconduct, etc. - does not contribute to the formation of moral immunity.

3. Some parents weaken educational activity as individuals grow older, which leads to individuals distancing themselves from their parents, decreasing interest in education, etc.

4. Delay in making decisions. Thinking that a person will come to their senses and recover after they grow up is usually not justified, and often leads to a state of pedagogical neglect that requires re-education.

Therefore, there are several tasks of the family in raising students, which are as follows[4]:

- Creating a healthy environment in the family, teaching children to think independently, forming a sense of love for the Motherland, ensuring mutual care, and educating them in the spirit of independence and loyalty to the national ideology;

- Giving their children the foundations of deep secular knowledge, ensuring that they grow up to be enlightened and spiritual people. To be responsible in the family for the full fulfillment of their duties to the educational institution, the neighborhood, the state and society;

- To improve legal education in the family, to ensure that family members understand and comply with their rights and duties;

In raising the younger generation to be well-mannered and loyal to state symbols, special importance should be given to their youth aspects and character, because without them the goal set in education cannot be achieved. When working in cooperation between the family, the neighborhood, and the educational institution, efficiency will be even higher.

The work carried out in cooperation should cover all young people in the mahalla and correspond to their interests and aspirations. The topics of cooperation events may include events such as “Healthy mind in a healthy body”, “Spring of love”, “Life-teacher, people-teacher”, “National duty and responsibility”, “Family lessons”, “Family ethics”, “Family peace-neighborhood peace”, “On the threshold of independent life”, “Military-youth educational institution”, “Family happiness-Homeland happiness”. It may consist of debates, competitions, meetings, conferences and round tables dedicated to various dates.

It is necessary to organize a quarterly report of the established public council on its activities to the mahalla residents. When necessary, listening to reports on the educational work of educational institutions, neighborhood activists, organizations, enterprises and departments located in the neighborhood and providing them with practical and theoretical assistance has a positive effect on the effectiveness and consistency of work.

A number of regulatory documents on education and upbringing adopted in our country in recent years, including the newly amended Law of the Republic of Uzbekistan “On Education”, require raising the prestige of the family, neighborhood

and educational institution to a higher level in the training of independent-thinking personnel.

Unlike other educational institutions, the family is capable of influencing all aspects and facets of a person throughout his life and usually does so. This enormous scale of the family's educational task is combined with the deep specificity of its ideological and psychological influence. This not only makes it highly influential, but also a necessary part of the personality formation process.

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MINTAQADA ZAMONAVIY TADBIRKORLIKNI SAMARALI RIVOJLANTIRISHNI JADALLASHTIRISHDA SOLIQ TIZIMI

Аннотация: Maqolada zamonaviy tadbirkorlikni samarali rivojlantirishni jadallashtirishda soliq tizimi, bugungi kundagi kichik biznes faoliyatini o'zgarish jarayonlari xamda mamlakatimiz kichik biznes faoliyatini rivojlantirish samaradorligi ko'rsatib o'tilgan.

Kalit so'zlar: biznes, atrof-muhit, tadbirkorlik, investisiya, tadbirkorlik faoliyati, xorijiy investitsiyalar, investisiya tizimi.

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TAX SYSTEM IN ACCELERATION OF EFFECTIVE DEVELOPMENT OF MODERN ENTREPRENEURSHIP IN THE REGION

Abstract: The article covers the tax system, the processes of change in the activities of modern small businesses, as well as the effectiveness of small business development in our country in accelerating the effective development of modern entrepreneurship. The article covers the tax system, the processes of change in the activities of modern small businesses, as well as the effectiveness of small business development in our country in accelerating the effective development of modern entrepreneurship.

Keywords: business, environment, entrepreneurship, investment, entrepreneurial activity, foreign investment, investment system.

Kirish.

Xar bir davlatni budjet tizimi shakllanishida soliq tizimining o'rni va ahamiyati beqiyosdir. Shu bois O'zbekiston Respublikasi Prezidentining Farmoni bilan tasdiqlangan Yangi O'zbekistonning taraqqiyot strategiyasida «Inson sha'ni va qadr-qimmati yo'lida»gi asosiy tamoyil xalq farovonligini yanada oshirish, iqtisodiyotni transformatsiya qilish, tadbirkorlikni rivojlantirishni jadallashtirish, inson huquq va manfaatlarini ta'minlash va faol fuqarolik jamiyatini shakllantirishni ko'zda tutadi. Shu bilan birga, 2030 yilga borib, aholi jon boshiga daromadlarning 4 000 AQSH dollarigacha o'sishini ta'minlash orqali o'rta daromadli mamlakatlarning yuqori guruhiga kirish maqsadini o'z oldiga qo'yadi[1].

Bugungi kunda mamlakatning barqaror rivojlanishini ta'minlashga bosqichma-bosqich o'tishning huquqiy, institusional va iqtisodiy asoslari shakllantirilgan.

Kichik biznes va xususiy tadbirkorlikni qo'llab-quvvatlash bo'yicha aniq natijalar quyidagilardan iborat:

- ❖ tadbirkorlik sub'yektlarini rasmiy ro'yxatdan o'tkazish va ruxsat berish tartib-tamoyillari ikki baravar qisqartirildi;

- ❖ nazorat va tekshiruvlarning barcha turlari (ro'yxatda ko'rsatilganlardan tashqari) bekor qilindi.

- ❖ yangi ro'yxatdan o'tgan yakka tartibdagi va oilaviy tadbirkorlar uchun

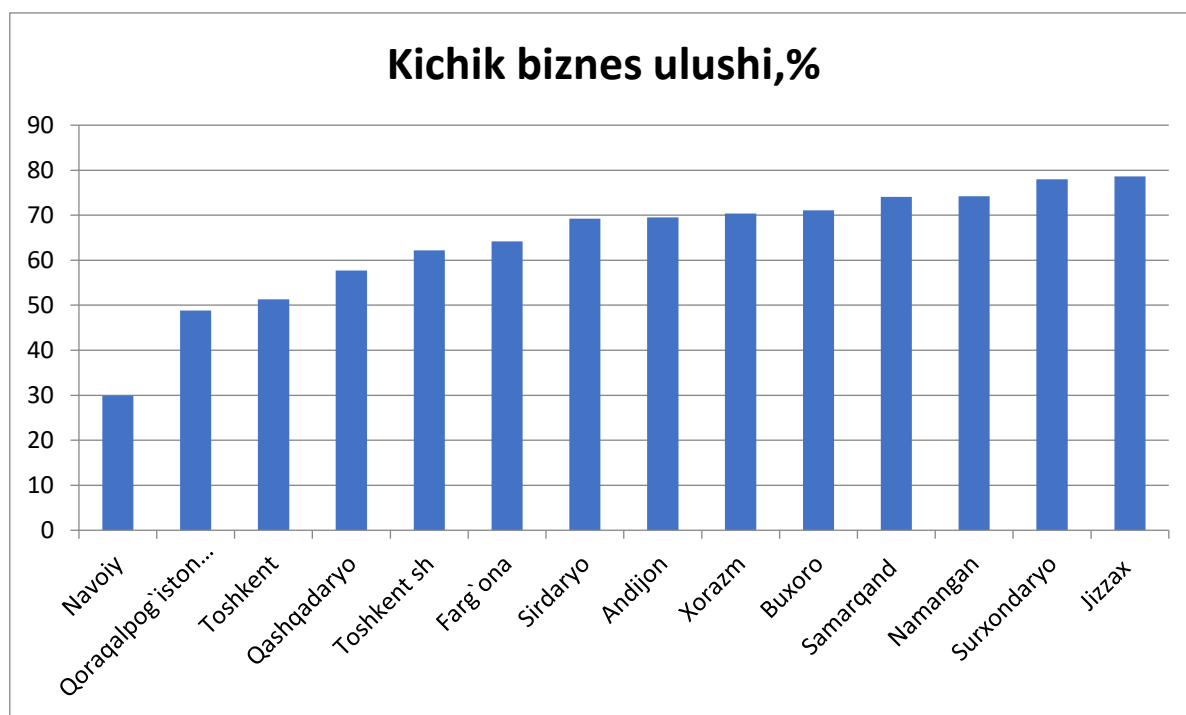
- ❖ yuridik shaxs tashkil etmasdan mikrokreditlar ajratish mexanizmi yaratildi;

- ❖ maxsus moliyaviy yordam davlat jamg'armasi tashkil etildi.

Bizga ma'lumki, "Kichik biznes – huquqiy shaxs sifatida korxona tashkil qilish evaziga tadbirkorlik ishini yuritadigan, amaliyotda kichik korxonalar faoliyati ustidan statistik kuzatuvlar olib borish va taqqoslash uchun foydalanishda, hududlararo va halqaro tahlil qilishda qulaylik yaratish maqsadida kichik biznes o'lchamlarini aniqlash, hamda imtiyozlar olish uchun yo'naltiriladigan korxonalarni belgilab olish zarurligida, korxonalarni soliqqa tortish mexanizmidan samarali foydalanish jarayonida, ishchi-xodimlar sonining qat'iy belgilangan me'yori asosida yuritiladigan xo'jalik faoliyatidir"[2].

Tahlil va natijalar. Yuqori sifatli maxsulotlar ishlab chiqarish, ularni tovarlarni eksport qilish uchun imtiyoz va qulayliklar berish, soliqlardan imtiyozlar, moliyaviy resurslar bilan ta'minlashda imtiyozli chegirmalari qo'llanilishi davlat tomonidan nazoratni kamaytirish orqali kichik biznes sub'yektlariga erkinlik berildi.

O'zbekistonning viloyatlarida kichik biznes ulushiga oid ma'lumotlar berilgan. E'tiborli tomoni eng yuqori ulush Jizzax viloyatida 78,6 %, Surxondaryo viloyatida 78 %, Namangan viloyatida 74,2 % ni tashkil etgan. Eng past ko'rsatkich Navoiy viloyatida kuzatildi va 29,9 % ni tashkil etdi. Kichik biznes ulushi 50 % dan past bo'lgan uchta viloyat mavjuddir. Ularda soha ulushini ko'tarish bo'yicha amaliy ishlarni bajarish maqsadga muvofiqdir[6].



2022 yilda O'zbekiston Respublikasi hududlarida kichik biznesning ulushi, %

Shu bilan birgalikda soliq tizimini o'zgarib borishi tadbirkorlikni tashkil etish va uni rivojlantirishga samarali ta'sir etmoqda. Shu bois kundan kunga tadbirkorlar soni ortib bormoqda. Quyidagi jadval bunga misol bo'ladi.

Faoliyat ko'rsatayotgan kichik tadbirkorlik sub'ektlarining hududlar bo'yicha soni

	2022- yil 1- iyul holatiga		2023- yil 1- iyul holatiga	
	birlik	jamiga nisbatan ulushi, % da	birlik	jamiga nisbatan ulushi, % da
Viloyat jami	30 403	100,0	23 058	100,0
Namangan sh.	10 023	33,0	7 101	30,8
Mingbuloq	1 289	4,2	1 088	4,7
Kosonsoy	1 880	6,2	1 397	6,1
Namangan t.	2 050	6,8	1 417	6,1
Norin	1 555	5,1	1 149	5,0
Pop	1 885	6,2	1 737	7,5
To'raqo'rg'on	1 923	6,3	1 591	6,9
Uychi	1 997	6,6	1 400	6,1

Uchqo'rg'on	1 891	6,2	1 636	7,1
Chortoq	1 863	6,1	1 407	6,1
Chust	2 494	8,2	1 976	8,6
Yangiqo'rg'on	1 553	5,1	1 159	5,0

Yuqoridagi jadvalni ko'radigan bo'lsak, ya'ni faoliyat ko'rsatayotgan jami 23 058 ta kichik tadbirkorlik subyektlarining 8 967 tasi (38,9 %) - savdoda, 5 028 tasi (21,8 %) - sanoatda, 1 994 tasi (8,6 %) - qishloq, o'rmon va baliqchilik xo'jaligida, 1 613 tasi (7,0 %) - qurilishda, 1 257 tasi (5,5 %) – yashash va ovqatlanish bo'yicha xizmatlar sohasida, 962 tasi (4,2 %)- tashish va saqlashda, 574 tasi (2,5 %) - sog'liqni saqlash va ijtimoiy xizmatlar ko'rsatishda, 336 tasi (1,4 %) - axborot va aloqa sohasida shuningdek, 2 327 tasi (10,1 %) - boshqa faoliyat turlari hissalariga to'g'ri keladi. Shundan ko'rinib turibdiki, faoliyat ko'rsatayotgan kichik tadbirkorlik sub'ektlarining asosiy qismi sanoat va savdo faoliyat turlariga to'g'ri keladi. Shuningdek, eng kam ulushi esa axborot va aloqa hamda sog'liqni saqlash va ijtimoiy xizmatlar faoliyat turlariga to'g'ri keladi[7].

Bundan tashqari 2023 - yil yanvar-iyun oylarida jami 2 464 ta kichik tadbirkorlik sub'ektlari yangi tashkil etilgan bo'lib, o'tgan yilning mos davriga nisbatan 85,3 foizni tashkil etgan. Eng ko'p yangi tashkil etilgan kichik korxona va mikrofirmalar Namangan shahri (659 ta), Uchqo'rg'on (209 ta), Mingbuloq (192 ta), To'raqo'rg'on (191 ta), Pop (186 ta), Chortoq (181 ta), Kosonsoy (165 ta), Uychi (162 ta) va Chust (141 ta) tumanlariga, eng kam tashkil etilganlari esa, Namangan (101 ta), Norin (138 ta) va Yangiqo'rg'on (139 ta) tumanlariga to'g'ri keladi[7].

Bugungi kunda soliq tizimini takomillashtirishda iqtisodiy o'sishni ta'minlash, yangi ish o'rinlarini tashkil qilish, bandlik muammosini hal etish, aholining daromadlari va farovonligini oshirishda tobora muhim o'rin tutayotgan kichik biznes sub'yektlarini jadal rivojlantirish, rag'batlantirish va qo'llab-quvvatlashga alohida e'tibor berilganligi natijasidir. Ammo, bu ko'rsatkichlar, ma'lum darajada shartlidir. O'zining «kichik biznes» degan nomiga karamasdan, ushbu ishlab chikarish, xizmat ko'rsatish va tijorat faoliyati turlari iqtisodiy jixatdan taraqqiy etayotgan davlat iktisodida muxim ahamiyatga egaligi bob-bot ta'kidlab o'tilgan.

Shuningdek lizing beruvchi lizing oluvchi tomonidan belgilangan mol-mulkni u ko'rsatgan sotuvchidan olishga va uni ijaraga oluvchiga vaqtincha foydalanish uchun haq evaziga qaytarib bermasdan berishga rozilik beradi. Ko'pincha lizing yuridik shaxslar tomonidan moliyalashtirish vositasi sifatida ishlatiladi, bu soliq imtiyozlari bilan bog'liq. Turli mamlakatlarning qonunchiligi lizingning soliq oqibatlarini turlicha ko'rib chiqadi. Rossiyada lizing tezkor amortizatsiyadan foydalanishga imkon beradi. 2017 yilda bozor ishtirokchilari va mutaxassilari bilan keng jamoatchilik muhokamasi davomida Rossiya bankining lizing kompaniyalarining maxsus reyestri yuritilishini o'z ichiga olgan holda lizing sohasini isloh qilish taklif qilindi.

Xulosa. Xulosa qilib shuni aytish lozimki, ayni paytdagi tez sur'atli dunyoda mamlakatimiz o'z oldiga maqsad qilib qo'ygan iqtisodiy islohotlarni amalga oshirishda avvalambor, tadbirkorlikni jadal rivojlantirishda soliq siyosati, soliq tizimi muhim ahamiyat kasb etadi. Har qanday davlatchilik ko'rinishida soliqlar nafaqat tadbirkor, korxona va tashkilotlarni balki alohida jismoniy shaxslarni iqtisodiy harakatga keltiruvchi "muruvvat" sifatida xizmat qiladi. Soliq va yig'imlarning asosiy, ya'ni fiskal funksiyasini bajarish bilan bir qatorda soliq to'lovchilar bilan soliqlarning turlari va ularning amal qilish mexanizmini soddalashtirish muhimdir, shuningdek soliq uslubiylatini ishlab chiqish va kelgusida soliq yig'iluvchanligini oshirish yuqorida keltirib o'tilgan davlatlar soliq tizimida soliq bazasini aniqlash tartiblari va xususiyatlarini tahlil qilish orqali erishish mumkin. Bu esa o'z navbatida iqtisodiyotining biznes sektorining raqobatbardoshligini oshirish muhitini yaxshilash uchun qulay sharoit yaratadi.

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THE PATHOGENETIC ROLE OF ENDOGENIC INTOXICATION IN CHRONIC TUBULOINTERSTITIAL NEPHRITIS IN CHILDREN

Summary (abstract). *The inflammatory process in the tubular-interstitial tissue (TIT) of the kidneys progresses against the background of specific and nonspecific etiological factors. Interstitial tissue (IT) is a pathological focus in tubular-interstitial kidney damage, subsequently encompassing the blood, lymphatic vessels, and tubules of the renal stroma. The purpose of the study was to assess the role of endogenous intoxication (EI) in the development of chronic tubulointerstitial nephritis (TINN) in children. Patients and methods: examination was conducted on 120 children with CSTIN aged 4 to 15 years. Taking into account the clinical variant of TIN, all patients were divided into 2 groups: 1 group - 52 (43%) children with recurrent forms of chronic tubulointerstitial nephritis (rChTIN) and 2 group - 68 (57%) patients with latent chronic tubulointerstitial nephritis (lChTIN). Of these, 65 (54%) were boys and 55 (46%) were girls. All patients underwent general clinical, laboratory, and instrumental examinations. Results: The conducted studies have shown that in the development of rChTIN and lChTIN, an important mechanism for damage to the renal IT, the development of clinical symptoms, and the course of the disease is both metabolic disorders leading to structural shifts at the level of various elements of the nephron and changes in the functional state of the kidneys, as well as the instability of the cytoembranes of tubular cells. This justifies the need for combined therapy in patients with CTHIN, which will contribute to the elimination of the inflammatory process, the excretion of endotoxins from the kidney tissue, and the stabilization of cell cytomembranes and kidney function.*

Keywords: *chronic tubulointerstitial nephritis; endogenous intoxication; cytomembrane instability.*

Relevance. The achievements in the diagnosis and treatment of nephrological diseases in children are colossal, but nevertheless, about 23% of patients have a progressive course of the disease, which significantly affects the formation of quality of life. The inflammatory process in the tubular-interstitial tissue (TIT) of the kidneys progresses against a background of specific and nonspecific etiological factors. The interstitial tissue of the kidneys is a focus of pathology in TIPP, subsequently encompassing the blood, lymphatic vessels, and tubules of the renal stroma.

Microscopic findings of TIN include: infiltration (lymphoid or macrophage) of the interstitial tissue with the transition to loose or coarse-fibered sclerosis, dystrophy, and/or atrophy of the tubular epithelium [3; 5;7].

Studies in recent decades have proven an important role in the origin of TYPES of kidney damage molecules. They can simultaneously participate in many processes of endotoxin formation and their accumulation in the body's internal homeostasis [1;2;6;].

A number of authors have noted that endotoxiosis is a cascade process. Despite the successes achieved in the treatment and prevention of CKD in children, currently there is no accurate algorithm for the diagnosis of this pathology in the literature. The comparative clinical and laboratory diagnosis of the main types of tubulointerstitial nephritis has also not been fully developed. There is no data on the pathogenetic relationship between tubular functions and protein metabolism indicators in blood serum and urine in children with different forms of CTI. Developing a new pathogenetically justified complex treatment for CKIN in children remains a significant research task.

Research objective. Assess the pathogenetic role of endogenous intoxication (EI) in the development of chronic tubulointerstitial nephritis (TINN) in children.

Materials and methods of research. This study presents the results of examination and treatment of 120 children with CSTD, in the active phase of the inflammatory process, who were in the pediatric nephrology department of the Samarkand Regional Children's Multidisciplinary Scientific Center, during the period 2019-2021.

Taking into account the clinical variant of CSTIN, all patients were divided into 2 groups: 1 group - 52 (43%) children with recurrent form (rCSTIN) and 2 group - 68 (57%) patients with latent form (lCSTIN). Of these, 65 (54%) were boys and 55 (46%) were girls. Patients underwent general clinical, laboratory, and instrumental examinations.

The control group consisted of 30 practically healthy children, not suffering from chronic diseases, who had not been ill for the last 6 months, with a favorable family history of nephrology, aged 4 to 15 years.

Renal indicators were assessed during the exacerbation of the disease, during the formation of clinical and laboratory remission, 1 year, 2 and 3 years after the exacerbation period. During the study, no children with CTHIN against a background of severe congenital pathology combined with impaired renal function were found.

The state of renal function was assessed based on the state of renal filtration function (determination of the clearance of endogenous creatinine according to the Van Slyk formula and cystatin C using immunotubidimetry on a Cobas Integra 400 plus device (Roche, Switzerland)).

Zimnitsky's test was used to determine the kidney's concentration capacity. In addition, the magnitude of ammonioacidogenesis was determined (in daily urine, titrated acids and ammonia were determined).

In all examined patients, protein metabolism indicators (protein fractions, total serum protein, total and effective albumin concentration, serum toxicity index, albumin binding capacity) were determined. The level of urea and creatinine in the blood serum was also determined.

Results and discussion. The clinical group (1st group: 52 patients) with rChTIN was selected based on the presence of typical symptoms of the disease, such as dysuria (32.7%), neurogenic bladder (10%), morning pastosity of the soft tissues of the eyelids (46.5%), and back pain (30.8%) against a background of physical exertion (26.9%).

Meanwhile, the clinical group (2nd group: 68 patients) with LCHTIN was isolated based on the more persistent "salting kidney" symptom, which leads to the development of muscle hypotonia - 41.2% (28) and arterial hypotension - 27.9% (19), dysuria - polyuria in 54.4% (37) of patients, the presence of acute renal tissue damage against a background of hyperoxaluria - 100% (68), an abundance of epithelium in 92.6% (63), lympho-monocytic cells - 88.2% (60), brown cylinders - 100% (68). Urine culture is sterile.

Diagnostic criteria for the latent course of CSTD: were identified against the background of respiratory diseases, they were not given due attention due to their brevity, and hereditary history was not taken into account.

We associate the recurrent course of the disease with the presence of a secondary immunodeficiency state, the indirect signs of which are: frequent recurrence (more than 2 times a year) and prolonged course (preservation of clinical and laboratory signs for more than 6 months), short-term effect of the ongoing antibacterial therapy, multiple foci of chronic infectious pathology, susceptibility to ARVI.

In the clinical status of patients with chronic recurrent TIN, the frequency of disease exacerbation over the past period was determined, and it was revealed that in 20 (38.7%) children, the frequency of exacerbation was 1 time a year, in 19 (36.5%) children 2 times a year, and in 12 (23.1%) children more than twice a year.

In all examined patients, protein metabolism parameters were determined (total serum protein, total albumin concentration (TCA), effective albumin concentration (EFC), albumin binding capacity (ABC), altered albumin concentration and toxicity index (TCI), renal damage molecules (RM) in blood and urine, globulin fractions, cystatin C concentration, albumin functional status indicators, urea levels, and creatinine).

Currently, it has been established that in the development of multiple organ and polysystem failure, metabolic waste products - endotoxins - accumulate in the body. Endotoxins include natural metabolic products that accumulate in the body in high concentrations, MPPs - intermediate products of proteolysis, variable products, heterogeneous ingredients of non-viable tissues that accumulate in the body when natural detoxification mechanisms are suppressed and metabolism is disrupted [10]. There is a direct relationship between the degree of EI and the volume of urinary GPP, depending on the severity of CTH [11;12].

Research on kidney function and EI indicators is necessary for predicting the course of CTI. The degree of damage to the membrane structures of kidney cells was assessed by the level of MPP and OKA in urine, and in blood by the total concentration of albumin, ECA, CCA, IT, and KIA.

The obtained data showed that the concentration of PPP in urine in patients with rChTIN in the acute phase was 16.3 times higher than in the control group (Table 1), while in children with lChTIN it was 8 times higher. More pronounced cellular structural disorders were noted in patients with rChTIN compared to patients with lChTIN.

The increase in the level of BPP in urine in CTI is apparently due to the fact that in inflammatory-destructive processes of the tubulointerstitial system, the reabsorption of BPP in the proximal tubules is disrupted, as they are reabsorbed there by 99.9%, as a result of which their excretion with urine is observed. The accumulation of PPP in urine is facilitated by impaired excretory function of the kidneys, leading to tubular atrophy and organic structural disorders.

Table 1.

Parameters of EI in children with CSTIN upon admission ($M \pm m$)

No	Indicators	Healthy	Patients with rHTIN n=52.	LHTIN patients n=68.
<i>in blood</i>				
1.	STP, units.opt.pl.	0.136 $\pm$ 0.021	0.148 $\pm$ 0.040 P>0.1	0.107 $\pm$ 0.002 P>0.1
<i>in urine</i>				
1.	STP, units.opt.pl.	0.136 $\pm$ 0.021	2.23 $\pm$ 0.08 P<0.001	1.12 $\pm$ 0.07 P<0.001

Both in the active stage and in remission, the state of protein metabolism in rChTIN was the same as in the acute course of the process. A significant decrease in the concentration of total serum protein in this pathology was not characteristic (67.6 $\pm$ 0.25g/l) and OKA (49.23 $\pm$ 0.28g/l). The protein-synthetic function of the liver compensated for small protein losses associated with fever.

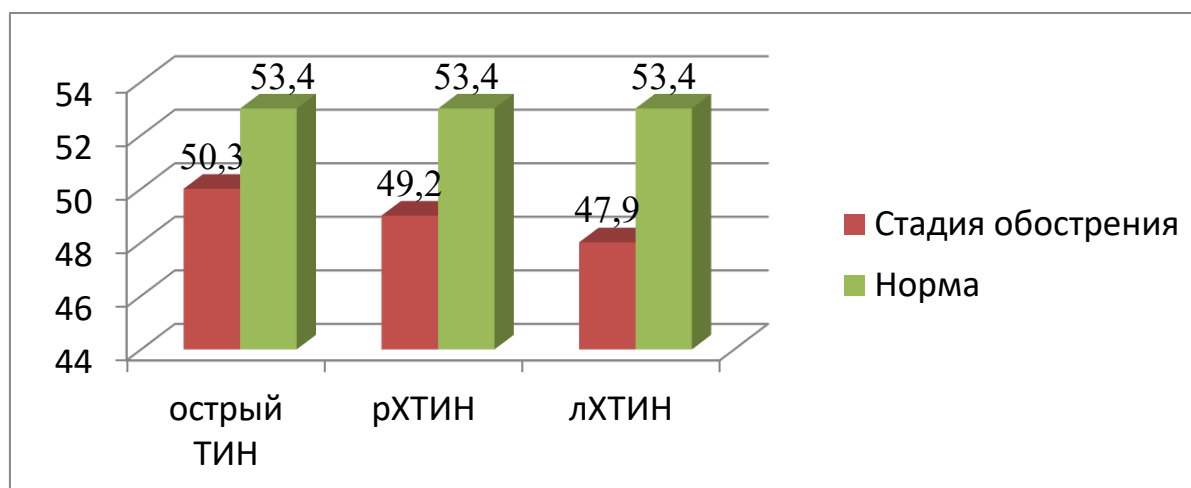


Fig.1. OCA indicator in the exacerbation stage in various forms of the disease in children

In recent years, febrile conditions have rarely been observed in patients, and exacerbations of CTHIN have proceeded in asymptomatic variants. The normal level of protein synthesis was maintained due to the absence of thermal inactivation of liver enzymes.

Table 2.

Parameters of the functional state of albumin before treatment depending on the variants of CSTIN course in children

Indicat	ABOUT (g/l)	OKA (g/l)	ECA (g/l)	CIA (g/l)	SCA (%)	IT cond.units.
Sharp. TIN	67.5±0.27 P>0.1	50.3±0.33 P>0.1	34.0±0.18 P<0.001	16.1±0.29 P<0.001	67.4±0.44 P<0.001	0.47±0.09 P<0.001
TIN recurren ce	67.6±0.25 P>0.1	49.23±0.3 P>0.1	32.04±0.26 P<0.001	17.1±0.37 P<0.001	64.8±0.65 P<0.001	0.54±0.01 P<0.001
LATEN TINE	64.7±0.37 P>0.1	47.9±0.24 P>0.1	33.6±0.3 P<0.001	14.3±0.38 P<0.001	69.7±0.72 P<0.001	0.43±0.01 P<0.001

Note: P-significance of difference between indicators in healthy individuals and children with chronic TIN

The active phase of CTI was characterized by a decrease in ECA, as in the acute process, but to a greater extent (32.04 ± 0.26 g/l). ECA decrease was combined with a decrease in heart rate to $64.8 \pm 0.65\%$ (Fig. 1).

In our opinion, the identified changes are associated with more active and prolonged intoxication, which is the cause of excessive accumulation of toxic substances contributing to the formation of endotoxicosis and disruption of homeostasis. The nature of intoxication, its severity in a particular form of the disease, affects the rate of breakdown of protein structures.

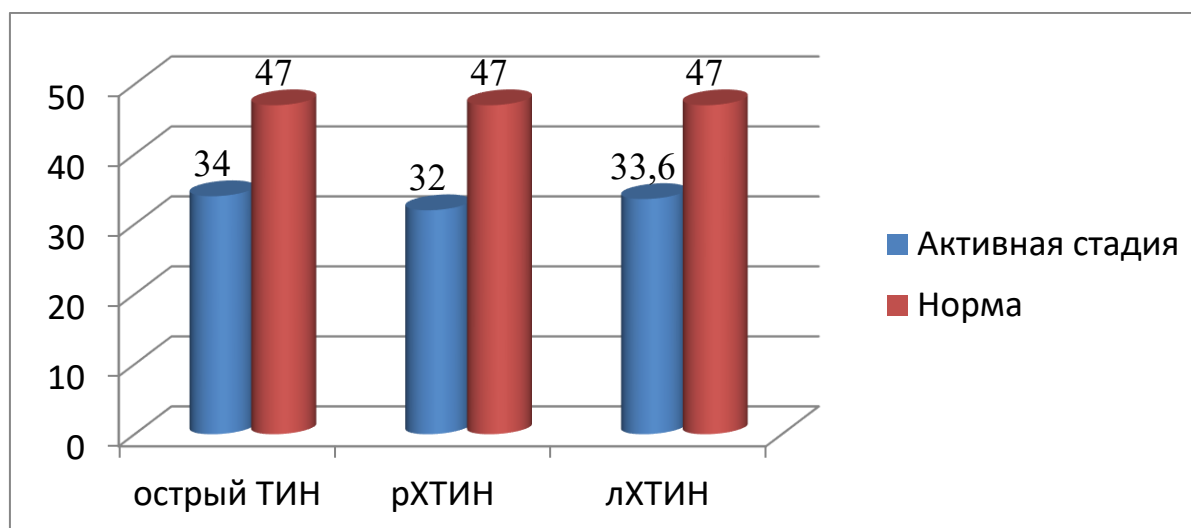


Fig.2. ECA indicator in the active stage in various forms of CSTIN in children
A high level of the toxicity index indicates the presence of intoxication, which is determined in all periods of the disease (Figure 2).

Less pronounced, but persistent changes in protein metabolism are characteristic of the latent course of CHIN. Children are characterized by a decrease not only in ECA but also in general. We found disorders in the protein-synthetic function of the liver in patients with a sluggish kidney process.

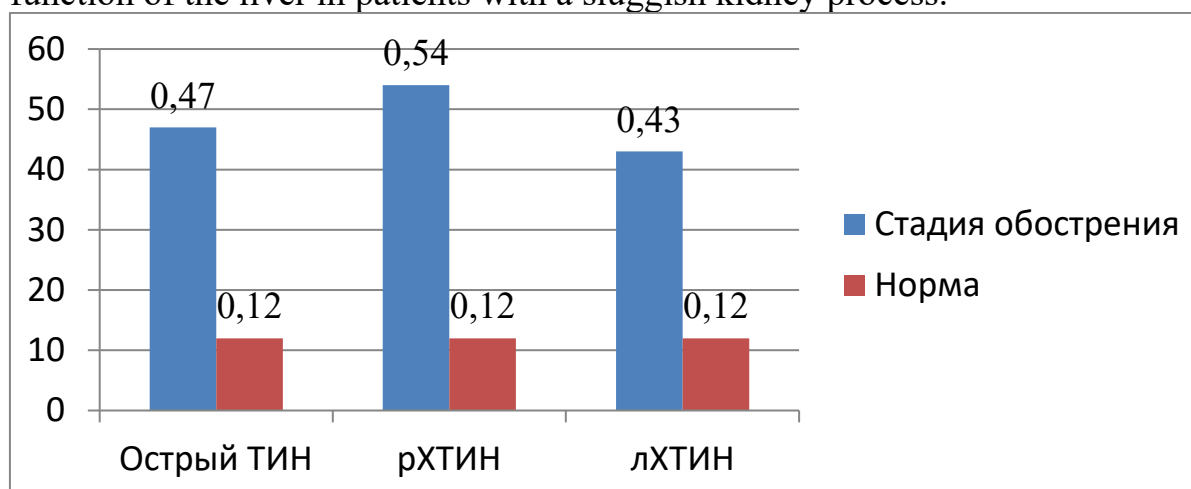


Fig.3. BMI indicator in the active stage in various forms of the disease in children

Against the background of intoxication, immune disorders, and sluggish inflammation in the body, the liver loses its ability to compensate for protein metabolism disorders. The level of ECA in lCHTIN changes to a lesser extent compared to rCHTIN, which is related to compensatory mechanisms in the liver.

An adaptive reaction against the background of a prolonged pathological process is that albumin is synthesized in smaller quantities, but more fully.

A high CSA contributes to a decrease in the level of intoxication, unlike other variants of TIN, which indicates such an indicator as IT (Fig. 3). Similar changes in

albumin lead to the formation of TIN chronicity, indicating that the body's non-specific effector system is functioning [4;7].

In CHTIN, despiralization of the protein molecule is observed. Conformational disorders lead to the formation of discrete forms of albumin, as indicated by a decrease in the level of albumin binding capacity. Limited ability of albumin to bind drugs, this applies to antibiotics, which significantly affects the formation of chronicity of the process.

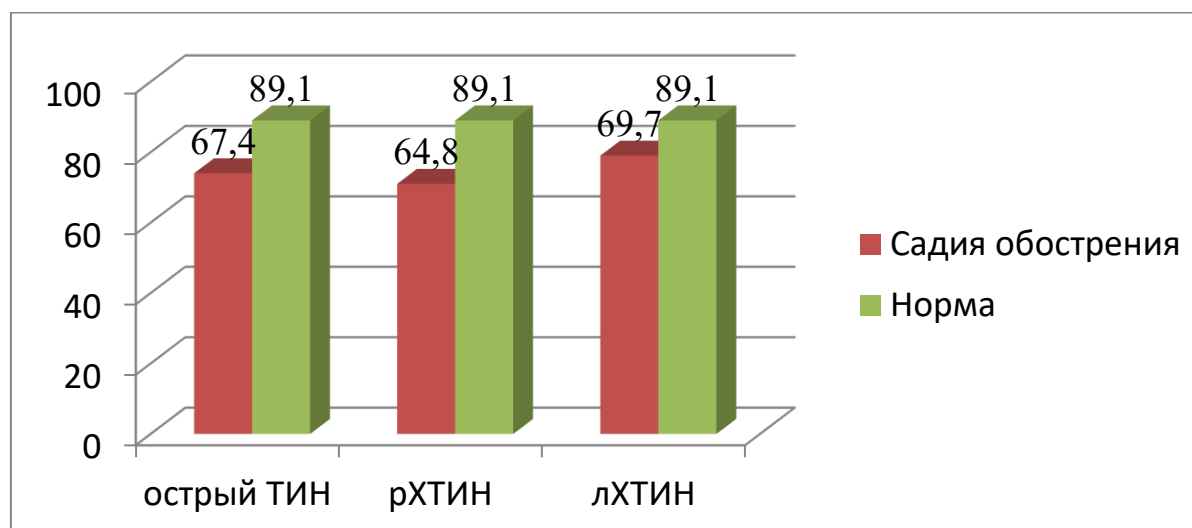


Fig. 4. CSA indicators in the active stage in various forms of CSTIN in children

Conclusions. Thus, the conducted studies have shown that in the development of rChTIN and lChTIN, an important mechanism for damage to the interstitial tissue of the kidneys, the development of clinical symptoms, and the course of the disease is both metabolic disorders leading to structural shifts at the level of various elements of the nephron and changes in the functional state of the kidneys, as well as the instability of the cytoembranes of tubular cells. This justifies the need for combined therapy in patients with CHTIN, which will contribute to the elimination of the inflammatory process, the excretion of endotoxins from the kidney tissue, and the stabilization of cellular cytomembranes and kidney function.

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ATMOSPHERIC AIR IMPACT OF POLLUTION ON HUMAN HEALTH

***Annotation** In the Andijan region, as in our republic, a situation has developed where pollutants of the atmospheric air of settlements significantly worsen the ecological state of these territories, causing changes in the chemical composition of all components of the ecosystem.*

***Keywords** atmospheric pollution diseases, population, Yorqishloq Rural Citizens' Assembly, drinking water*

Air pollution - pollution caused by the presence in the atmosphere of substances that harm the health of people and other living beings, as well as the climate. There are various types of air pollutants such as gases (including ammonia, carbon monoxide, sulfur dioxide, nitrogen oxide, methane, carbon dioxide and chlorofluorocarbons, solid particles (organic and inorganic) and biological molecules. Air pollution causes people to get sick and develop allergies.

In the Andijan region, including the Jalaquduq district, as in the republic, a situation has developed where pollutants of the atmospheric air of settlements significantly worsen the ecological state of these territories, causing changes in the chemical composition of all components of the ecosystem. All this negatively affects the health of the population. It has been established that there is a quantitative correlation between atmospheric pollution and population morbidity. In a number of cities of our republic, including the city of Andijan, air pollution and, accordingly, a relatively high incidence of diseases among the population are considered acute problems.

In the Jalaquduq district, the intensive indicator of acute infectious intestinal diseases per 100,000 population was 32.5, in the Yorqishloq rural community, the intensive indicator of acute infectious intestinal diseases per 100,000 population was 25.4, viral hepatitis per 100,000 population was 50.1, and in the Yorqishloq rural community, the intensive indicator of viral hepatitis was 38.1, which increased in 2018 compared to 2017. When analyzing the ratio of endocrine diseases in the district to the population of each region, the intensive indicator of total morbidity is 11.5, the intensive indicator of primary morbidity is 4.9, in the Yorqishloq rural community, the total morbidity per thousand inhabitants is 22.2, and the intensive indicator of primary morbidity is 9.6.

Specialists from the Jalaquduq District State Sanitary and Epidemiological Surveillance Center are continuing their monitoring work. Additional information will be provided on the identified cases.

Despite the fact that 82% of the district's population is provided with clean drinking water, the provision of some settlements with clean drinking water does

not exceed 65-70%. Okhunboboev Sh. The provision of clean drinking water to the population of the "Janubiy Olamushuk" rural citizens' assembly, the "Teshik-Tosh" rural citizens' assembly, the "Oyim" rural citizens' assembly, the "Yorkishlok" rural citizens' assembly, the "Beshtol" rural citizens' assembly, the "Jalaquduq" rural citizens' assembly, the "Abdullabiy" rural citizens' assembly, and others is not at the proper level.

In the district, over the past 7 months of this year, the incidence of viral hepatitis has increased 2-3 times compared to last year in the city of Akhunbabayev, the territory of the South Olamushuk rural community, the Karatal rural community, the Gulistan rural community, and the Jalakuduk rural community.

- organization of solid and liquid waste collection points in settlements based on sanitary and hygienic standards;

- ensuring the timely removal of leaves collected from fallen leaves

- It is necessary to begin the formation of ecological knowledge and culture among young people, the formation and development of ecological concepts and ideas, primarily from the lowest levels of the education system, that is, from preschool educational institutions.

- considering the use of alternative energy sources is one of the most effective ways to reduce soil damage.

- it is very good to use other vehicles, such as bicycles, pedestrians, or public transport, to prevent the release of vehicles into the environment.

- installing solar panels at home can be inexpensive for many, but even using solar-powered water heaters greatly contributes to the environment.

- Large plants, such as trees, are one of the best solutions to prevent noise pollution in cities.

- all water passing through pipes must be cleaned. Although it has become customary to disconnect taps when people are washing or brushing their teeth, stopping water flow during these measures not only helps save water but also reduces the amount of water that needs special cleaning.

- every citizen contributes to the green space

- Every citizen is obligated to treat the environment with care.

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GIPOFIZ BEZINING GORMONLARI VA ULARNING ORGANIZMGA TA'SIRI

Anatatsiya: Ushbu maqolada endokrin tizimning markaziy bezlaridan biri bo'lgan gipofiz bezining normal fiziologiyasi o'rganiladi. Gipofiz bezi oldingi, orqa va oraliq qismlardan iborat bo'lib, ularning har biri turli xil gormonlar ishlab chiqaradi va organizmdagi muhim biologik jarayonlarni boshqaradi. Maqolada ushbu gormonlarning nomlari, ularning sekretiysi va turli organlar hamda tizimlarga ko'rsatadigan ta'siri haqida batafsil ma'lumot berilgan. Shuningdek, gipofiz bezining ichki sekretiya tizimidagi boshqaruv roli va uning organizm gomeostazini saqlashdagi o'rni tahlil qilinadi.

Kalit so'zlar: Gipofiz, adenogipofiz, neyrogipofiz, trop gormonlar, gonadotrop gormon, effektor gormonlar adrenokotikotrop, tiroksin, somatotrop, prolaktin, antidiuretik gormon, oksitotsin, intermedin.

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PITUITARY GLAND HORMONES AND THEIR EFFECTS ON THE BODY

Abstract: This article studies the normal physiology of the pituitary gland, one of the central glands of the endocrine system. The pituitary gland consists of anterior, posterior and intermediate parts, each of which produces different hormones and controls important biological processes in the body. The article provides detailed information about the names of these hormones, their secretion and effects on various organs and systems. The regulatory role of the pituitary gland in the endocrine system and its role in maintaining homeostasis of the body are also analyzed.

Keywords: Pituitary gland, adenohypophysis, neurohypophysis, tropic hormones, gonadotropic hormone, effector hormones adrenocorticotropic, thyroxine, somatotrope, prolactin, antidiuretic hormone, oxytocin, intermedin.

Gipofiz bezi – miyaning pastki qismida joylashgan bo'lib, og'irligi 0,5 gramm, uzunligi 5-7 mm bo'lgan bez. Asosiy bez deb ataladigan gipofiz bezi tanadagi boshqa bezlarni rag'batlantirish orqali endokrin tizimni tartibga soladi. Boshqacha qilib aytganda, gipofiz bezida sodir bo'lgan jarayonlar jinsiy rivojlanish, qalqonsimon bez, o'sish va rivojlanishga ta'sir qiladi. Miyaning yuqori markazidan kelgan buyruqlar gipotalamus orqali gipofizga uzatiladi va gipofiz bezidan gormonlar chiqara boshlaydi. Qon orqali organizmning tegishli joylariga yetib boruvchi bu gormonlar qalqonsimon bez, buyrak usti bezlari va jinsiy bezlarni gormonlar chiqarishga undaydi. Shunday qilib, qon aylanish tizimi orqali endokrin tizim va asab tizimi o'rtasidagi aloqani o'rnatadi.

Gipofiz bezi miyaning pastki qismida, burun ko'prigi orqasida, turk egarchasi deb ataladigan suyak bo'shlig'ida joylashgan bo'lib u gipofiz bilan miya faoliyatini boshqaradigan gipotalamus bilan bog'langan. Gipofiz bezi miyani qoplaydigan qattiq membrana bilan o'ralgan. Gipofiz uch: oldingi (adenogipofiz), orqa (neyrogipofiz) va oraliq bo'laklardan iborat. Gipofizning oldingi bo'lagi bosh yoki xromofob hujayralardan (55-60%) va xromofil: atsidofil (30-35%) va bazofil (5-10%) hujayralardan tashkil topgan. Adenogipofizda 6 ta gormon ishlab chiqariladi, ulardan 4 tasi trop gormonlar (adrenokortikotrop yoki kortikotropin, tireotrop gormon yoki tireotropin) va 2 ta gonadotrop gormon - (follikulostim ullovchi va lyuteinlovchi va 2 ta esa effektor gormonlar somatotrop gormon va prolaktin).

Gipofiz boshqa bez — tiroidga ta'sir qilish orqali bolalarning o'sishini nazorat qiladi. Gipofiz insonning jinsiy rivojlanishini ham nazorat qiladi. Shuningdek, u metabolism uchun, ya'ni ozuqa moddalarning turli xil energiyaga aylantirilishiga ham javobgardir. Gipofiz muayyan mushak, buyrak va boshqa a'zolar bilan ham bog'liq. Ushbu bezda uning faolligini oshiradigan yoki kamaytiradigan o'smalar paydo bo'lishi mumkin. Bu odamlarning baland yoki mitti bo'lib qolishiga sabab bo'ladi.

Gipofiz bezining oldingi va orqa qismlaridan turli xil gormonlarni ajratib organizmdagi bezlardan gormonlar ajralib chiqishini rag'batlantiradi va shu bilan endokrin tizimni tartibga soladi. Gipofiz bezining gormonlari va ularning funktsiyalarini quyidagicha sanab o'tish mumkin:

- Adrenokortikotrop gormon (ACTH): Gipofiz bezining oldingi qismida ishlab chiqarilgan ACTG gormoni buyrak usti bezlarini rag'batlantirish orqali kortizol va androgen steroidlar sekretsiasini tartibga soladi. Bu gormonlar, ayniqsa, tana stress holatida bo'lganda kerak.

- Qalqonsimon bezni ogohlantiruvchi gormon (TSH): Gipofiz bezining oldingi bo'lagidan ishlab chiqariladigan qalqonsimon bezni ogohlantiruvchi gormon (TSH) qalqonsimon bezlarni tiroksin (T4) va triiodotironin (T3) chiqarishni rag'batlantiradi. TSH sekretsiasiga gipotalamusda ishlab chiqarilgan T3, T4 gormonlarining ko'payishi va kamayishi ta'sir qiladi.

- Gonadotropin gormonlari: gipofizning oldingi bo'lagidan ishlab chiqariladigan follikullarni ogohlantiruvchi gormon (FSH) va luteinlashtiruvchi

gormon (LG). FSH ayollarda tuxumdondan ta'sir qilgani uchun ovulyatsiya va estrogen chiqarilishini tartibga soladi. Erkaklarda bu sperma ishlab chiqarishga ta'sir qiladi. LG ko'tarilishi ayollarda ovulyatsiyani boshlaydi va erkaklarda testosteron sekretsiasini rag'batlantiradi.

- O'sish gormoni (GG): O'sish gormoni, shuningdek, o'sish gormoni (GH) deb nomlanuvchi, gipofizning oldingi bo'lagidan ajralib chiqadi va o'sish va rivojlanishga ta'sir qiladi. GH oqsil hosil bo'lishini oshiradi, shuningdek, energiya uchun yog' to'qimasidan foydalanishga imkon berib, oqsil parchalanishini kamaytiradi.

- Antidiuretik gormon (ADH): ADG gipotalamusda sintez qilingan va gipofiz bezining orqa qismida saqlanadigan gormon. Uning asosiy vazifasi buyraklardagi suvning reabsorbsiyasini (so'rilishini) ta'minlashdir. Shunday qilib, u suv va elektrolitlar balansiga hissa qo'shadi.

- Oksitotsin : Oksitotsin gipotalamusda sintez qilingan va gipofiz bezining orqa bo'lagida saqlanadigan gormon. Gipofiz bezi tug'ish vaqti kelganida organizmga oksitotsinni chiqarib, bachadon qisqarishini rag'batlantiradi; Shunday qilib, to'lg'oq jarayoni boshlanadi.

- Prolaktin: Gipofizning oldingi bo'lagida ajralib chiqadigan prolaktin gormoni sut bezlarini rag'batlantiradi va sut ajralishini ta'minlaydi. Shuningdek, u prolaktin, gonadotropin gormonlari va buyrak suvi va minerallarning chiqarilishiga ta'sir qiladi.

- Intermedin: Intermedin yoki melanin stimullovchi gormon odamda teri pigmentatsiyasini boshqaradi.

Gipofiz kasalliklari gormonlarning ortiqcha yoki kam chiqarilishi natijasida yuzaga keladi. Bunga genetik muammo, keyingi muammo yoki o'sma sabab bo'lishi mumkin. Gipofiz buzilishlar oddiy gipofiz funktsiyasi va maqsadli organlar gipofiz gormonlarining to'g'ri ishlashiga olib keladi. Ushbu nosimmetrikliklar, odatda, gipofizga etarli darajada yoki juda ko'p miqdorda gormon ishlab chiqarishga olib keladigan o'smalarning natijasidir. Hipopituitarizmga gipofiz gormonlarning past darajasini hosil qiladi. Gipofiz gormonlarini etishmovchiligi etishmovchiligi boshqa bezlardagi gormonlar ishlab chiqarishda etishmovchilikka olib keladi.

Masalan, qalqonsimon bezovtalanadigan gormon (TSH) ishlab chiqarishda etishmovchilik noaktiv tiroid beziga olib kelishi mumkin. Qalqonsimon bez gormonlari etishmasligi normal tana vazifalarini sekinlashtiradi. Og'irlikning kuchayishi, zaiflik, konstipatsiya va depressiyani o'z ichiga oladi. Gipofiz tomonidan adrenokortikotropik gormonning etishmasligi (ACTH) etishmovchiligi buyrak usti bezining bezlarini olib tashlaydi. Adrenal bez gormonlari qon bosimini nazorat qilish va suv muvozanati kabi muhim tana vazifalarini saqlab qolish uchun muhimdir. Ushbu holat Addison kasalligi deb ataladi va davolanmasa halokatli bo'lishi mumkin.

Gipotiturizmga gipofiz gormonlarni haddan tashqari ko'p miqdorda ishlab chiqaradi. O'sish gormonining ortiqcha ishlab chiqarilishi kattalarda akromegali keltirib chiqarishi mumkin. Bu holat qo'llarda, oyoqlarda va yuzda suyaklar va to'qimalarning ortiqcha o'sishiga olib keladi. Bolalarda o'sish gormonining haddan

tashqari ishlab chiqarilishi gigantizmga olib kelishi mumkin. ACTHning ortiqcha ishlab chiqarilishi buyrak usti bezlarini ko'p miqdorda kortizol ishlab chiqaradi, bu esa metabolizmni tartibga solish bilan bog'liq muammolarga olib keladi. TSH gipofiz gormonining haddan tashqari ishlab chiqarilishi hipertiroidiyaga yoki qalqonsimon gormonlar ishlab chiqarishga olib kelishi mumkin. Overaktiv tiroid asabiylashish, vazn yo'qotishi, tartibsizlik yurak urishi va charchoq kabi alomatlarni keltirib chiqaradi.

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ORGANIZM FUNKSIYALARINI BOSHQARILISHIDA BUYRAK USTI BEZLARINING ROLI

***Anatatsiya** Buyrak usti bezi mag'iz va po'stloq moddalardan iborat bo'lib, ular butunlay boshqa-boshqa gormonlar ajratadi va strukturasi, funksiyalari bo'yicha farq qiladigan turli ichki sekretiya bezlaridan iborat. Buyrak usti bezining har bir qavatidagi garmonlari o'ziga xos ta'sir ko'rsatishi. Ularning ishlab chiqarishining buzilishida baydo bo'ladigan kasalliklar.*

***Kalit so'zlar:** Buyrak usti bezi, po'stloq mag'iz qavatlari mineralokortikoidlar, aldosteron, glyukokortikoid, kortizon, jinsiy garmonlar, Addison kasalligi, adrenalin, noradrenalin.*

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THE ROLE OF ADRENAL GLANDS IN THE REGULATION OF BODY FUNCTIONS

***Abstract** The adrenal gland consists of a medulla and a cortex, which secrete completely different hormones and are composed of various endocrine glands that differ in structure and function. The hormones in each layer of the adrenal gland have a specific effect. Diseases that arise from a violation of their production.*

***Keywords:** Adrenal glands, cortex and medulla, mineralocorticoids, aldosterone, glucocorticoids, cortisone, sex hormones, Addison's disease, adrenaline, noradrenaline.*

Buyrak usti bezlari po'stloq va mag'iz qismidan iborat bo'lib ular tuzilishi va vazifasi jihatidan turlicha bo'lgan ichki sekretiya bezlaridir. Buyrak usti bezi po'stlog'ida uch zona ajratiladi: tashqi koptokchali, o'rta tutamli va ichki turli. Koptokchali sohalaridan mineralokortikoidlar sintezlanadi, ulardan eng faoli aldosterondir. Tutamli sohada esa glyukokortikoidlar sintezlanadi. Turli sohada esa oz miqdorda jinsiy gormonlar sintezlanadi.

Aldosteron: mineralokortikoidlar mineral moddalar almashinuvi va birinchi navbatda qon plazmasida natriy va kaliy miqorini boshqarishda qatnashadi. Ulardan aldosteron ayniqsa faol va buyrak kanalchalari epiteliy hujayralarida natriy nasoslari samarasini oshiruvchi fermentlar sintezini faollashtiradi. Buning oqibatida Na^+ va Cl^- reabsorbsiyasi kuchayib, ularning qon, limfa va to'qima suyuqligidagi miqdori oshadi. SHu bilan birga aldosteron buyrak kanalchalarida K^+ reabsorbsiyasini pasaytiradi. K^+ siydik bilan chiqariladi va uning organizmdagi miqdori kamayadi. Me'da ichak, sulak va ter bezlari epiteliy hujayralarida ham shunga o'xshash o'zgarishlar sodir bo'ladi. Aldosteron shu yul bilan haddan ortiq terlaganda natriy yo'qotilishi oldini oladi. Qon va to'qima suyuqligida natriy konsentratsiyasining oshishi osmotik bosimni ko'tarib, suvning organizmda yig'ilishi va qon bosimining oshishiga olib keladi. Buning oqibatida buyrakda renin sekretsiyasi tormozlanadi. Kuchaygan Na^+ reabsorbsiyasi gipertoniya kasalligiga sabab bo'lishi mumkin. Mineralokortikoidlar etishmovchiligida kanalchalarda natriy reabsorbsiyasi pasayadi va organizm shunchalik ko'p natriy yuqotadiki, ichki muhit keskin o'zgarishi oqibatida buyrak usti bezi po'stlog'i olib tashlanishidan bir necha kun o'tganda hayvon o'ladi. Bunday xayvon organizmiga mineralokortikoidlar yuborib, uni xayotini saqlab qolish mumkin. SHuning uchun mineralokortikoidlarni hayotni saqlab qoluvchi gormonlar deyilar.

Glyukokortikoidlar: (kortizon, gidrokortizon, kortikosteron) karbonsuvlar, oqsillar va yog'ar almashinuviga ta'sir etadi. Ulardan eng faoli kortizon. Bu gormonlar jigarda glyukoza hosil bo'lishini kuzgatib, qonda qand miqdorini oshirish qobiliyatiga ega bo'lganlari uchun shunday nomlanganlar. Bu jarayon aminokislotalar dezaminatsiyasini tezlashtirish va ularning azotsiz qoldiqlarini karbonsuvlarga aylantirish (glyukoneogenez) yo'li bilan amalga oshadi deb tasavvur qilinadi. Bu vaqtda jigarda glikogen miqdori hatto oshishi mumkin. Glyukokortikoidlar adrenalindan mana shu bilan farq qiladi. Adrenalin ta'sirida qonda glyukoza ko'payadi, ammo jigarda glikogen kamayadi. Glyukokortikoidlar sekretsiyasining ortishi ham, kamayishi ham, organizmda jiddiy o'zgarishlar paydo qiladi. Qonda kortizon ko'payib ketishi giperglikemiya, semirib ketishga, qon bosimining oshishiga, shish paydo bo'lishiga va b. ga olib keladi. Glyukokortikoidlar yog' depolaridan yog'ning safarbar etilishi va energiya manbai sifatida sarflanishini kuchaytiradi. Glyukokortikoidlar yallig'lanish va allergik reaksiyalarni kuchsizlantiradi, shunga asoslanib ularni surunkali pnevmoniya, revmatizm va b. kasalliklarni davolashda ishlatadilar va yallig'lanishga qarshi gormonlar deb ataydilar. Xulosa qilib aytganda, glyukokortikoidlar ta'siri quyidagi samarlarda namoyon bo'ladi:

Moddalar almashinuvining barcha turlariga ta'sir etadi.

oqsil almashinuviga – glyukokortikoidlar ta'sirida qon plazmasidan hujayralarga aminokislotalar transporti kamayadi, natijada oqsillar parchalanishi kuchayadi, muskullar massasi kamayadi, jarohatlar bitishi sekinlashadi, osteoporoz kuzatiladi. Hazm yullaridagi shilliq pardani qoplovchi mukoid himoya qavatida oqsillar kamayishi oqibatida xlorid kislota va pepsinning zararlantiruvchi ta'siri kuchayib, shilliq pardada yaralar rivojlanishi mumkin;

yog‘lar almashinuviga – glyukokortikoidlar yog‘ depolaridan yog‘ning safarbar etilishini jadallashtiradi va qonda yog‘ kislotalari miqdori ko‘payadi. SHu bilan birga bet, kukrak, tana yon yuzalarida yog‘ yig‘ilishi kuchayadi;

karbonsuvlar almashinuviga – glyukoneogenez va yog‘lar safarbar qilinishining kuchayishi oqibatida giperglikemiya kuzatiladi.

Yallig‘lanishga qarshi ta’sir: Glyukokortikoidlarning yallig‘lanish reaksiyasi barcha bosqichlarini susaytirishi, tomirlar devori o‘tkazuvchanligini pasaytirishi oqibatidir. Leykotsitlardan interleykin ajratilishini pasaytirish bilan interleykinning gipotalamusdagi issiqlik hosil qilish markazini qo‘zg‘atishini pasaytirib, yallig‘lanish jarayonlaridagi isitmaning oldini oladi.

Allergiyaga qarshi ta’sir: Lizosomalarni stabillashtirish, allergik reaksiyalarni kuchaytiruvchi omillar hosil bo‘lishini susaytirish oqibatidir. Glyukokortikoidlar sekretsiyasi kuchayganda allergiyaning asosiy belgisi bo‘lgan eozinofillar kamayadi

Immunitetni susaytirish antitelolar hosil bo‘lishini va fagotsitoz jarayonlarini pasaytirishdan iborat. Glyukokortikoidlar ham hujayra, ham gumoral immunitetni susaytiradi. Glyukokortikoidlarni uzoq muddat qabul qilish ayrisimon bezning kichrayib qolishi, limfoid to‘qimaning va qonda limfotsitlar sonining kamayishiga olib keladi.

Arterial bosim kerakli ko‘rsatkichini shakllantirishda qatnashish. Qon tomirlar devorining tomir toraytiruvchi omillar ta’siriga sezuvchanligini oshirish va natriy hamda suvning organizmdan chiqarilishini kamaytirib, harakatdagi qon hajmini oshirish orqali amalga oshiriladi. Glyukortikoidlarning mana shu gipertenziv ta’siri va giperglikemik samarasi

tufayli ular bemorni karaxtlik holatidan chiqarishda keng qo‘llaniladi. Organizmda glyukokortikoidlar hosil bo‘lishining kechakunduzgi ritmi mavjud. Bu gormonlarning asosiy qismi ertalab (soat 6-8 da) hosil bo‘ladi.

Buyrak usti bezi po‘stlog‘ining jinsiy gormonlari – androgenlar va estrogenlar bola organizmda jinsiy a‘zolar rivojlanishida muhim rol o‘ynaydi. Bu vaqtda jinsiy bezlar ichki sekretor funksiyasi hali kam rivojlangan. Buyrak usti bezi po‘stlog‘ining jinsiy gormonlari ikkilamchi jinsiy belgilar rivojlanishini ta’minlaydi, organizmda oqsil sintezini kuchaytiradi. Androgenlar epifizar tog‘aylar suyaklanishini, muskul va suyak to‘qimasida va terida oqsil sintezini kuchaytiradi. Androgenlar sintezi va sekretsiyasini AKTG gormoni qo‘zg‘atadi. Agar mazkur jinsga mansub gormonlar ortiqcha ishlansa, jinsiy rivojlanish jarayonlari tezlashadi. Qarama-qarshi jinsga mansub gormonlar ortiqcha sekretsialanganda ayollarda erkaklarga xos, erkaklarda esa ayollarga xos ikkilamchi jinsiy belgilar paydo bo‘ladi. Jinsiy balog‘atga etgandan so‘ng bu gormonlar roli pasayadi. Ammo keksalikda, jinsiy bezlar ichki sekretor funksiyasi to‘xtab qolganda, buyrak usti bezi po‘stlog‘i yana androgenlar va estrogenlarning birdan bir manbai bo‘lib qoladi.

Odamda bronza kasalligi yoki Addison kasalligi nomli og‘ir kasallikda buyrak usti bezlarining po‘stlog‘idan gormonlar chiqishi keskin kamayadi. Dastlabki belgilar: teri, ayniqsa q o‘l, bo‘yin, yuz terisi bronza tusiga kiradi (nomi ham shundan kelib chiqqan), yurak muskuli zaiflashadi, jismoniy mehnat paytida,

shuningdek, aqliy ish bajargan paytida ham bemor tez charchaydi (asteniya). Ishlahasi yo'qoladi, ko'ngli ayniydi, qusadi, ichi ketadi. Bemor sovuqqa, og'rituvchi ta'sirlarga sezuvchan va yuqumli kasalliklarga ko'proq moyilroq bo'lib qoladi. Juda ozib ketadi. Buyrak usti bezlari po'stlog'ining preparatlari Addison kasalligi bilan og'rigan bem orlar hayotini qisman yengillashtiradi va ularning mehnat faoliyatini saqlab turadi.

Buyrak usti bezlarining mag'iz qavati. Buyrak usti bezlarining mag'iz qavati xrom affin hujayralardan tuzilgan, ular em briogenez jihatdan simpatik nerv tizim ining hujayralariga yaqin turadi. Ular kaliy bixromat bilan bo'yalganda sarg'ish jigarrang tusga kiradi. Bunday hujayra faqat buyrak usti bezlarining mag'iz qismidagina emas, bundan tashqari aortada, uyqu arteriyasining bo'lingan joyida kichik chanoq sim patik tugunlarining hujayralari orasida va ba'zi simpatik zanjirining ayrim tugunlari orasida bo'ladi. Buyrak usti bezlarining mag'iz qavati adrenalin va noradrenalin

gormonlarini sintezlaydi. Gormonal sekresiyani 80 % i adrenalin hissasiga to'g'ri kelsa, 20 %i noradrenalin ulushiga to'g'ri keladi.

Adrenalin tiromin hosilasidir, tiromin esa buyraklarda tirozinning dekarboksillanishidan hosil bo'ladi. Adrenalin buyrak usti bezlarida bevosita noradrenalindan sintezlanadi, noradrenalin esa dim etillangan adrenalin bo'lib, unga o'xshash ta'sir etadi. Adrenalin va noradrenalin katexolaminlar degan nom bilan birlashtiriladi, chunki ular katexol hosilalaridir.

Bu gormonlaming sekresiyasi avtonom nerv tizimining simpatik qismi qo'zg'alganda keskin oshadi. Bu gormonlar sim patik nervlarga o'xshash ta'sir ko'rsatadi, farqi shundaki, gormonal effekt uzoqroq davom etadi va shundan bo'lsa kerak bu gorm onlam i yana sim patom im etik aminlar deb ham ataydilar. Simpatom imetikaminlarni qon va to'qimalarda aminoksidaza fermenti parchalaydi.

Xulosa qilganda Buyrak usti bezlari organizmning stressga moslashuvi, qon bosimini saqlab turish, metabolism va immun javob kabi ko'plab jarayonlarda bevosita ishtirok etadi. Ularning ichki sekretiya faoliyati sog'liqni saqlashda muhim ahamiyatga ega bo'lib, bezlar faoliyatidagi har qanday buzilishlar murakkab endokrin kasalliklarning kelib chiqishiga sabab bo'lishi mumkin.

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SURUNKALI OSTEOMELIYETDA MIKROORGANIZMLAR OLAMI:ZAMONAVIY TENDENSIYALAR VA ANTIBIOTIK SEZUVCHANLIGI

***Anatatsiya:** Surunkali osteomiyelit (SO) - bu suyak to'qimasining uzoq muddatli, progressiv infeksiyasi bo'lib, o'tkir osteomiyelitdan farqli o'laroq, uzoq davom etadigan yallig'lanish, suyak nekrozi (o'lik suyak hosil bo'lishi) va suyakning qayta qurilishi bilan tavsiflanadi. Ko'pincha bakteriyalar (masalan, *Staphylococcus aureus*) sabab bo'ladi. Suyakning shikastlanishi, jarrohlik aralashuvlar, qon orqali infeksiyaning tarqalishi kabi omillar xavfni oshirishi mumkin. Immun tizimi zaiflashgan odamlarda (masalan, diabet, OIV infeksiyasi, immunosuppressiv dorilar qabul qiladiganlar) SO rivojlanish xavfi yuqori.*

***Kalit so'zlar:** Osteomeliyet, stafilokokklar, streptokokklar, KT, MRT, Enterobakteriya.*

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THE MICROBIAL LANDSCAPE IN CHRONIC OSTEOMYELITIS: MODERN TRENDS AND ANTIBIOTIC SENSITIVITY

***Abstract:** Chronic osteomyelitis (CO) is a long-term, progressive infection of bone tissue that, unlike acute osteomyelitis, is characterized by prolonged inflammation, bone necrosis (formation of dead bone), and bone remodeling. It is often caused by bacteria (e.g., *Staphylococcus aureus*). Factors such as bone trauma, surgical interventions, and hematogenous spread of infection can increase the risk. People with weakened immune systems (e.g., those with diabetes, HIV infection, or those taking immunosuppressive drugs) are at higher risk of developing CO.*

***Keywords:** Osteomyelitis, Staphylococci, Streptococci, CT, MRI, Enterobacteria.*

Kirish. Travmatologiya klinikalarida yiringli asoratlar bilan kechadigan kasalliklar dolzarb muammolardan biri hisobladi. Bu kasalliklar orasida eng keng tarqalgan asorat bu - osteomielitdir. Osteomielit ochiq sinishlardan keyin 3-24% hollarda aniqlansa, 1-7% hollarda yopiq sinishlardan keyingi jarrohlik amaliyotlarida kuzatiladi. Osteomielit qo'l suyaklarida 9%, oyoq suyaklarida esa 15% hollarda uchramoqda. Osteomielitning o'tkir infeksiyadan surunkali holatga o'tishi esa 40% holatlarda kuzatiladi (Vinnik YU.S.,2019). Belgilari: Surunkali og'riq (doimiy yoki vaqti-vaqti bilan). Shishish va qizarish.Oqma teshiklar (sinus yo'llari) orqali yiring chiqishi. Tana haroratining ko'tarilishi (ba'zan). Harakatning cheklanishi Klinik tekshiruv. Qon tahlillari (yallig'lanish markerlari). Rentgen, KT (kompyuter tomografiyasi) yoki MRI (magnit-rezonans tomografiya) kabi tasviriy tekshiruvlar. Suyak biopsiyasi va mikrobiologik tekshiruv (infeksiyani aniqlash va antibiotiklarga sezgirlikni aniqlash).Suyaklardagi yiringli jarayonlarda antibiotikoterapiya muhim sanaladi. Lekin, afsuski antibiotiklarni keng miqyosda va asossiz ishlatish antibiotiklarga rezistent mikroorganizmlar shtamlarini miqdorini ko'payishiga olib keladi hamda davolashda tog'ri antibiotik preparatlarini tanlashga qiyinchilik tug'diradi (L.S.Strachunskovo, 2018y).

Ishning maqsadi. Surunkali osteomielitlarning asosiy qo'zg'atuvchilarini aniqlash va ularning antibiotiklarga sezgirligini o'rganish.

Materiallar va tekshiruv usullari. Material Toshkent tibbiyot akademiyasi ko'p tarmoqli klinikasi "Yiringli yallig'lanishli jarrohlik bo'limi"da surunkali osteomielit tashhisi bilan davolanayotgan bemorlardan steril tampon yordamida olingan. Bemorlardan olingan material mahsus ozuqa muhitida (qandli bulonda) TTA ko'p tarmoqli klinikasining Bakteriologik laboratoriya bo'limiga olib kelingan. Material quyidagi ozuqa muhitlarga ekildi. Endo, saburo, qonli agar, qandli bulyon, TSTA. So'ng 37°S ga 24 soatga termostatga qo'yildi.

Natijalar tahlili. Surunkali osteomielit bilan kasallangan 18 nafar bemorlar tasodifiy tanlov asosida olindi. Ushbu bemorlarning 5 nafarini (27,7%) ayollar, 13 nafarini (72,3%) erkaklar tashkil etdi. Bemorlarning yosh bo'yicha taqsimlanishi quyidagicha bo'ldi: 25 yoshdan 44 yoshgacha 11 nafarni (61,1%), 45-64 yoshgacha 7 nafarni (38,9%) tashkil etdi.

Surunkali osteomielitni keltirib chiqaruvchi etiologik faktor aniqlanganda, St.aureus eng ko'p, ya'ni 55,5% (10 nafar) holatlarda kasallik keltirib chiqarganligi ma'lum bo'ldi. Ushbu infeksiyadan so'ng kasallik sababchilari bo'lib 22,2% holatlarda (4 nafar) Candida, 16,7% holatlarda (3 nafardan) Enterobakter va Proteus mirabilis, 5,6% hollarda (1 nafardan) Pseudomonas aerogenosa va Stafilacoccus epidermidis ekanligi aniqlandi hamda ko'rsatkichlar orasidagi farq statistik jihatdan ishonarli bo'ldi ($P<0,05$). Kuzatuvimizdagi bemorlarda mikst infektsiya sifatida, ko'pincha Candida infektsiyasi bo'lishi kuzatildi.

Surunkali osteomielitning etiologik omili sifatida aniqlangan bakteriyalarning antibiotiklarga sezgirliги tahlil qilinganda quyidagi natijalarga olindi. Sefalosporin guruhiga kiruvchi antibiotiklarga yuqori sezgirlik 94,4%ni tashkil etib, eng yuqori natijalarni ko'rsatdi. Keyingi o'rinlarni 83,3% sezgirlik bilan Penitsillin guruhi antibiotiklari egalladi. Xinolin va boshqa guruh antibiotiklari,

ya'ni vankomitsin, rifampitsin, klindomitsin, levomitsetin kabi antibiotiklarga sezgirlik o'rtacha bo'lib, 72,2% va 77,7%ni mos ravishda tashkil etdi. Shuningdek, bakteriyalar past sezgir bo'lgan antibiotiklar Aminoglikozid (66,6%) va Tetrasiklin (50%) guruhi preparatlari ekanligi ma'lum bo'ldi. Makrolid guruhiga mansub antibiotiklarga bakteriyalar deyarli sezgir emasligi (22,2%) aniqlandi. Uzoq muddatli antibiotik terapiya (odatda tomir ichiga yuboriladi, so'ngra og'iz orqali qabul qilinadi).

- Jarrohlik yo'li bilan nekrotik suyak va infeksiyalangan to'qimalarni olib tashlash (debridement).

- Oqma teshiklarni tozalash va drenajlash.

- Suyakni tiklash uchun suyak transplantatsiyasi yoki boshqa jarrohlik usullari.

- Qo'shimcha davolash (og'riqni boshqarish, fizioterapiya).

Asoratlari:

- Suyakning deformatsiyasi.

- Qo'shni bo'g'inlarning infeksiyasi (septik artrit).

- Amputatsiya (og'ir hollarda).

- Yassi hujayrali karsinoma (oqma teshiklar atrofi).

Xulosa. Uzoq muddatli antibiotik terapiya (odatda tomir ichiga yuboriladi, so'ngra og'iz orqali qabul qilinadi). Jarrohlik yo'li bilan nekrotik suyak va infeksiyalangan to'qimalarni olib tashlash (debridement). Oqma teshiklarni tozalash va drenajlash. Suyakni tiklash uchun suyak transplantatsiyasi yoki boshqa jarrohlik usullari. Qo'shimcha davolash (og'riqni boshqarish, fizioterapiya). Surunkali osteomielitning etiologik omili sifatida St.aureus bakteriyasi Enterobakter, Proteus mirabilis, Pseudomonas aerogenosa va Stafilacoccus epidermidisga nisbatan o'rtacha 2,7 barobar ko'p kuzatilishi aniqlandi ($P<0,05$) hamda ushbu bakteriyalarning Sefalosporin guruhiga kiruvchi antibiotiklarga yuqori sezgirlikda (94,4%)da bo'lishi isbotlandi.

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PEDAGOGICAL AND PSYCHOLOGICAL FEATURES OF PRESCHOOL CHILDREN'S PLAY

Abstract: *This article presents information on the pedagogical and psychological properties of games, which are of great importance in the upbringing of children, their intellectual, emotional and social development.*

Keywords: *play, pedagogy, psychology, imitation, imagination, emotional development, development, ability.*

The game of preschool children plays a very important role in their development. The game forms not only their skills, but also their psychological state. For children of this age, the game is the main means of communication and self-awareness. The psychological characteristics of the game of preschool children are as follows:

1. Imitation and role-playing: Children often imitate the actions of adults, which is important for their social and emotional development. Role-playing teaches children how to communicate with others and understand the needs of others. For example, they experience different social situations and relationships by playing roles such as "doctor," "host," or "mother."

2. Imagination and creativity: Children often use their imagination during play. They create new worlds for themselves and play different roles in them. Imaginative play develops children's creativity and innovation, and also helps them maintain emotional balance.

3. Social Communication: Kindergarten-aged children develop social skills by interacting with each other through play. During play, they learn to express their thoughts, listen to and consider the thoughts of other children. This is very important for children in developing emotional intelligence.

4. Self-awareness and self-regulation: Play helps children develop self-awareness. For example, through play, they learn to control themselves, satisfy their desires, and make decisions. Play also teaches children to manage their emotions and show empathy for others.

5. Emotional development: Play improves children's emotional state. They experience their emotions through different roles and situations in play. This helps

to increase their emotional stability. For example, through play, they experience emotions such as fear, happiness, sadness, and joy and learn to manage them.

6. Problem Solving: Children learn to solve various problems through play. During play, they learn to analyze situations, develop strategies, and find ways to solve problems. This, in turn, develops children's decision-making and choice-making skills.

7. Managing Success and Failure: During play, children experience successes and failures. They learn to manage their emotional and psychological states by winning or losing in the game. This process helps children develop the ability to adapt to different situations and manage their emotions.

Kindergarten children not only develop physically and mentally through play, but also grow psychologically. Play helps them to understand themselves, develop social communication skills, maintain emotional balance, and solve problems. Therefore, play is a very important psychological tool for children of this age.

Research on play activities has been widely covered in many fields - pedagogy, psychology, sociology, defectology, and preschool education. Below is an analysis of important literature in this area:

Jean Piaget is a theory of cognitive development. According to him, play is a stage in the development of a child's thinking. He considers play to be the main tool for forming a child's logical thinking. Jean Piaget analyzed games as functional, constructive, and symbolic games. L.S. Vygotsky is a theory of sociocultural development. He studied the game within the child's "zone of proximal development", that is, the child acquires new knowledge through play with the help of adults. According to Vygotsky, the game prepares the child for real life. D.B. Elkonin He studied games on the basis of social roles and considered them as activities that directly affect the child's personal development. Elkonin recognized the game as a leading type of activity. Uzbek researchers: Yuldoshev Sh.R., Egamberdiyeva G.T., Toshmuhamedova N.A. - these scientists have studied the educational and methodological importance of play in the Uzbek preschool education system. They emphasize the development of moral, speech, physical and aesthetic education through games.

The methodology of scientific research is a set of research methods, approaches, and scientific foundations. The methodology for gaming activities can be considered as follows:

The main methodological approaches to studying game activity:

Methodologically, the study of game activity is carried out on the basis of various approaches and methods.

The pedagogical and psychological properties of games are of great importance in the upbringing of children, in their intellectual, emotional and social development. Through games, children not only acquire knowledge and skills, but also gain important experiences in understanding themselves, others and the environment. The pedagogical and psychological properties of games are described in detail below:

1. Pedagogical features

Play has several key characteristics that influence children's development in the pedagogical process:

Enhancing the learning process: Play makes learning more interesting and effective for children. Through play, children learn new knowledge, explore topics, and strengthen their attention. Games often combine knowledge with practice, which makes learning easier;

Increase motivation: Play is a process that requires children's active participation and motivates them. In order to achieve success in the process of play, children strive to work harder, acquire new information, and develop new skills. This, in turn, increases children's motivation to learn;

Cognitive (mental) development: Games develop children's logical thinking, attention, memory, and problem-solving skills. For example, the need to memorize rules, analyze situations, and make decisions in games is an important mental exercise for children;

Social and emotional development: Play teaches children how to communicate with others, work in groups, and respect each other. By acting out social roles, they learn to interact with others and understand social rules. Play also helps children express their feelings and share them with others;

Self-expression and creativity: Play gives children the opportunity to express themselves. Creative play, such as drawing or drama, helps children express their thoughts and feelings. This develops creativity and self-expression;

2. Psychological characteristics:

Games play an important role in the formation and development of children's psychology. Their psychological aspects are as follows:

Emotional management: Children experience a variety of emotions during play: happiness, sadness, anxiety, joy, etc. Games allow children to learn to manage their emotions. They learn to feel happy when they succeed in the game and to cope with failure;

Empathy development: Role-playing, where children put themselves in the shoes of others, teaches them to understand and support their feelings. This helps develop empathy skills, which means children learn to be respectful of others' feelings;

Effective decision-making: Games, especially strategy and logic games, develop problem-solving and decision-making skills in children. Through play, children learn to make choices, plan sequences of actions, and make decisions based on the situation;

Personal Development: Through play, children develop a sense of self-awareness, understanding their abilities, strengths, and weaknesses. Play helps build self-confidence and self-esteem.

The pedagogical and psychological properties of games complement each other. From a pedagogical point of view, games help children develop cognitively and socially, making the learning process more effective. From a psychological

point of view, games help children learn to manage their emotions, communicate with others, and solve problems. Therefore, games are of particular importance in the upbringing of children.

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THE IMPORTANCE OF NEUROPEDAGOGICAL FEATURES IN CHILDREN'S CAREER DIRECTION

***ANNOTATSIYA** Ushbu maqolada bolalarni kasbga yo'naltirishda neyropedagogik xususiyatlarning ahamiyati, bu sohada olingan bilimlar bolalarni kasbga yo'naltirishda ularga qanday qilib samarali ta'sir qilish, ularning individual xususiyatlari va ehtiyojlarini hisobga olish muhimligi xaqida so'z borgan.*

***Kalit so'zlar:** Kasbiy mahorat, psixologik bilimlar, pedagogik mahorat, kasb-hunar, neyropedagogik yondashuv, emotsional holati, kognitiv rivojlanish.*

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BOLALARNING MARTABA YO'NALISHIDAGI NEYROPEDAGOGIK XUSUSIYATLARNING AHAMIYATI

***ABSTRACT** This article talks about the importance of neuropedagogical features in career guidance of children, how the knowledge gained in this field can effectively influence children in career guidance, and the importance of taking into account their individual characteristics and needs.*

***Keywords:** Professional skill, psychological knowledge, pedagogical skill, profession, neuropedagogical approach, emotional state, cognitive development.*

INTRODUCTION Neuropedagogical characteristics are of great importance in the vocational guidance of children. Neuropedagogy is a field that combines knowledge of neuroscience and pedagogy, studying the role of brain activity in improving children's developmental processes and learning activities. The knowledge gained in this field is important in how to effectively influence children in vocational guidance, taking into account their individual characteristics and needs.

The theory of career guidance recognizes that success in choosing a career is related to the alignment of a person's characteristics, such as abilities, interests, character and temperament, with the requirements imposed on a specialist by the

profession. Accordingly, neuropsychological characteristics are important in career guidance in the following aspects:

Individual approach. Each child is unique and special. Using the neuropsychological approach, each child's learning style, abilities, memory and concentration characteristics are studied. Based on this, an individual approach can be used when choosing a suitable profession for the child or choosing teaching methods.

Identifying abilities and talents. Using a neuropsychological approach, children's natural abilities and talents can be identified. For example, some children are successful in analytical thinking, while others may excel in creative and artistic areas. These abilities should be taken into account when guiding children to a profession, as children are more likely to succeed in the field that interests them.

Emotional and motivational state. A child's emotional state and motivation play an important role in career guidance. Understanding the connection between the brain and emotions allows us to know how a child feels during the process of choosing a career.

Cognitive and emotional development. It is important to consider a child's cognitive development (i.e., thinking, reasoning) and emotional development (i.e., self-awareness, communication with others) during career guidance. Neuropsychology can help improve these processes and increase children's interest in careers in solving social and emotional problems.

Arousing interest in the profession. Neuropsychological methods are of great help in developing children's interest in professions. In accordance with the child's brain activity, various practices and interactive approaches can be used to increase motivation and self-confidence in learning professional skills.

Psychological aspects of career guidance provide an important foundation for children's future professional lives. Children and adolescents need to take psychological factors into account when choosing a career based on their abilities and interests. A psychological approach also has a positive effect on their personal and social development. The main psychological aspects to consider when career guidance are:

Personal interests and motivation. The interest and motivation of children and young people in a profession are key factors in determining their future success. Identifying personal interests and needs is very important in career guidance. Psychological aspect. It is necessary to understand the child's internal motivation when choosing a profession. Choosing an interesting and meaningful activity for the student will help him to be satisfied and successful in his future working life.

Self-awareness and personal identification. Self-awareness is the process by which children become aware of their own personal characteristics and needs. Self-awareness and confidence in choosing a career also affect children's social and emotional development.

IQ (Intellectual Ability) and Skills. A child's intellectual abilities and learning ability are important factors in choosing a career. Each person has unique mental abilities, such as analytical thinking, creative approach, or technical and

mathematical knowledge. IQ and other cognitive abilities shape children's approach to careers. Through psychological analysis, determining a child's intellectual abilities and skills helps to find the profession that best suits them.

Social skills and teamwork. A child's social skills and ability to interact with others are also important in career guidance. The ability to work effectively with others and function successfully in a social environment is a psychological factor in children's career decisions.

Enhanced Self-Management (Emotional Intelligence). Emotional intelligence (EQ) is also very important in career guidance. A child's knowledge of how to manage their emotional state, stress, and problems affects their approach to the profession. Psychological aspect: In career guidance, studying children's emotional intelligence, stress management skills, and emotional decision-making helps strengthen their decisions in choosing a career.

LITERATURE ANALYSIS AND METHODOLOGY This issue was first noted in the scientific research of the Russian scientist I.P. Pavlov, in which special attention was paid to the connection between changes in the human nervous system and speech. Speech played a key role in the development of higher nervous activity in humans and the occurrence of qualitative changes, in which many reflex connections were formed. Based on the results of the research, I.P. Pavlov called speech the "second signal system" and recognized its superiority over the first signal system. Human behavior is the result of the combined work of both signal systems and subcortical structures.

In particular, in the scientific research of S.M. Platek, J.P. Keenan and T.K. Shackelford on the evolution of cognitive neurological knowledge, it was noted that the information received by a living organism is first adapted (by the organism), assimilated and then transmitted to the outside. In the transmission of assimilated information to the outside, behavior can take the form of physiological activity or other psychological mechanisms.

RESULTS Identifying the different types of abilities in children is an important step in their development and future success. Each child is unique and special, so it is important to identify and develop their abilities in different areas. Abilities are not only manifested in academic or intellectual areas, but also in social, emotional, motor and creative areas. Below we will look at the main types of children's abilities and how to identify them:

Intellectual (cognitive) abilities. Cognitive abilities include a child's ability to think, reason, remember, solve problems, and general mental activity. These abilities are measured by a child's ability to read, write, solve math problems, and learn new things.

Methods of assessment:

-IQ tests: Standard mental tests can determine a child's general intellectual abilities.

-Intellectual development level: Observe factors such as how well a child solves mathematical problems, how quickly they think logically, and how quickly they learn.

-Cognitive development: How well a child understands complex concepts and is able to apply knowledge to new situations.

Creative abilities. Creative abilities include a child's ability to generate new ideas, think creatively, and solve problems in unique ways. This may be demonstrated in a child's creative fields such as art, music, design, writing, and more.

Methods of assessment:

-Creative activities: Assess the child's creative abilities through activities such as artwork, music, drawing, or story writing.

-Problem solving: Observe how the child tries to solve problems in new and unique ways.

-Thinking level: How does the child develop new ideas and creatively use existing resources?

Emotional intelligence (emotional intelligence). Emotional intelligence refers to a child's ability to understand and manage their own emotions and to communicate effectively with others. A child may excel in areas such as self-regulation, social situation analysis, and adaptation to others.

Ways to determine:

-Self-awareness and management: Assess how well the child is able to express and manage their emotions (for example, how they express their interests, concerns, or joy).

-Empathy and social skills: How well the child understands and responds to the emotions of others. This ability is demonstrated in social play or group activities.

-Stress management: How well the child responds to and resolves stressful situations.

Ways to Assess:

-Teamwork: How well does the child work in a group, how does he/she cooperate with others?

-Communication: How does the child interact with others, how does he/she approach speaking, listening, and problem-solving?

-Assessment of Social Skills: How does the child interact with others, how does he/she interact with friends, and how does he/she participate in social situations?

Research and analytical skills. Research or analytical skills are the child's ability to learn knowledge, generate new ideas and conclusions. The child is successful in learning new facts, analyzing data and making decisions based on them.

Ways to determine:

-Research activities: How the child learns new knowledge, approaches scientific and research methods.

-Problem analysis: How the child analyzes complex situations and develops new methods.

-Analytical thinking: How the child systematically analyzes data and makes decisions.

Leadership Skills. Leadership skills are the child's ability to lead, inspire, and direct others to success. This ability typically indicates a child's readiness to lead others in challenging and challenging situations.

Ways to Assess:

-Leading a Group: How does the child lead, make decisions, and direct the group?

-Responsibility and Initiative: How does the child take responsibility and actively participate in problem-solving.

Identifying children's different talents plays an important role in supporting their personal and academic development. In other words, improved cooperation between teachers, parents and psychologists is necessary for children to identify and develop their individual talents. Early identification of their talents helps in finding suitable professions and areas of activity for them.

DISCUSSION When guiding children towards a profession, taking into account their dominant hemisphere is one of the important factors in their professional development. To do this, when guiding children towards a profession, attention should be paid to the following distinguishing features observed in people with dominant right hemisphere, left hemisphere and mixed types:

1. Since left-brainers are characterized by rational-specific thinking, they are more inclined to perform analytical, classification, abstract, algorithmic, and inductive operations. They are more communicative and active people than others, since they prefer to work with problems in analysis and solve problems logically. When directing children to a profession, it is necessary to take into account that people whose left hemisphere is the basis can successfully master theoretical fields such as engineering, mathematics, logic and philosophy, linguistics, and actively adapt to them socially and professionally. Therefore, it is advisable for left-brained individuals to choose professions related to speech, logical thinking, and analysis of processes and situations. It is worth noting that a person's education and upbringing depend on the left hemisphere.

2. Right-brain dominants prefer to review information and find solutions to complex questions in intuitive ways. Since the right hemisphere allows them to perceive the world as a whole, figurative thinking is characteristic of such people. Since right-brainers are characterized by figurative-intuitive thinking, they are more likely to display vivid and diverse emotionality, as well as visual-spatial modeling and design, and are active in inventing and identifying key ideas. In this way, they are able to demonstrate personal initiative through goal-oriented ideological thinking.

3. People with a mixed hemisphere type use the strategy of the left and right hemispheres depending on the situation. The synchronous operation of both hemispheres allows you to significantly increase the efficiency of the human brain. For example, if the left-hemisphere approach is reflected in the accuracy of details and texts, the right-hemisphere approach plays an important role in social relationships.

A person, in some cases, unconsciously tries to overcome some of his qualities that prevent him from achieving professional success or to compensate for them with other qualities. However, the fact that professional activity does not correspond to the psychophysiological characteristics of a person undermines his psychosomatic health. For example, engaging in professional activity that requires sociability from a person who is not very talkative or agility from a person who is not very active can lead to nervous tension, which in turn can lead to a decrease in working capacity, and constant emotional stress can cause nervous disorders.

CONCLUSION In conclusion, it is important to take into account the functional asymmetry of the cerebral hemispheres when directing children to a profession. The wrong choice of profession by children can harm their psychosomatic health and make it difficult for them to integrate into the social environment. Therefore, when directing students to a profession, it is necessary to comprehensively and deeply study their psyche and take into account their individual characteristics and neurological capabilities.

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THE IMPACT OF BIOLOGICAL AND CHEMICAL WASTE GENERATED AT POULTRY FARMS ON THE ENVIRONMENT

Summary: *Poultry farms and large poultry farms are engaged in the production of edible eggs and chicken meat at their enterprises.. The health and environmental system has a primary task - to protect and strengthen the health of the population around poultry farms and plants. In modern society, the problem of responsible destruction of poultry and livestock products is very relevant. Agriculture generates more than 250 million tons of waste annually, of which 150 million tons come from livestock and poultry farming. And improper disposal of this kind of waste can endanger human and animal health, lead to air pollution and ecosystems. Pathogenic microorganisms contained in waste can transmit diseases affecting both farm animals and humans through contaminated food and water. The level of mechanization of production processes in poultry farms is high. Egg-based poultry farms are considered more efficient and economical. When implementing such measures, this situation is achieved through the improvement of production technologies, the impact of environmental factors and the implementation of a set of hygiene measures.*

Keywords: *ecology, biological, chemical factors, technological processes.*

Introduction. Poultry farming is a profitable, highly productive, and rapidly developing branch of animal husbandry. It plays an important role in providing the population with high-quality dietary products — eggs and poultry meat. Particularly important areas include the breeding of chickens, ducks, geese, and turkeys — these are the main and mature branches of rural poultry farming. In a short period, these birds can produce a large amount of tasty meat. Poultry meat is easier to digest compared to the meat of other animals and is rich in various chemical elements. For example, the meat of a two-month-old chicken contains about 20% protein and 10–12% fat. An egg contains 13% protein, 11% fat, 1% minerals and vitamins. In terms of nutritional value, the caloric content of 10 chicken eggs is equivalent to 0.8 kg of beef. An egg is composed of about 85% water, with the remainder being proteins, vitamins, and enzymes. The yolk consists of 52% water, 32% fat, and about 16% protein.

Environmental issues in poultry farming are primarily associated with the following types of pollution:

- Feed waste;
- Animal waste;

- Bird carcasses;
- Wastewater;
- Air emissions.

To reduce the impact of these factors on the environment, it is necessary to establish a sanitary protection zone. Poultry farms are usually located outside cities or on their outskirts. According to the sanitary classification of industrial facilities and enterprises, poultry farms may fall into hazard classes 1–3 depending on the number of chickens. The size of the sanitary zone may be 2000, 1500, 1000, or 500 meters accordingly.

Bird droppings contain nitrogen, phosphorus, as well as hormones, antibiotics, and heavy metals received from feed. They may also carry bacteria and pathogenic microorganisms that contaminate soil, water, and food resources. Straw, wood shavings, husks, or other materials are used as bedding. The chemical waste of poultry farms includes wastewater containing feed residues, feathers, bedding materials, bird excrement, blood, horn fragments, skin and meat, sand, and other mineral impurities, nitrogen, phosphorus, and surfactants. In terms of environmental impact, poultry manure is classified as hazardous waste (according to the Federal Waste Classification Catalogue - FWCC), ranging from class 1 to 3.

The importance of processing poultry and livestock waste. Proper disposal of livestock and poultry waste is vital for the environment, economy, and ecology.

Firstly, processing such waste helps conserve resources, as it is rich in useful substances (nitrogen, phosphorus) and can be used as organic fertilizers, reducing the need for synthetic ones.

Secondly, methods like anaerobic digestion and composting reduce greenhouse gas emissions such as methane, a powerful climate change factor.

Thirdly, effective waste processing methods can provide economic benefits to agricultural enterprises by reducing fertilizer costs.

Fourthly, the country has strict regulations for the disposal and processing of livestock and poultry waste. Compliance with these standards requires proper waste management.

In general, the processing of poultry and livestock products plays an important role in preserving nature, protecting human and animal health and managing resources properly.

Types of poultry and livestock waste:

- Manure is the product of livestock, horses, pigs and sheep.
- Droppings is the waste produced during the care of birds (chickens, ducks and so on).
- Straw, sawdust and gravel used as litter for these animals
- Poultry feathers and by-products of chicken and turkey processing
- Slaughter meat and products arising during the slaughter: blood, bones and other by-products.
- Food waste-spoiled animal foods such as hay or silage.

Methods of disposal of manure and bird droppings:

Manure, when used in the right quantity and at the right time, can be used as fertilizer in rural areas. It promotes the return of nutrients back to the soil. Since ancient times this method of sterilization is used everywhere, but excessive use of manure can lead to nutrient imbalance, leakage and water pollution. In addition, there may be weed seeds in the manure, which can lead to increased weed growth in the fields when rotting or composting is not used properly.

Composting involves the creation of conditions for the natural decomposition of bird and animal waste with oxygen. This process is used to decompose organic matter with the help of microorganisms and reduce the number of pathogens and unpleasant odor. Composting takes place in trained locations using special equipment. This method produces a vermicusic fertilizer rich in nutrients. However, with this manipulation, 30-40% of all nutrients go into a gaseous state and evaporate.

Anaerobic digestion involves the splitting of waste in an oxygen-free environment with the release of biogas (methane). Biogas (mixture of methane and anhydride carbonate) can be used for energy production, decomposition - as fertilizer. Anaerobic digestion also reduces the amount of odor and waste pathogens.

Thermal methods (combustion, gasification and pyrolysis) convert manure, food residues and other wastes into heat, electricity or biofuels. These processes help to reduce waste and eliminate pathogens (there can be up to 100 pathogens causing dangerous diseases in the waste). Animal products such as manure, droppings, bones, fat can be used as feed for livestock, biodiesel and industrial materials. Manure, for example, can be processed into phosphorus and then used as a nutrient to make fertilizer. Through the processing of bones (their grinding, drying and deposition) obtain protein used in bread making.

On the premises of the enterprise are usually located: poultry, butchery, meat and bone processing workshop, egg warehouse, feed warehouse, storage place for waste, laboratory, laundry, compressor, grain storage. As a rule, there should also be: a car park, carpentry workshop, boiler room, coal and slag warehouses, gas station, car wash and canteen. The project should include waste management standards and limits on their disposal.

Poultry farms are required to follow environmental protection measures concerning waste. The primary type of waste is bird droppings, classified as hazardous waste of class 3–4. Poultry feed mainly consists of corn and soybeans, but may also include other legumes, root crops, and animal-based products (dairy, fish meal, etc.). Feed is enriched with amino acids, enzymes, vitamins, and mineral additives, which may contain hormones, antibiotics, and heavy metals. Birds are often kept indoors but can also be kept outdoors. Feeding can be done manually or using automatic feeders on a permanent basis or at a specified time. Food can be spoiled when stored, transported or dispersed while feeding birds. Food waste along with additives, due to the organic substances in their composition, can contribute to pollution of nature.

The poultry production process generates a large amount of waste, primarily droopings and other types of waste, full of organic compounds.

The waste contains phosphorus nitrogen and other substances found in the body of birds, such as hormones, antibiotics and heavy metals. Compounds such as ammonia and harmful gases, due to volatilization or dissolution in water, can lead to the pollution of water reservoir and groundwater. In addition, the presence of bacteria and pathogenic micro-organisms in droppings can affect soil, water and food resources, especially if the manure is used as fertilizer for untreated soil.

Considering all these processes, poultry meat must be removed immediately, as they are a source of disease, odor, and infection. The environmental impact assessment of the enterprise should take into account the characteristics of the waste.

The nature of waste is an important criterion in assessing the environmental impact of enterprises. Liquid waste is generated from wastewater, feeding, watering of birds, and from storage and disposal facilities. Waste disposal methods such as using droppings in soil fertilization can lead to water pollution. Liquid waste may contain nutrients, ammonia, waste residues, pesticides, pathogens, hormones, and antibiotics, contaminating water reservoirs and groundwater. Liquid poultry waste incorporates highly concentrated organic substances, standing out for high biochemical and chemical oxygen consumption as well as nutrient compounds. The amount of waste in water, and in general, the amount of water waste emitted by enterprises should be standardized. When water enters the drainage system of the city, a contract is established with the company servicing the sewer and a permit is obtained to get rid of the waste in the water, thus normalizing the composition of the water.

Water from poultry farms in rural areas often enters the watershed. Enterprises located within the city limits discharge their wastewater into the city sewer system.

Atmospheric pollutants at poultry farms (when fattening poultry) are: ammonia, methane, nitrous oxide, hydrogen sulfide, methylamine, phenol, methanol, propionic aldehyde, caproic acid, dimethyl sulfide, ethyl formate, fur dust and microorganisms.

Nitrogen dioxide, nitrous oxide, activated carbon monoxide, benzopyrene are generated during the operation of the boiler house and incinerator. Sources of dust emission are coal and slag deposits.

Car washing emits pollutants from products such as hydrocarbons, nitrogen dioxide, sulfur dioxide, carbon monoxide. In garbage storage areas, methylamine is a source of phenol, methanol, fur dust and microorganisms.

Ammonia and other odor sources are mainly generated during the denitrification of manure, and manure can be emitted directly to the atmosphere through waste at any stage of the treatment process via building vents and manure storage facilities. Ammonia emissions are also affected by ambient temperature, ventilation intensity, humidity, storage volume, litter quality, and food (crude protein) content.

Dust can interfere with visibility, cause respiratory problems, and contribute to the spread of odors and disease.

Pesticides can be applied directly to birds or buildings and used to control pests (such as parasites and vectors) using anti-parasitic baths, sprayers and aerosol generators. Pesticides can also be used to control predators. Pesticides related to contaminants include active and inert ingredients, diluents, and products that are resistant to decomposition. Pesticides and their degradation products can enter surface water and groundwater as solutions, emulsions, or soil particles. In some cases, pesticides can interfere with the use of surface and groundwater. As a result of increased activity of poultry farms, the problem of environmental conservation arises. The negative impact of poultry farms can lead to environmental problems with negative consequences for the population of settlements, destruction of flora and fauna not only near the enterprises, but also in neighboring regions.

Almost all poultry farms have fallen into a difficult environmental situation, as accumulated poultry manure has become a serious source of environmental pollution, the easiest way to liquidate such volumes, poultry farms today also lacks a set of equipment.

In conclusion, the following measures should be taken to maximize production efficiency and minimize waste:

- Taking measures to protect the environment.
- Identification of sources of pollution.
- Keep the feed storage, transportation and maintenance system of feed bins in order.
- Consider mixing feed waste with other recyclable materials for later use as fertilizer.
- Apply control measures to minimize the amount of incoming animal waste and minimize the migration of pollutants into surface water bodies, groundwater and the atmosphere. Providing production facilities and manure storage areas with above-ground tanks and structures to prevent manure from contaminating groundwater.
- Installation of mechanical means for industrial wastewater treatment.
- Installation of mechanical means for treatment of dust and gas mixtures to protect atmospheric air.

When identifying sources of pollution, identifying harmful factors, carrying out environmental protection measures and maintaining environmental impact in accordance with established standards, the system of environmental safety of poultry farms can be considered sufficient in the organization of industrial environmental control [19, 20].

Poultry dropping is a habitat for various pathogenic microorganisms, bacteria, staphylococci and salmonellae, the greatest amount of which is observed in fresh dropping. Therefore, this waste belongs to the third class of hazardous substances. In this regard, large accumulation of waste at poultry farms poses an ecological risk to the environment.

It is obvious that with the improvement of poultry and egg production culture, it is necessary to improve the culture of waste management, particularly

poultry dropping. It is important to use advanced, environmentally friendly technologies to produce a high quality and competitive product.

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THE ADVANTAGES OF SMART TEXTILES IN MODERN TEXTILE TECHNOLOGIES

Abstract. *Currently, the development of smart textile technologies is widely used not only in the textile industry, but also in various aspects of daily life. This article discusses the main advantages of smart textiles, their role in medicine, sports, fashion, safety and environmental protection. Smart fabrics are important not only for monitoring human health, but also for controlling their temperature, providing bio-assistance and creating more interactive designs. The article also provides information on the future prospects of smart textile technologies, their importance in science and industry, as well as their economic and environmental benefits.*

Keywords: *smart textiles, nanotechnology, sensors, bio-monitoring, medicine, sports, fashion, safety, environment, innovative technologies, environmental safety.*

Introduction. Serious changes and innovations are taking place in the field of modern textile technologies, because technological progress is creating new opportunities. These technologies not only help to increase the efficiency of production, but also help to reduce the impact on the environment and to create high-quality products. Let us examine some basic modern technologies:

In the modern textile industry, machines are becoming more automated and “smart.” They work with the help of special programs and sensors, which automatically optimize the production process. For example, weaving machines or sewing robots provide maximum efficiency, reduce production time and errors.

Methods.

In the Methods section, you should explain the methodology used to conduct your research. You may have used one or a combination of the following methods:

Experimental method. If you conducted experiments in real-world conditions to study the effectiveness of smart textile technologies, you may have used this method.

Theoretical analysis. You may have conducted a scientific theoretical analysis to explain the benefits of modern textile technologies and smart textile systems.

Statistical analysis. If you measured the effectiveness of technologies or materials, you may have analyzed the results using statistical methods (e.g., t-test, regression analysis).

Results.

Nanotechnologies make it possible to create new methods in the textile industry. Nanoparticulate materials can add high quality and new functions (for example, water resistance, killing bacteria, or protection from UV rays) to textiles. Fabrics produced with the help of nanotechnologies can be light, durable, and at the same time environmentally safe [1].

3D printing technology is also finding its place in the textile industry. With the help of this technology, it is possible to create special fabrics and stitches. This technology allows for layer-by-layer printing of materials, which helps in creating complex shapes and designs.

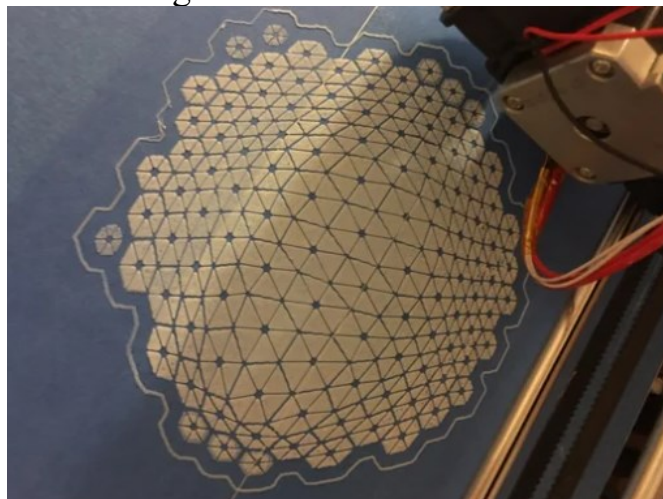


Figure 1. The process of fabric weaving on a 3D printer.

Nowadays, technologies aimed at protecting the environment, reducing waste, and increasing energy efficiency are developing. “Green” technologies, such as environmentally friendly dyeing methods, water-saving, and recycling processes, are rapidly developing in the textile industry.

Modern fabrics can have not only visual, but also interactive features. Digital fabrics, for example, can be equipped with LED lights or sensor technologies, which helps in creating new, innovative designs. This technology is also popular in the fashion industry, allowing for the creation of more interactive and personalized clothing.

Smart clothing is one of the newest developments in the textile industry. These clothes not only have an external appearance, but also perform internal

functions. For example, clothes are being developed that can measure body temperature, monitor heart rate, or even generate electrical energy. These technologies are of great importance in sports, healthcare, and the military industry [2].

Smart fabrics, also known as electronic textiles and intelligent textiles, are digitally enhanced fabrics that use light and battery technologies. These fabrics have environmental sensing technology. Smart textiles work through signals received from a central control unit. An electric processor embedded in the fabric analyzes the signals. The entire function of smart textiles operates with the help of nanotechnologies.

Some general uses of smart textiles include: healthcare (using telemedicine and biomedical clothing), safety belt (a transabdominal wearable device), rescue vest (continuously monitors and reads heart rate and blood pressure), military defense (detects toxic gases and prevents injuries), sportswear (monitoring, performance and recovery support). Also, environmental monitoring and the smart bra (measures auditory frequency through sensors) [3].



Figure 2. The use of sensor-based clothing in smart textiles to detect human body health indicators.

Modern textile technologies not only help improve quality, but also contribute to making the entire industry more sustainable and innovative. With new technologies, production can become faster, more accurate, and environmentally friendly.

In healthcare and bio-monitoring, smart textile fabrics are of great importance in the field of medicine. With their help, it is possible to monitor people's physical condition in real time. For example, biological indicators such as heart rate, blood pressure, or body temperature are measured using sensors. This technology significantly facilitates long-term health monitoring in medicine [4].

In the fields of sports and fitness, smart sportswear helps athletes improve their performance. It allows athletes to control temperature, measure energy

expenditure, and monitor body condition. At the same time, through smart fabrics, athletes in specific conditions (for example, body pain, fatigue) can be quickly identified and provided with the necessary assistance.

In the fields of fashion and design, smart fabrics are also bringing major changes to the fashion industry. Clothing is not only beautiful and aesthetically appealing, but also possesses interactive features. Fabrics that change color, those that react to body temperature, or clothes with integrated LED displays are being developed. These innovations combine design and interactivity, forming new directions in fashion.

In the field of security, smart fabrics have also found their place. For example, fabrics designed for military uniforms or security personnel monitor body temperature and condition, which helps increase safety. However, these fabrics are important not only for high-level safety but also for protecting personal privacy [5].

In the field of environmental safety, smart fabrics help to develop environmentally friendly technologies. It is possible to create fabrics with features such as water conservation, recycling of waste, and increasing energy efficiency. At the same time, the use of nanotechnologies and biomaterials helps to reduce the ecological footprint and preserve natural resources.

Discussion.

The prospects for the development of smart textile technologies indicate wider application in the future. They will elevate not only design and aesthetic aspects but also functionality to a higher level. There is potential to apply smart fabrics in the automotive industry, aerospace technologies, and other advanced fields. In addition, these technologies contribute to the social and economic development of society [6].

In this section, you can evaluate the benefits of smart textile technologies based on your results. For example, analyze how smart fabrics react to heat, moisture, or mechanical forces. If your research includes measurements that show, for example, the perfection and long-term performance of fabrics, cite these results.

You can talk about the advantages created by modern technologies, for example, sensor systems used in fabrics or the self-cleaning properties of materials. At the same time, you can evaluate the role of smart textile technologies in optimizing production processes using automatic control and sensors.

Conclusion. The development of smart textile technologies is taking the textile industry to a new level. These technologies create opportunities to add additional functions to fabrics, making people's lives more comfortable and safer. Smart fabrics are especially important in areas such as medicine, sports, fashion, and security, offering innovative solutions for monitoring health, managing temperature, providing bio-assistance, and preventing harm to the environment.

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FEATURES OF INCREASING THE EFFICIENCY OF FUEL COMBUSTION WHEN DESIGNING BOILER EQUIPMENT

Annotation: *The article presents small boiler combustion devices and fuel efficiency. Based on the analysis of the boiler device flow chart, the article examines the issues of increasing energy efficiency and provides recommendations.*

Keywords: *Boiler device, fuel, energy efficiency, combustion efficiency, combustion chamber, burner, nuclear flame.*

Relevance of the topic: Energy saving and production of energy-saving technologies are considered one of the priority areas in the global economy. In this regard, research on thermal energy systems and technologies is important. Today, 80% of the energy consumed by humanity comes from natural organic fuel. 90% of the energy balance of Uzbekistan is gas and only 4% is coal, and 6% are hydroelectric power plants and other types of alternative energy sources.

The main objective reasons for the low use of coal in our republic are:

- High ash content of Angren coal, i.e. a large amount of ash released during combustion.
- Virtual absence of modern technologies for the use of high-ash brown coal.
- High impact of coal combustion on the environment.

Today, the creation of favorable microclimate conditions for the population is considered an urgent task.

The decision of the President of the Republic of Uzbekistan "On the program for the development of the heat supply system for 2018-2022" was adopted, aimed at improving the quality and uninterrupted supply of thermal energy to consumers, modernizing the heat supply system with the aim of updating and modernizing it based on the introduction of efficient and low-energy technologies, and consistently implementing measures for the efficient and rational use of fuel and energy resources [1].

The industry has faced serious problems for years and is currently waiting for its solution.

Among them are a radical change in heat supply, the use of alternative sources of fuel and energy, in particular solar energy, a gradual transition to local heat supply and hot water supply systems, outdated fuel issues, such as replacing energy-intensive boilers with natural gas. Of particular importance from the point of view of modern energy-efficient equipment, control equipment and the transition to new

technologies are energy-saving equipment, heating, ventilation and air conditioning systems of buildings and structures [2].

Design solution for boiler heaters. Burners on the combustion chamber wall are placed in such a way as to ensure the most complete combustion of fuel in the nuclear torch, create favorable conditions for removing solid or liquid slag from the combustion chamber, and prevent slag formation on the combustion chamber walls. When selecting burner types and their optimal placement, the same operating characteristic is taken into account [3].

Thus, when comparing direct-flow burners with multi-tier burners, it is clear that multi-tier burners provide a shorter flame length and a wider opening angle. Due to the accumulated kinetic energy, a violent mixing of the primary and secondary air flows is formed, ensuring complete combustion of the fuel in the flame core (up to 90-95%). In this sense, multi-tier burners are classified as “individual” burners, each of which ensures the combustion of its own fuel. Fig. 1 shows the layout of stacked coal burners.

In the drawing, the burners can be frontal and double-frontal (a, b in Fig. 1) with one or two tiers in height. When located along one front, the rear wall of the screen receives strong heat absorption (10-20% higher than average), and the depth of the firebox should be $B = (6 \div 7) Da$ to eliminate slag on the wall.

where: Da is the diameter of the burner embrasure.

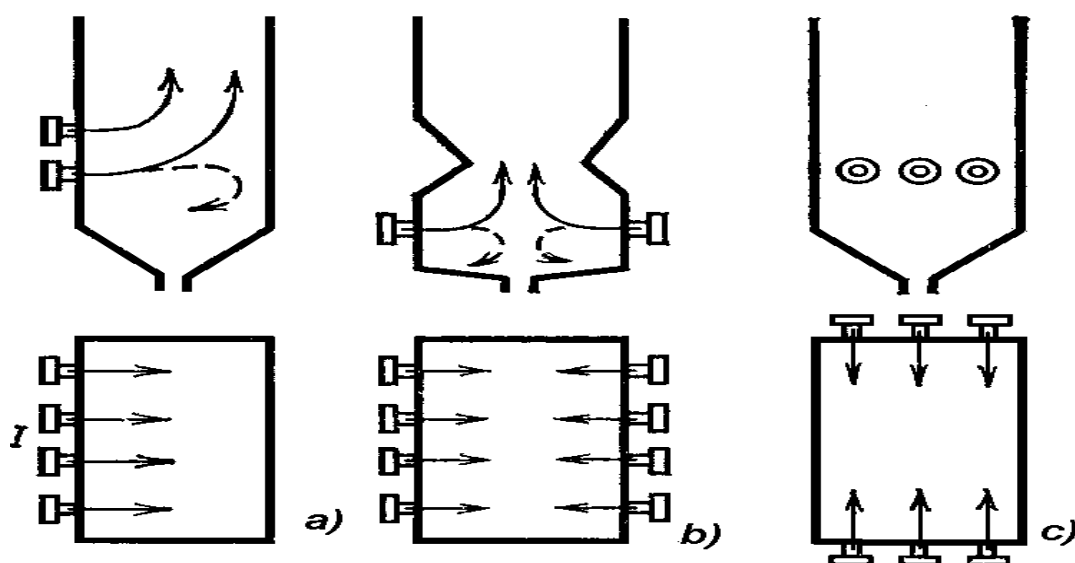


Figure 1. Arrangement of stacked powder-coal burners on the walls of the furnace:

a - front two-tier; b - frontal double-sided single-tier; c - single-tier on one side.

In high-power steam boilers, if it is not possible to place the required burners on one front wall, it is important to place the burners on opposite sides with two fronts [4].

Theoretical part: Mutual equality of the amount of heat released from the fuel and the heat spent on the working fluid and losses is called the heat balance of the boiler.

The heat balance for 1 kg of solid and liquid fuel or 1 m³ of gas burned in the boiler can be expressed as follows:

$$Q_T'' = Q_1 + Q_2 + Q_3 + Q_4 + Q_5 + Q_6, (1)$$

where: Q_T'' - the amount of heat released by 1 kg (or 1 m³) of fuel in the furnace, MJ (kg) or MJ (m³); Q_1 - the amount of heat usefully used in the boiler; Q_2, Q_3, Q_4, Q_5, Q_6 - the amount of heat lost with smoke, due to chemical and mechanical incomplete combustion of fuel, cooling of the boiler surface and ejected slag. The total heat capacity of the working fuel can be determined from the following expression:

$$Q_K'' = Q_{T.Q} + Q_{yo} + Q_b, (2)$$

Here: Q_K'' - heat of lower combustion of fuel; $Q_{T.Q}$ - heat entering the furnace with air from outside (if the air is heated outside the boiler); Q_{yo} - physical heat of fuel; Q_b - linear heat with steam (when using fuel oil) [5].

Efficiently used heat in a steam boiler is determined by the following formula:

$$Q_1 = \frac{D_{k.b}}{B} (h_{k.b} - h_{T.C}) + \frac{D_u}{B} \left(h_u'' - h_u' + \frac{D_x}{B} \right) h_k - h_{T.C}, (3)$$

where: $D_{k.b}, D_i$ - primary and secondary superheated steam consumption, kg/s; D_x - water consumption expelled from the drum, kg/s; $h_{k.b}, h_{t.s}, h_k$ - enthalpies of superheated steam, feed water and water on the saturation line, kJ/kg;

h_u'', h_u' - enthalpy of secondary superheated steam at the outlet and at the inlet of the intermediate superheater, kJ/kg; V - fuel consumption, kg/s or m³/s.

The amount of heat effectively used in the boiler can be determined by the following formula:

$$Q_1 = Q_{o'} + Q_q + Q_i + Q_{ek} (4)$$

where: $Q_{o'}$ - the amount of heat received by the furnace surfaces, kJ/kg;

Q_q, Q_i, Q_{ek} - the amount of heat received by the main, intermediate superheaters and economizer, kJ/kg.

The above heat balance formula can be expressed in relative terms:

$$100 = Q_1 + Q_2 + Q_3 + Q_4 + Q_5 + Q_6. (5)$$

This heat balance shows the percentage distribution of heat of 1 kg or 1 m³ of fuel [6].

Heat loss with smoke coming out of the steam boiler is determined by the following formula:

$$Q_2 = H_T^0 + (\alpha_q - 1) H_X^0 - H_X (6)$$

In this formula $H_T^0 = \vartheta_T \cdot S_T \cdot Q_{ch}$ - enthalpy of outgoing smoke (with excess air coefficient $\alpha=1$); $(\alpha_{ch}-1)H_X^0 - \vartheta_{ch}$ - enthalpy of elevated air at temperature N_x - enthalpy of atmospheric air.

The amount of heat lost due to chemical misfires is determined by the following formula:

$$Q_3 = V_{CO} \cdot Q_{CO} + V_{H_2} \cdot Q_{H_2} + V_{CH_4} \cdot Q_{CH_4}, \quad (7)$$

Here: V_{CO} , V_{H_2} , V_{CH_4} - is the volume of combustible gases in combustion products, m^3/kg of fuel, Q_{CO} , Q_{H_2} , Q_{CH_4} - is the volumetric heat of combustion of combustible gases, MJ/m^3 .

Taking into account the above formula, the relative value of heat loss (Q_T^u in percent) can be determined by the following formula:

$$q_3 = 126,4V_{CO} + 108V_{H_2} + 358,2V_{CH_4}. \quad (8)$$

The numbers before the gas volumes V_{CO} , V_{H_2} , V_{CH_4} , represent the heat of combustion of gases reduced by 100 times, corresponding to $1 m^3$.

Heat losses due to mechanical combustion depend on the type of boiler furnace and the type of fuel used. This indicator is determined using the "Calculation of the heat of boiler units (normative method)".

The amount of heat lost from the surface of the boiler to the environment is determined by the following formula:

$$Q_5 = q_{T.C} \frac{F_c}{B}, \quad (9)$$

where: B - is the fuel consumption in the boiler, kg/s ; F_c - is the outer surface of the boiler walls, m^2 ; $q_{T.C}$ $q_{0.2} - 0.3$ kW/m^2 is the heat flow from the outer surfaces.

Heat losses with emitted waste (slag) can be determined using the following formula:

$$q_6 = \frac{\alpha_{шл} (ct)_{шл} \cdot A^n}{Q_T^n}, \quad (10)$$

here: $\alpha_{шл} q_1 - \alpha_U$ - fraction of slag removed from the combustion chamber;
 $s_{шл} t_{шл}$ - heat capacity and temperature of the released slag.

The useful efficiency coefficient (COP) shows what part of the total thermal energy is effectively used (Q_1) in the boiler:

$$\eta_K = \frac{Q_1}{Q_T^u} 100 \quad (11)$$

This method of determining efficiency is called the right balance method.

Knowing the sum of the heat losses of the steam boiler, the gross efficiency is determined by the inverse balance method: [7].

$$\eta_K = 100 - (q_2 + q_3 + q_4 + q_5 + q_6) \quad (12)$$

By determining the efficiency of ozone, the effectively used heat can be determined using the following formula:

$$Q_1 = Q_T^u \cdot \eta_K \quad (13)$$

As a result, the fuel consumption used in the boiler can be determined by the following formula, kg/s:

$$B = \frac{D_{K.O} (h_{K.O} - h_{T.C}) + D_u (h_u'' - h_u') + D_x (h_K - h_{T.C})}{Q_T^u \cdot \eta_K} \quad (14)$$

The overall efficiency shows the efficiency of the boiler. But its normal operation is ensured by various auxiliary mechanisms and devices. The energy spent on them is called the consumption required for the operation of the boiler.

Energy consumption for the needs of the boiler is determined by the following formula, kWh:

$$E_{o'.e} = E_V + E_{T.S} + E_{CH} + E_{T.EN} + E_{M.B} \quad (15)$$

where E_V , $E_{T.S}$, E_{CH} , $E_{T.EN}$, $E_{M.B}$, are respectively the energy consumed by the compressed air pumping fan, smoke exhauster, dust preparation mechanisms, feeding electric pumps and remote control electric machines.

The share of energy spent on own needs is determined by the following formula, %:

$$\Delta \eta_{y.\varepsilon} = \frac{\varepsilon_{y.\varepsilon}}{B Q_T^u \cdot \eta_{\varepsilon.C} \cdot \tau_u} 10^4, \quad (16)$$

Here: V - is the fuel consumption in the boiler, kg/s;

$\eta_{e.s}$ - is the efficiency of i , % of the electricity generated at the central power plant;

τ_i - is the operating time of the boiler, h.

If η_K , if we subtract the part of the energy spent on itself, then the net efficiency of the boiler is determined:

$$\eta_K^{HT} = \eta_K - \Delta \eta_{y.\varepsilon}. \quad (17)$$

Conclusion and recommendations:

1 Direct-flow burners mainly use highly reactive fuels for combustion: brown coal, peat, shale and hard coal with high (reactive) volatile matter. The speed of the dust-air mixture at the burner outlet is: $\omega_1 = 20 \div 28$ m/s, the optimal speed of secondary air is determined as $\omega_2 = (1.5 \div 1.7) \omega_1$.

2. Thus, comparing direct-flow burners with multi-tier burners, it can be seen that multi-tier burners provide a shorter flame length and a wider opening angle. Due to the accumulated kinetic energy, a violent mixing of the primary and

secondary air flows is formed, which ensures complete combustion of the fuel in the flame core..

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OILADA KOMIL SHAXS SHAKLLANTIRISHDA MILLIY AN'ANALAR, URF-ODAT VA MAROSIMLARNING O'RNI

***Annotatsiya:** Ushbu maqolada oilada komil shaxs shakllantirishda milliy an'analar urf odat va marosimlarning o'rni ko'rib chiqiladi. Milliy urf odatlarning jamiyat hayotiga kirib borishi ularning ijtimoiylashuv jarayonida, dunyoqarashini tarkib topishida ijobiy ta'sirlar ko'rsatib o'tiladi. Farzandlar tarbiyasida milliy qadriyatlarni yoshlik chog'idan ularga singdirib borish orqali komil shaxs tarbiyalash haqida so'z boradi.*

***Kalit so'zlar:** komillik, tarbiya, shaxs, qadriyatlar, urf-odat, milliylik, milliy meroslar, odoq-axloq.*

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THE ROLE OF NATIONAL TRADITIONS, CUSTOMS AND RITUALS IN THE FORMATION OF A PERFECT PERSONALITY IN THE FAMILY

***Annotation:** This article examines the role of Customs and rituals of national traditions in the formation of a perfect personality in the family. The penetration of national customs into the life of society shows positive effects in the process of their socialization, the content of their worldview. In the upbringing of children, there is talk of raising a perfect personality by instilling national values in them from the youth.*

***Keywords:** perfection, upbringing, personality, values, customs, nationality, national heritage, etiquette.*

Merosimizning asosiy qirralari, saboqlari asosida milliy istiqbolimizning mafkurasini yaratar ekanmiz, bunda asosan o'zbek xalqining barcha xalqlar singari asrlar mobaynida saqlanib, sayqallanib kelgan milliy urf-odati, rasm-rusumi, udumi va an'analari, yurish-turishi, g'ururi, ijtimoiy-iqtisodiy hayoti, dini, huquqiy ongi, ma'naviy-axloqiy tushunchasi muhim tarbiyaviy ahamiyatga ega. Chunki bolalarimiz ana shu ko'zga ko'rinmas his-tuyg'u va ong, tushuncha, ajdodlar xotirasi va uzviyligi ta'sirida ma'naviy tarbiyalanadi. Shuning uchun bo'lsa kerak, O'zbekistonning milliy mafkurasini yaratishga, uning asosiy qirralari va muammolari, mana shu muammolarni hal qilish borasida oldimizda turgan vazifalar haqida gapirilganda, avvalo, «asrlar davomida ajdodlarimiz

hayotida tarkib va ravnaq topgan milliy-madaniy anʼanalarni va urf-odatlarni qadrlamaslik maʼnaviy tubanlik, oʻz tarixiga, ona zaminiga, tuprogʻiga hurmatsizlikdir. Boy, qadimiy va navqiron maʼnaviyatimiz durdonalari milliy maʼnaviy inqirozning oldini olishda, milliy maʼnaviy saltanatimizni tiklamoqlikda muhim omildir, tayanchdir,—deyiladi.

Yosh avlodni maʼnaviy-axloqiy tarbiyalashda koʻp asrlar davomida qoʻllangan usul va vositalar, tadbir shakllari, urf-odat va anʼanalar, tarbiya haqidagi gʻoyalar—hayotiy tajribalar oʻzbek xalq pedagogikasida mujassamlashgan.

Urf-odat, anʼanalar hamisha ijtimoiy va shaxsiy hayotda erishayotgan yutuqlar va orttirilgan tajribani mustahkamlaydi, qaror topgan ijtimoiy munosabatlarni tartibga solishning qudratli quroli sifatida xizmat qiladi. Ular avlodga keksalarning ijtimoiy munosabatlarida erishilgan va ayni zamonda mavjud boʻlgan tajribalarni uzatish va mustahkamlash rolini bajarib kelgan avlod uni oʻzlashtirib, yanada rivojlantirib, oʻz tajribasi bilan boyitib yangi avlodga yetkazgan.

Urf-odat deganda anʼana sifatida umumxalq tomonidan qabul qilingan tarbiya qoidalari (odat, rasm-rusum, taomillar) tushuniladi. Inson ruhida xilma-xil kechinmalar va kayfiyatlar uygʻonib, odamning oʻzini anglashi, shaxs sifatida shakllanishiga ijobiy taʼsir qiladi.

Anʼana esa, uzoq zamonlardan beri avloddan-avlodga, otalardan bolalarga oʻtib davom etib kelgan urf-odatlar, axloq meʼyorlari va qarashlar. Qoida hukmiga kirib qolgan tartib-odat va ishlar hisoblanib, bularning barchasi jamoatchilik fikri bilan himoyalanaadi.

Milliy qadriyatlarimizdan hisoblangan urf-odatlar, turli marosimlar, anʼanalar bugungi kunda respublikamizning mustaqilligini mustahkamlashda, milliy mafkurann yaratishda, yoshlarni maʼnaviy tarbiyasida, jamiyatni rivojlantirishda, qolaversa, oilalar mustahkamligini barqarorlashtirishda, undagi tarbiya masalalarini, milliyligini oshirishda muhim tarbiya vositasi sifatida xizmat qilishini har bir xonadon sohibi, har bir fuqaro yaxshi anglaydi.

Milliy anʼanalar, urf-odatlar, marosimlar bola tarbiyasi muammosini ijobiy xal qilishda muhim rol oʻynaydi. Shuning uchun ham bugungi kunda oilada bolalarni maʼnaviy-axloqiy tarbiyalash masalasida milliy anʼanalarimiz, urf-odatlarimizga eʼtibor va ehtiyoj har qachongiga nisbatan kuchliroqdir. Chunki xalq pedagogikasi manbalarida mehnat, odob, ota-onalar ibрати, or-nomus, maishiy turmush, salomlashish odobi, marhumlarni xotirlash, xalq marosimlarida qatnashish, turli toʻylar va boshqa oilaviy anʼanalar aks ettirilganki, bularning barchasi hozirgi zamon yoshlarini milliy kayfiyatda maʼnaviy etuk, axloqan pok, jismonan sogʻlom, estetik didli, farosatli, aqliy kamolot egasi qilib tarbiyalashning muhim vositalari sifatida mujassamlangan.

Xalq anʼanalari, urf-odatlari atroflicha oʻrganish, oilaviy hayot mazmuniga tatbiq etish bolalar maʼnaviyatini shakllantirishda, samaradorlikni oshirishda muhim shart, yaʼni tarbiya metodi va vositalari (oʻyin, mehnat, pand-nasihat, taʼsir etish, tushuntirish, ragʻbatlantirish va eʼzozlash)ni unumli qoʻllab

kelayotgan oilalarda yaxshi natijalarga erishilayotganligini kuzatish mumkin. O'zbek xalqida bolalar bilan bog'liq juda ko'plab ibratli an'analar mavjud. Xalqimiz pedagogikasi bolalarga mehr-shafqat, ularni sezish, erkalash, parvarish qilish, ta'lim-tarbiya berish, ehtiyotlash kabi insoniy qarashlarni targ'ib qilib kelgan. Hozirgi davrda oiladada bolalar tarbiyasi uchun milliy urf odatlar va qadryatlarning o'rni katta ahamiyat kasb etmoqda.

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**QORAQALPOG‘ISTON RESPUBLIKASIDA 2010–2023-YILLARDA
FAOLIYAT YURITAYOTGAN KORXONALARNING TARMOQ
TARKIBINI BAHOLASHNING ILMIY–USLUBIY YONDASHUVLARI**

Annotatsiya: *Qoraqalpog‘iston Respublikasida qishloq xo‘jaligi korxonalarining ixtisoslashuvini rivojlantirishning tendentsiyalari fermer xo‘jaligini o‘simlikchilikka, chorvachilikka tovar mahsulotini ishlab chiqarishga ixtisoslashgan. Ishlab chiqarish rejasini ishlab chiqish bosqichida ko‘plab ixtisoslashuv variantlarini tahlil qilish amalga oshiriladi, bu esa, eng samarali echimlarni aniqlash imkonini beradi.*

Kalit sózlar: *Tarmoq strukturasi, iqtisodiy samaradorlik, mehnat taqsimoti, yalpi daromad, ishlab shiqarich rentabelligi, ixtisoslashuv koeffitsienti.*

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**SCIENTIFIC AND METHODOLOGICAL APPROACHES TO
ASSESSING THE SECTORAL STRUCTURE OF ENTERPRISES
OPERATING IN THE REPUBLIC OF KARAKALPAKSTAN IN 2010-2023**

Abstract: *Trends in the development of specialization of agricultural enterprises in the Republic of Karakalpakstan have shown that the farm specializes in crop production, livestock farming and production of commercial products. At the stage of developing a production plan, an analysis of many specialization options is carried out, which allows us to determine the most effective solutions.*

Key words: *Industry structure, economic efficiency, division of labor, gross income, production profitability, specialization coefficient.*

Aniq belgilangan tadqiqot tamoyillari va usullari turli muammolarni izchil va samarali tahlil qilish imkonini beradi. Ushbu tamoyillar ishning barcha bosqichlarida, ma’lumotlarni to‘plashdan xulosalargacha qo‘llaniladi. Qishloq xo‘jaligi strategiyasini ishlab chiqishga kelganda, zamonaviy iqtisodiy nazariyalar tizimini yaratish muhim qadamdir. Ushbu nazariyalar nafaqat hozirgi muammolarni hal qilishda yordam berishi, balki kelajakdagi vaziyatning rivojlanishini bashorat qilish imkonini berishi kerak. Ular, shuningdek, mumkin bo‘lgan stsenariylarni baholash va asoslangan qarorlar qabul qilish uchun vositalarni taqdim yetishlari kerak.

Qishloq xo'jaligi korxonalarining tarmoq tuzilmasini shakllantirish va takomillashtirishga bag'ishlangan ilmiy tadqiqotlarning mavjud hajmiga qaramasdan, ko'plab masalalar hal etilmaganligini ta'kidlash lozim. Bu ishlab chiqarish jarayonining turli ishtirokchilari o'rtasidagi o'zaro munosabatlarning tuzilishini tushunishga qaratilgan keyingi tadqiqotlar zarurligini ko'rsatadi. Ushbu muammolarni hal qilish zarurati qishloq xo'jaligida boshqaruv samaradorligini oshirishga hissa qo'shadigan omil sifatida tarmoq tuzilmasi muhimligini ta'kidlaydi.

Uzoq vaqt davomida ushbu sohadagi iqtisodiy tadqiqotlar metodologiyasining holati asosan umumlashtirilgan mazmunga ega bo'lib, bu ishlab chiqarishning tarmoq tuzilmasini o'zgartirish jarayonlarining yetarli darajada nazariy va uslubiy ta'minlanmaganligi bilan bog'liq.

Qishloq xo'jaligi ishlab chiqarishining samaradorligini baholash uchun uning ishlashiga ta'sir qiluvchi barcha omillarni hisobga olgan holda iqtisodiy va matematik modellashdan foydalanish mumkin. Ushbu modellar moddiy xarajatlar va ishlab chiqarish hajmi o'rtasidagi bog'liqlikni aniqlashga yordam beradi.

Qishloq xo'jaligi ishlab chiqarishi samaradorligini baholash asosiy ko'rsatkichlar va omillar o'rtasidagi bog'liqlikni tahlil qilishga asoslanadi. Buning uchun regressiya modellarida turli o'zgaruvchilar o'rtasida miqdoriy munosabatlarni o'rnatishga yordam beradigan qisman hosilalardan foydalaniladi. Iqtisodiy–matematik modelni ishlab chiqarishning asosiy bosqichlaridan biri tegishli optimallik mezonini tanlashdir.

Ko'pgina tadqiqotchilar bunday mezon sifatida xizmat qilishi mumkin bo'lgan bir nechta omillarni aniqlaydilar. Bu, birinchi navbatda, aholining oziq-ovqatga bo'lgan ehtiyojini maksimal darajada qondirishdir. Yana bir muhim ko'rsatkich – qishloq xo'jaligi tsiklining turli davrlarida ish vaqtidan to'liq foydalanish sharti bilan mehnat unumdorligini oshirish.

Kerakli mahsulotlarni yuqori darajada ishlab chiqarish, samarali tashish va xarajatlarni minimallashtirish muhim rol o'ynaydi. Bu omillarning barchasi pirovard maqsad – qishloq xo'jaligi ishlab chiqarishining rentabelligini maksimal darajada oshirishga qaratilgan. Biroq, bir vaqtning o'zida bir neshta optimallik mezonlaridan foydalanish mumkin. Agar cheklovlarni qayta shakllantirgandan so'ng, muammo o'zining ko'p mezonli xususiyatini saqlab qolgan bo'lsa, u oddiy shiziqli dasturlash masalasiga qisqartiriladi. Ishlab chiqarish dinamikasini o'rganishda uning yo'nalishi aniqlanadi. Ko'pinsha, u to'g'ri shiziq shaklida tendentsiya sifatida ifodalanadi. Bunday ifoda ko'rsatkichning o'rtasha o'zgarish tezligini aniqlash uchun ayniqsa qulaydir. Jarayonning rivojlanish yo'nalishini bilish uchun dinamik qatorni tegishli qayta ishlashni amalga oshirish kerak. Buning uchun ikkita usul qo'llaniladi.

1. Qo'shni darajalarning haqiqiy qiymatlaridan foydalangan holda dinamik seriyalarning individual darajalarini mexanik moslashtirish. Vaqt seriyasining bir nesha darajalari olinadi, tekislash oralig'ining o'rtasha qiymati hisoblanadi, so'ngra

interval bir darajaga oldinga siljiydi va operatsiya takrorlanadi. Oddiy harakatlanuvshi o'rtasha deb ataladigan formula bilan aniqlanadi:

$$\bar{x} = \frac{\sum x}{n} \quad (1.1)$$

bu yerda x – kuzatish nuqtasi; n – kuzatishlar soni. Agar oddiy harakatlanuvshi o'rtashadan foydalanganda shiziqli tendentsiya kuzatilmasa, u holda vaznli harakatlanuvshi o'rtasha qo'llaniladi:

$$\bar{x} = \frac{\sum x_i p_i}{n} \quad (1.2)$$

Bu yerda p_i – vazn va i – ko'rsatkich yoki yeksponensial harakatlanuvshi o'rtasha, quyidagi shaklga ega:

$$\bar{x} = ax_1 + (1 - a)x_{i-1} \quad (1.3)$$

bu yerda $a = \frac{2}{n+1}$ – vazn parametrining qiymatini belgilaydigan ko'rsatkich.

2. Seriyaning o'ziga xos darajalari o'rtasida shizilgan, uning tendentsiyasini yeng yaxshi tasvirlaydigan yegri shiziqlar yordamida analitik tekislash. Analitik tekislashning asosiy muammosi mos funktsiyani (yegri shiziqni) tanlashdir. Polinom yegri shiziqlar iqtisodiyotda yeng keng tarqalgan:

$$\left. \begin{aligned} y &= a_0 + a_1x \text{ (birinchi darajali ko'phad, to'g'ri shiziq);} \\ y &= a_0 + a_1x + a_2x^2 \text{ (ikkinshi darajali polinom,} \\ &\quad \text{ikkinshi tartibli parabola);} \\ y &= a_0 + a_1x + a_2x^2 + a_3x^3 \text{ (} \dots \dots \dots \text{ uchinch} \text{ tartibli polinom,} \\ &\quad \text{uchinch} \text{ tartibli parabola) va boshqalar.,} \end{aligned} \right\} \quad (1.4)$$

Bu yerda a_0, a_1, a_2, a_3 – polinom koeffitsiyentlari.

Tuzilgan modelning haqiqiy ma'lumotlarga mosligini tekshirish uchun determinatsiya (yaqinlashuv) koeffitsienti – R qo'llaniladi. U birga qanshalik yaqin bo'lsa, funktsiya dinamik qatorni shunshalik yaxshi tasvirlagan bo'ladi. Modelning adekvatligi qoldiq komponentlar yordamida aniqlanishi mumkin, ular haqiqiy ma'lumotlar va model ma'lumotlari o'rtasidagi farq sifatida hisoblanadi (1.5):

$$\varepsilon_i = x_i - \bar{x}_i \quad (1.5)$$

Yetarlisha o'rnatilgan modeldagi qoldiq komponentlar normal taqsimotga va nolga teng bo'lgan matematik kutishga ega bo'lishi kerak. Sinus to'lqin iqtisodiy jarayonlarning dinamik qatoridagi tsikliklikni hisobga olish va baholash uchun ishlatiladi:

$$y = A \sin(b_0x + b_1) \quad (1.6)$$

bu yerda: A – sinusoidning amplitudasi;

b_0 – tebranish shastotasi;

b_1 – tebranishlarning dastlabki fazasi. Ko‘pinsha Fur’e seriyalari siklik qatorlarni tekislash uchun ishlatiladi:

$$y = a_0 + \sum (a_i \cos kt + b_i \sin kt) \quad (1.7)$$

bu yerda a, b – Fur’e koeffitsientlari;

k – ketma–ket garmonikalar ko‘rsatkichi.

Ixtisoslashuv darajasini chuqurroq tushunish uchun siz miqdoriy ko‘rsatkichdan foydalanishingiz mumkin – tijorat mahsulotlari tarkibida turli tarmoqlarning ulushi. Misol uchun, bu urug‘lar, ozuqa, buzoqlar va qo‘ylar uchun sut bo‘lishi mumkin. Ixtisoslashuvga mehnat xarajatlari, pul oqimlari tarkibi va ish haqi kabi omillar ham ta’sir qiladi.

Ixtisoslashuvning iqtisodiy samaradorligi bir qancha muhim ko‘rsatkichlarni hisobga olgan holda hisoblanadi. Masalan, 100 gektar yerga, 1 kishi–soat ish vaqtiga va 1000 so‘m aylanma mablag‘ga to‘g‘ri keladigan yalpi mahsulot hajmi hisobga olinadi.

Tadqiqotlar mehnat unumdorligi darajasini aniqlash uchun kalit bo‘lib, eng ahamiyatlisi mehnat resurslaridan foydalanish samaradorligini aniqroq baholash imkonini beruvchi ish vaqti birligiga ko‘rsatilgan ishlab chiqarish hajmidir.

Xarajatlar va unumdorlikni chuqur tahlil qilish ishlab chiqarish jarayonlarini tashkil etishning tubdan yangi yondashuvlarini ishlab chiqishga yordam beradi. Bunday ko‘rsatkichlar yordamida yer, mehnat va ishlab chiqarish resurslaridan foydalanishning turli usullarining intensivligi va iqtisodiy samaradorligi darajasini obyektiv baholash mumkin.

Tadqiqotning muhim vazifasi ko‘rsatkichlar to‘plamidan regressiya modelida ishlab chiqaruvchi xususiyat rolini o‘ynaydiganini tanlash va mehnat taqsimoti jarayoniga ta’sir qiluvchi omillarni ko‘rsatishdan iborat bo‘lib, ular bu jarayonni turli tomonlardan tavsiflaydi.

Qishloq xo‘jaligi korxonalaridagi tarmoq tuzilmalarini ikki nuqtai nazardan tahlil qilish mumkin: sifat va miqdor. Tarmoq strukturasi sifat tavsifi assotsiatsiyalar va tarmoqlar qanday shakllanganligini, miqdoriy xarakteristikasi esa, ushbu tarmoqlarning hajmini va ularning o‘zaro bog‘liqligini baholaydi. Tarmoq strukturasi shakllantirishning muhim omillaridan biri ishlab chiqarishning konsentratsiyasi hisoblanadi. Bu kompaniya va uning bo‘linmalarida ishlab chiqarish ko‘payadigan jarayon. Biroq, ixtisoslashuv maksimal foyda keltirishi uchun konsentratsiya optimal bo‘lishi kerak.

Mavjud usullar zamonaviy kompyuter texnologiyalari bilan birgalikda tahlil jarayonini sezilarli darajada soddalashtiradi, potentsial natijalarni tez va aniq prognoz qilish imkoniyatini beradi. Bunday vositalardan foydalanish nafaqat ishonchli ma’lumotlarni olish, balki ishlab chiqarish tuzilmasini optimallashtirish bo‘yicha asosli tavsiyalarni shakllantirish imkonini beradi.

Qishloq xo‘jaligi korxonalarining hududiy ixtisoslashuvi (zonal, mikrozonal, viloyat, tuman) – HI ni aniqlash uchun tovar mahsuloti tarkibi ko‘rsatkichidan foydalaniladi. U asosiy sanoatning tovar mahsuloti qiymati – SMQ ni barcha tarmoqlarning umumiy tovar mahsulotlari qiymati – UMQ ga bo‘lish yo‘li bilan hisoblanadi va foizda ifodalanadi:

$$HI = \frac{SMQ}{UMQ} * 100 \quad (1.8)$$

Mahsulotining 90% dan ortig'i asosiy sanoatga to'g'ri keladigan qishloq xo'jaligi korxonalari yuqori ixtisoslashgan hisoblanadi. Bunday korxonalarga parrandachilik, qo'ychilik va issiqxona majmualarini misol qilib keltirish mumkin.

Asosiy sanoatning ulushi umumiy ishlab chiqarishning 50% dan ortiq bo'lgan korxonalar ham ixtisoslashgan deb tan olinishi mumkin. Biroq, agar ikkita tarmoqning umumiy ulushi 67 foizdan oshsa, har bir tarmoq kamida 25 foizni tashkil etadigan bunday korxonalar ikki turdagi mahsulot ishlab chiqarishga ixtisoslashgan hisoblanadi.

Belgilangan mezonlarga javob bermaydigan barcha boshqa korxonalar diversifikatsiyalangan deb tasniflanadi. Qishloq xo'jaligi korxonalarining ixtisoslashganlik darajasini aniqlash uchun ko'pincha ixtisoslashuv koeffitsienti (k_{QI}) qo'llaniladi, bu esa, sanoat bo'yicha mahsulotlarning konsentratsiya darajasini o'lchash imkonini beradi:

$$k_{QI} = \frac{100}{\sum p(2i-1)} \quad (1.9)$$

bu yerda: p – tovar mahsuloti tarkibidagi har bir tarmoq mahsulotining solishtirma og'irligi, %;

i - mahsulot turining yeng kattasidan boshlab solishtirma og'irligi bo'yicha seriya raqami.

(1.9) bilan aniqlangan k_{QI} koeffitsienti: 0,20 dan oshmasa, ixtisoslashuvning zaif darajasi, 0,21 – 0,30 gasha bo'lganda, o'rtasha ixtisoslashuv; 0,31 – 0,40 bo'lganda, o'rtashadan yuqori; 0,41 – 0,50 bo'lsa yuqori darajada, 0,51 – 0,60 ga teng bo'lganda ixtisoslashgan va 0,60 dan ortiq bo'lganda korxona ko'p tarmoqli hisoblanadi. Qishloq xo'jaligi korxonalarining ixtisoslashuvini rivojlantirishning ikkita tendentsiyasi mavjud:

– fermer xo'jaligini o'simlikchilikka, chorvachilikka va yana bir nesha turdagi tovar mahsulotini ishlab chiqarishga ixtisoslashgan;

– korxona bir turdagi mahsulot ishlab chiqarishga ixtisoslashgan bo'lsa, ishlab chiqarish sanoat asosida keng xo'jaliklararo aloqalar va kooperatsiya bilan amalga oshiriladi.

Ishlab chiqarish rejasini ishlab chiqish bosqichida ko'plab ixtisoslashuv variantlarini tahlil qilish amalga oshiriladi, bu esa, eng samarali echimlarni aniqlash imkonini beradi. Keyinchalik bu yechimlarning samaradorligi tegishli hisoblash formulalari yordamida aniqlanadi.

$$S_I = \frac{YIM\uparrow}{JX\uparrow + KQ\uparrow * k_{SM}} \quad (1.10)$$

bu yerda: S_I – ixtisoslashuv variantining samaradorligi; $YIM \uparrow$ – yalpi mahsulotning o'sishi; $JX \uparrow$ – joriy xarajatlarning oshishi; $KQ \uparrow$ – kapital qo'yilmalarning ko'payishi; k_{SM} – samaradorlikning me'yoriy koeffitsienti.

Qishloq xo'jaligi korxonalarining tarmoq tuzilmasini baholash mezon sifatida Ye.Tregub "asosiy (yalpi va tovar mahsuloti tarkibi), ikkilamshi (ishlab chiqarish xarajatlari tarkibi, mehnat xarajatlari) va yordamchi (ekin maydonlari tarkibi, ekinlar va chorvachilik hosildorligi) tarmoqlarni tanlashni taklif qiladi". Ixtisoslashuv darajasini ushta sof daromad tarkibi, mahsulot tannarxining tarkibi va ekin maydonlari tarkibi bo'yicha mezon bilan belgilanadigan entropiya ko'rsatkichi – S_I ni hisoblash taklif yetiladi:

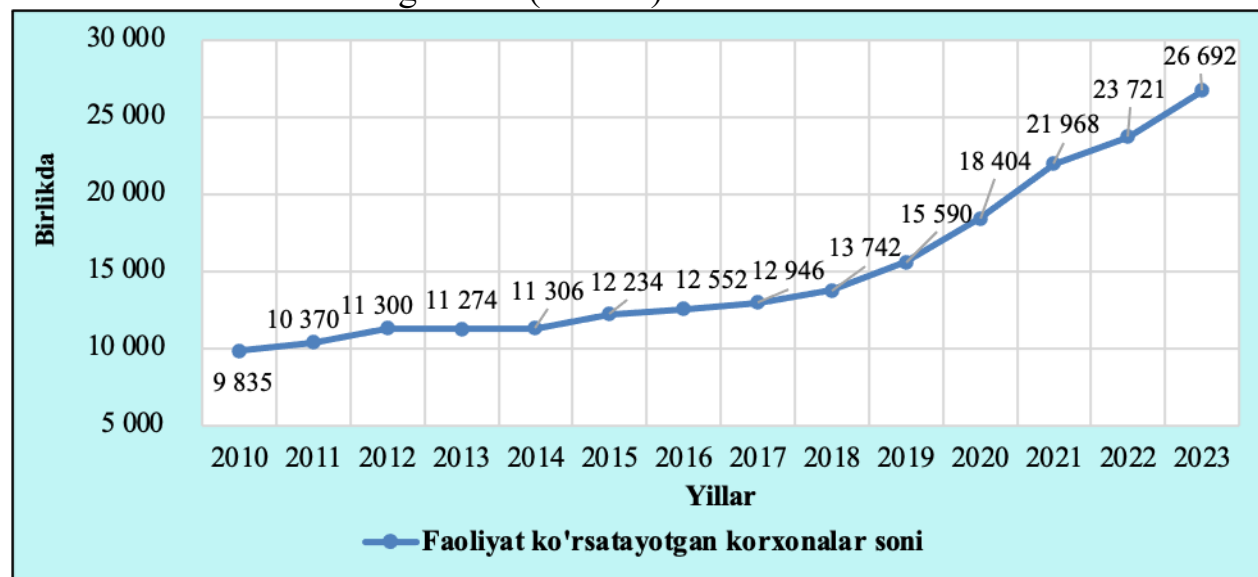
$$S_I(t) = 1 + \frac{\sum_{i=1}^n W_i(t) \ln W_i(t)}{\ln n} \quad (1.11)$$

bu yerda W_i – ishlab chiqarish tizimining quvvati; n – mahsulot turlarining soni. Yentropiya ko'rsatkichiga ko'ra, korxonalarining ixtisoslashuvining quyidagi tasnifi taklif yetiladi:

agar S_I ko'rsatkich $0,25 \leq S_I < 1$ bo'lsa, u holda korxona yuqori ixtisoslashgan hisoblanadi;

$0,15 \leq S_I < 0,25$ bo'lsa, u holda korxona o'rtasha ixtisoslashtirilgan;

$0 \leq S_I < 0,15$ gasha bo'lsa, u holda korxona diversifikatsiyalangan (ko'p tarmoqli) bo'ladi. Taklif etilgan metodologiyaga ko'ra, dastlab Qoraqalpog'iston Respublikasida 2010-2023-yillarda faoliyat yuritayotgan (fermer xo'jaliklarisiz) korxonalar dinamikasi o'rganiladi (1–rasm).



1–rasm. Qoraqalpog'iston Respublikasida 2010–2023-yillarda faoliyat yuritayotgan (fermer xo'jaliklarisiz) korxonalar dinamikasi

2010-yilda respublikada 9835 ta korxona ro'yxatga olingan. 2023-yilga kelib tadbirkorlikni rivojlantirish va davlat tomonidan qo'llab-quvvatlanayotgani tufayli ularning soni 16 857 taga ko'paydi, 2026-yilda esa, bu raqam 26 692 taga yetishi kutilmoqda.

Qishloq xo'jaligi sohasida o'tkazilgan tadqiqot shuni ko'rsatdiki, Qoraqalpog'iston Respublikasi korxonalarining 39,2 foizi faqat bitta tarmoqdan daromad olgan. Shu bilan birga, korxonalarning 61,5 foizi qishloq xo'jaligi mahsulotlarini qayta ishlashdan daromad olgan.

Ikki tarmoqdan — qishloq xo'jaligi oziq-ovqat mahsulotlarini ishlab chiqarish va ularni yetkazib berishdan sof daromad korxonalarning 48,5 foizi oldi. Korxonalarning 35,4 foizi uchta tarmoqdan: qishloq xo'jaligi, transport va qayta ishlashdan daromad olgan. Korxonalarning yana 16,1 foizi to'rtta tarmoqni, jumladan, qishloq xo'jaligi, dengizchilik va transportni qamrab olgan mahsulot ishlab chiqarish bilan shug'ullangan.

Qishloq xo'jaligi mahsulotlari, shu jumladan baliqchilikdan olingan sof daromad bo'yicha korxonalarning o'rtacha ixtisoslashuv darajasi 0,85 ni tashkil etdi. Bundan tashqari, uchta ko'rsatkich bo'yicha – sof daromad, ishlab chiqarish xarajatlari va ekin maydoni – bu indeks 0,55 ni tashkil etdi.

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CAUSES AND CLINICAL PICTURE OF ORAL LEUKOPLAKIA

Annotation. *Oral leukoplakia (OLK) is a common mucosal pathology frequently encountered in general dental practice which belongs to a group of conditions known as oral potentially malignant disorders (OPMDs). This inferred risk of progression to oral squamous cell carcinoma warrants an understanding of the etiology of this condition, its clinical presentation, and how patients diagnosed with OLK are managed in both general and specialist care practices.*

Keywords: *Leukoplakia, management, surgical, nonsurgical treatment, carcinoma.*

Introduction

Oral leukoplakia (OLK) is a common cause of such white patches. Oral leukoplakia is defined as a white patch of questionable risk having excluded all (other) potential causes that carries no increased risk of carcinoma. Given the risk of malignant transformation associated with leukoplakia, it is imperative that general dental practitioners (GDPs) recognise oral leukoplakia and understand the appropriate management of this condition.

The development of oral leukoplakia appears to be multifactorial in nature. However, the definitive cause is unclear. Smoking has been identified as the predominant risk factor, with oral leukoplakia six times more common in smokers. Alcohol is recognised as an independent risk factor for oral leukoplakia.

Oral leukoplakia may be subclassified into homogeneous and non-homogeneous forms. Homogenous oral leukoplakia is characterised by a predominantly flat, uniform, often well-demarcated white patch, with a consistent surface topography, and it usually lacks symptoms. Non-homogenous oral leukoplakia should be regarded with significant suspicion as it carries a higher risk of malignant transformation than homogenous oral leukoplakia. There are several diverse clinical presentations including erythroleukoplakia, which is defined as a mixed white and red patch, but retaining a predominantly white colour.

The prevalence of leukoplakia varies among various scientific studies. It has a comprehensive global review point at a prevalence of 2.6% and a malignancy conversion rate ranging from 0.1% to 17.5%(7). The statistical analysis from several studies piloted on the Indian subcontinent in general and in India, in particular, concluded the prevalence of leukoplakia ranging from 0.2% to 5.2% and the malignant transformation of 0.13% to 10%(7). This alarming increase in the prevalence of leukoplakia in India could be mainly due to its cultural, ethnic, and geographic factors.

In the framework of oral epithelium, a hastened growth phase represented by augmentation of the progenitor compartment (hyperplasia) is the earlier sequelae. When the irritant persists further, the epithelium shows features of cellular degeneration, a well-characterized feature of adaptation (atrophy). When the stage of adaptation and revocable cell damage ends, the cells gradually reach a stage of irrevocable cell damage, manifesting as either apoptosis or malignant transformation.

Eliminate all contributing factors. In the case of lesions with moderate to severe dysplasia, surgical excision or laser surgery should be the treatment of choice, especially when the lesion is on the ventral and lateral borders of the tongue, soft palate, floor of the mouth, and oropharynx. Close surveillance and follow-up should be mandatory for lesions on other anatomic locations. Surgical removal is the treatment of choice for erythroleukoplakia and proliferative verrucous leukoplakia.

Histopathology

Histologically, oral leukoplakias present as either hyperkeratosis, mild dysplasia, moderate dysplasia, severe dysplasia, or carcinoma-in-situ.

Architectural features of dysplasia comprise asymmetrical epithelial stratification, an increased number of mitotic figures in the epithelium, dyskeratosis, drop-shaped rete pegs, and keratin pearls within these rete pegs, loss of polarity of basal cells, and basal cell hyperplasia or anaplasia. The classification of mild, moderate, and severe dysplasia is applied when this architectural and cytological atypia affects less than a third, one-third to two-thirds, and more than two-thirds of the epithelium, respectively.

Physical

There are two main types of oral leukoplakia, which are homogenous leukoplakia and non-homogenous leukoplakia. Homogenous leukoplakia comprises of uniformly white plaques that are usually asymptomatic in nature. They have a lower likelihood of turning into malignancy. Whereas, non-homogenous leukoplakia, is irregular, flat, nodular, or exophytic in nature and resembles mixed red and white non-uniform patches, and has a greater probability of turning into malignancy

Management of leukoplakia

General considerations

Currently, no consensus exists on the management of oral leukoplakia, and the management algorithm is dictated by a combination of patient, clinical, and histological factors, through a shared decision-making process. This protocol emphasises the use of histological assessment and cessation of risk factors, as well as surgical excision where permissible.

Low-risk oral leukoplakias

This involves addressing known risk factors for malignant transformation, i.e., alcohol and smoking. If a patient has other risk factors, however, the risk may need to be reassessed. Photographs at each review are essential to monitor the

evolution of the oral leukoplakia. Surgical removal of areas may be advocated if the dimensions are small.

High-risk oral leukoplakias

Several methods are available. Laser ablation and cryosurgery are not advised, however, as they have the significant disadvantage of causing tissue destruction, so there is no specimen available for histopathological examination. An important factor that must be considered when deciding if surgery is the best option is whether the morbidity likely to arise from the surgery is justified. Multifocal oral leukoplakia poses a particular challenge in this regard.

Challenges with leukoplakia

While clinical examination of the oral mucosa has a high sensitivity for the detection of oral leukoplakia (92%), its specificity can be as low as 30%. Meticulous screening of all patients for oral leukoplakia and recognising the need to refer to secondary care are essential to allow for early diagnosis, addressing of modifiable risk factors, and further specialist management.

Difficulties with adherence to cessation programmes are a concern for the recurrence or progression of oral leukoplakias, with up to 29,7% of patients failing to sustain smoking cessation long term.

Patients with oral leukoplakia are also at increased risk of developing OSCC in other parts of the oral cavity and upper aerodigestive tract due to field change.

Conclusion

The main strategy in the management of oral leukoplakia is early diagnosis, the addressing of modifiable risk factors, regular surveillance, and surgical management, as dictated by the clinical situation.

Leukoplakia is a serious oral disease that requires proper attention and treatment to prevent serious complications. At Myvariations, we are committed to promoting good oral hygiene through our innovative products such as sonic electric toothbrushes, dental floss, and interdental brushes. Good oral hygiene plays a key role in preventing leukoplakia and other oral diseases. Take care of your mouth with our solutions to maintain optimal oral health and prevent the risks associated with leukoplakia.

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ANALYTICAL RESULT OF DENTAL CARIES PREVENTION

Annotation. Preventive approaches to oral health diseases, mainly dental caries, require individual and collective policies. Thus, this review was conducted to identify the primary prevention methods of dental caries in adults to improve oral health at the clinical and community levels.

Keywords: primary prevention, adult, oral health, dental caries

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TISH KARIESINI OLDINI OLISHNING TAHLILIIY NATIJASI

Annotatsiya. Og'iz bo'shlig'i kasalliklariga, asosan, tish kariyesiga qarshi profilaktika yondashuvlari individual va jamoaviy siyosatni talab qiladi. Shunday qilib, ushbu ko'rib chiqish og'iz bo'shlig'ini klinik va jamoat darajasida yaxshilash uchun kattalardagi tish kariesining asosiy oldini olish usullarini aniqlash uchun o'tkazildi.

Kalit so'zlar: birlamchi profilaktika, kattalar, og'iz bo'shlig'i salomatligi, tish karies

Introduction. Everyday activities such as eating, talking, smiling, and contributing to society are included in a person's well-being. Therefore, oral health is currently understood to be an integral part of overall health and well-being [2]

Health promotion programs are effective if based on a holistic perspective of health, empowering citizens to manage their health, promoting equitable access to information, and leading to the adoption of healthy lifestyles [7]. Thus, several primary prevention methods applicable to oral health can be developed among adults, including behavioral factors, such as regular tooth brushing, dental flossing, a balanced diet, and regular dental checkups. These factors significantly reduce the risk of oral disease [8,9,10].

Developing preventive interventions at the primary prevention level can lead to potentially sustainable normative support for oral hygiene, locally tailored and targeted approaches, and ongoing positive changes in specific oral health practices. Such interventions can reduce the short- and long-term psychosocial and economic costs associated with disabling oral health problems and help prevent the exacerbation of chronic and disabling diseases [5,8,9].

In the context of dental caries prevention, it is crucial to examine the specific knowledge, attitudes, and behaviors of individuals towards oral health [12]. Such information is helpful for understanding what should be taught and which behavioral changes are necessary for the improvement of oral health and for developing effective strategies in educating children about good oral health habits [13]. Consequently, the present study aims to address this limitation by incorporating a theoretical framework to explore the knowledge, attitudes, behavior, and dental caries prevention practices among patients.

One of the most significant oral health issues worldwide is dental caries, which result from the interaction between bacteria and fermentable carbohydrates and can lead to the destruction of the hard parts of teeth [1]. Despite being preventable, dental caries remain prevalent, affecting approximately half of the world's population, or 3.5 billion people, with 40% of cases going untreated [2]. Unfortunately, dental caries has become a serious global public health concern, with a high incidence of cavities among both children (60–90%) and adults (100%), frequently causing discomfort and pain [3].

Materials and methods

Questionnaire

The validated questionnaire was adapted from previous cross-cultural studies [2,12]. Five sections of the questionnaire examined participants' caries prevention knowledge, attitudes, and practice. Knowledge, attitudes, practice, and dental caries prevention knowledge were covered.

Inclusion Criteria

Patients were required to meet inclusion criteria, including voluntary participation, regular dental hospital treatment, and informed consent.

Exclusion Criteria

To ensure participant selection and study integrity, exclusion criteria were applied. Patients under 17 years old, unable to comprehend the study's purpose, participants involved in other research or clinical trials, severe systemic diseases, and pregnant females were excluded due to potential medication influence on dental health and treatment outcomes.

Statistical Analysis

Responses to the socio-demographic characteristics, knowledge, attitude, and practice sections of the questionnaire were analyzed using a frequency distribution analysis. The mean and standard deviation of the knowledge, attitude, and practice scores were calculated using descriptive analysis.

Results

In this study, 151 patients who fulfilled the inclusion criteria voluntarily participated. Among the respondents, 66 (43.7%) were male, and 85 (56.3%) were female. The majority of the patients (32.3%) belonged to the 17–25 age group. Furthermore, almost 80.4% of patients had obtained a college education, and 62.8% were employed. Lifestyle and dietary habits were observed to be mostly consisting of the consumption of sweet food (34.6%), as well as smoking and drinking alcohol (25.3%). The marital status of the participants was found to be 53.8% married and

46.2% unmarried. The socio-demographic characteristics of the participants are provided.

In the survey, most of the patients had a good level of knowledge regarding preventive measures against dental caries. Most respondents believed that tooth infections (81.3%), bacteria (92%), and sugar (89.2) could cause gum bleeding and tooth decay. They also found brushing (96%) and fluoride (80.5%) useful in preventing tooth decay and protecting teeth. Additionally, respondents believed that oral diseases (94%) could impact overall health. The majority learned about oral health from their dentist or the internet.

The results show that most of the respondents have a good level of positive attitudes regarding preventive measures against dental caries. The survey indicates that a high percentage of respondents, ranging from 93.4% to 97.0%, believe that oral health is essential to good overall health. They also believe that regular check-ups, maintaining oral health, and proper brushing habits are beneficial to their health. In particular, improper brushing habits were associated with gum disease and tooth decay. The majority (93.5%) believed that brushing teeth twice a day improves oral hygiene.

The majority of respondents (86.3%) knew that caries could be prevented, and 90.2% recognized the link between oral hygiene and dental caries. Flossing was recognized as a preventive measure by 73.9% of patients, while 84.7% knew that frequent sugar consumption is associated with dental caries. Topical fluoride applications were acknowledged as a preventive measure by 70.6%, and fissure sealants by 63.5% of patients. Table 1 presents the prevalence of correct knowledge related to preventive dental caries among patients.

Table 1.

Preventive Dental Knowledge	Frequency(%)
Do you know dental caries can be prevented	86.3
Do you know dental caries is related to oral hygiene	90.2
Do you know flossing can prevent dental caries	73.9
Do you know dental caries is related to sugar intake	84.7
Do you know topical fluoride can prevent dental caries	70.6
Do you know fissure sealant can prevent dental caries	63.5

Discussion

Several statistically significant associations between dental caries prevention and socioeconomic factors were found, suggesting that the hypothesis is correct. The majority of survey participants, as shown by the present study's findings, blamed tooth infections, bacteria, and sugar for gum bleeding and tooth decay.

The fact that respondents thought oral diseases could affect general health is significant because it demonstrates the connection between oral health and overall health. Several systemic diseases, such as cardiovascular disease and diabetes, have been linked to poor oral health, and studies support this finding.

The finding so far study showed that the majority of patients had a good

Understanding of the importance of oral hygiene and dental caries prevention. This is encouraging, as education plays a crucial role in promoting good oral health practices.

Most of the patients in our study were aware that sugar consumption could lead to dental caries. However, many believed that simply brushing their teeth after consuming sugary foods and drinks before bedtime was sufficient to protect their teeth [41]. This highlights the need to educate patients on the importance of minimizing sugar consumption and adopting other preventive measures, such as regular dental check-ups and good oral hygiene practices. More than half of the patients also recognized the preventive benefits of topical fluoride application and fissure sealants. This is likely due to the regular visits to dental clinics or hospitals where they learned about these procedures from their dentists.

Dentists play an important part in this context by educating and assisting patients in achieving good oral health. Dentists have a responsibility to educate their patients about the importance of maintaining good oral hygiene, including the best ways to brush and floss, the connection between diet and dental health, and the negative effects of sugar consumption. Oral health professionals have a responsibility to inform patients about the range of options available for preventative care and treatment, including fluoride toothpaste.

Conclusions

Regular dental check-ups are undoubtedly important for maintaining good oral health and preventing dental caries. However, it is equally crucial for individuals to take responsibility for their own oral care at home as a preventive measure against oral diseases such as caries. Dentists play an important part in this context by educating and assisting patients in achieving good oral health.

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COGNITIVE FEATURES OF STUDENTS IN TECHNICAL UNIVERSITIES IN LEARNING ENGLISH: PSYCHOLINGUISTIC ASPECTS

Abstract: *This article explores the psycholinguistic and cognitive features of students at technical universities in the process of learning English. Considering the specifics of engineering thinking, the focus is placed on the logical-analytical approach to linguistic material, the predominant use of the left hemisphere of the brain, and a tendency toward rational information processing. The study analyzes learning barriers related to a low level of language intuition and limited communicative flexibility. Methodological techniques are proposed to optimize the learning process and adapt it to students' cognitive profiles.*

Keywords: *cognitive styles, technical thinking, psycholinguistics, English language teaching, university students, cognitive strategies.*

Introduction

In the era of globalization and technological advancement, proficiency in English has become a critical component of professional success, particularly for students in technical universities. As the lingua franca of international research, engineering, and digital communication, English is no longer simply a foreign language—it is a key to accessing global knowledge systems, participating in cross-border collaborations, and contributing to innovation-driven economies. However, teaching English to students in technical disciplines presents a unique set of challenges and requires a nuanced understanding of their cognitive and psycholinguistic profiles.

Unlike students in the humanities or social sciences, technical students are often characterized by a preference for structured, logical, and systematized modes of thinking. Their academic background tends to reinforce analytical reasoning, procedural problem-solving, and schematic processing of information.

From a psycholinguistic standpoint, these learners may exhibit imbalances between receptive and productive skills, a high dependency on deductive learning strategies, and difficulties in navigating the ambiguity and idiomaticity of natural language. In addition, affective factors such as anxiety, perfectionism, and low communicative self-efficacy often hinder active participation in language use, even when cognitive understanding is present. These challenges are further compounded by traditional teaching models that do not always align with the cognitive preferences or learning motivations of technical students.

The field of psycholinguistics offers valuable insights into how mental processes such as perception, memory, attention, and problem-solving interact with language acquisition. By examining the cognitive styles and processing mechanisms of technical students, educators can develop more targeted and effective pedagogical strategies. This includes recognizing the role of the left and right hemispheres of the brain in language learning, understanding how students process and store linguistic input and identifying barriers that prevent the transfer of linguistic competence into real-world communication.

This article aims to explore the cognitive and psycholinguistic characteristics of students in technical universities and how these factors influence their approach to learning English. It will identify common barriers to successful language acquisition, analyze the underlying mental processes involved, and propose instructional strategies tailored to their unique learning profiles. The goal is to contribute to the development of a more effective and empathetic language education framework—one that empowers technical students not only to learn English, but to use it confidently and creatively in academic, professional, and intercultural contexts.

1. Psycholinguistic and Cognitive Characteristics of Technical Students

1.1 Logical-Analytical Thinking Style

Students in technical fields typically rely on logical-analytical strategies. They prefer clear rules, structured material, and a systematic approach to learning. This manifests, for instance, in a stronger focus on grammar over communicative practice.

1.2 Tendency toward abstract thinking

Engineering education fosters abstract modeling and structured information processing. However, this can hinder the comprehension of emotionally charged expressions or figurative language in English.

1.3 Preference for visual-logical representation

Students tend to absorb information more effectively when it is presented through charts, tables, and diagrams. Technical learners more easily acquire specialized vocabulary when it is visualized or embedded in a technical context.

2. Psycholinguistic barriers in learning English

2.1 Low level of language intuition

Many technical students struggle in situations requiring quick linguistic responses. This is often due to insufficient automatisation of skills and a desire to be “correct” rather than spontaneous in communication.

2.2 Difficulty in acquiring idiomatic expressions

Due to their logical mindset, students often perceive idioms and phrasal verbs as illogical or opaque, which impedes the development of natural language comprehension.

2.3 Limited communicative flexibility

Technical education does not always contribute to the development of sociolinguistic intuition, which is crucial for effective communication in diverse cultural and conversational contexts.

3. Methodological recommendations

- **Use of Schemes and Algorithms:** Teaching materials based on visual models help students grasp grammar and vocabulary more effectively.

- **Integration of Technical Contexts:** Language material should be introduced through technical topics (e.g., project presentations, manuals, scientific texts).

- **Speech Simulators and Role Plays:** These enhance students' communicative flexibility and intuitive language use.

- **Emphasis on Metacognitive Strategies:** Training students to be aware of their cognitive preferences and to use reflection and self-regulation in the learning process.

Conclusion

The exploration of psycholinguistic and cognitive features of students in technical universities underscores the urgent need for differentiated approaches in English language instruction. These learners possess distinctive mental frameworks shaped by their technical disciplines—frameworks that prioritize logic, structure, and problem-solving. While these traits offer certain advantages in mastering rule-based language components such as grammar and terminology, they simultaneously pose challenges when it comes to intuitive, fluid, and socially adaptive language use.

The overreliance on left-hemispheric processing often leads to a mechanistic perception of language, where meaning is sought through rules and systems rather than context or nuance. As a result, technical students may demonstrate strong passive knowledge but limited active communicative skills. This discrepancy creates a gap between their linguistic competence and their actual communicative performance—particularly in environments requiring quick adaptation, idiomatic comprehension, and intercultural sensitivity.

Moreover, the psycholinguistic barriers experienced by these learners are not solely cognitive in nature but also emotional and motivational. Fear of making mistakes, perfectionism, and anxiety in unpredictable communication settings can impede progress. Without targeted pedagogical intervention, such barriers may persist, leading to a disengaged or inefficient learning experience.

Therefore, it becomes essential for educators to design instruction that not only leverages students' cognitive strengths—such as their analytical reasoning and abstract modeling—but also compensates for their weaknesses by cultivating communicative spontaneity, sociolinguistic awareness, and metacognitive self-regulation. Methods such as task-based learning, contextualized vocabulary development, speech automation exercises, and emotional-cognitive training (e.g., mindfulness in communication) can help bridge the gap between knowledge and performance.

In the broader context of global education and workforce integration, English proficiency for technical specialists is no longer optional—it is a prerequisite for participation in international projects, research collaboration, and industry

innovation. Hence, developing psycholinguistically informed teaching practices is not merely a pedagogical refinement but a strategic necessity.

In conclusion, only by acknowledging and actively addressing the cognitive and psycholinguistic dimensions of technical students can educators fully unlock their potential in English language learning. This approach transforms English not into an abstract academic requirement, but into a functional, applicable tool for personal, academic, and professional development in the global knowledge economy.

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SOYANING SUV ALMASHINUV XUSUSIYATLARI

***Annotatsiya:** Mazkur maqolada soya o'simligining turli navlari barglarining suv saqlash xususiyati hamda bu ko'rsatkichning o'simlik rivojlanish fazalariga bog'liqligi yoritilgan. Shuningdek, qurg'oqchilik, sho'rlanish, yuqori harorat kabi ekologik stress omillari o'simliklarning fiziologik jarayonlariga qanday ta'sir ko'rsatishi ilmiy asosda bayon etilgan.*

***Kalit so'zlar:** soya, qurg'oqchilik, ekologik stress, transpiratsiya, suv saqlash xususiyati, rivojlanish fazasi, fiziologik moslashuv*

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WATER EXCHANGE CHARACTERISTICS OF SOYBEAN

***Abstract:** This article discusses the water retention capacity of soybean leaves across different growth stages and its dependence on environmental conditions. It provides a scientific explanation of how drought, salinity, and high temperatures as ecological stress factors affect physiological processes in plants. The water-holding capacity of soybean leaves is considered a key indicator in assessing the ecological resilience of cultivars.*

***Keywords:** soybean, drought, ecological stress, transpiration, water retention capacity, growth stage, physiological adaptation*

Insoniyatning global muammolaridan biri – oziq-ovqat taqchilligi muammosini hal qilishda madaniy o'simliklarning cheklovchi ekologik omillar ta'siriga chidamliligini oshirish yo'llarini izlash bilan bog'liq. Qurg'oqchilik o'simlik organizmi uchun eng ko'p uchraydigan stress omillaridan biri bo'lib, uning ko'pgina fiziologik jarayonlarini o'zgartiradi[1; C. 26-37].

Hududlarda o'sadigan o'simliklarning suv almashinuvi va suv ta'minoti masalalari, shuningdek qurg'oqchilik, sho'rlanish va yuqori haroratning salbiy

ta'siri hozirgi vaqtgacha yetarli darajada o'rganilmagan. Ushbu muammoni o'rganishning o'ziga xos qiyin tomonlari shundan iboratki, bunda o'simliklarga bu kabi stress omillar ko'pincha birgalikda ta'sir qiladi. Tuproqda to'plangan tuzlar tuproq eritmasining osmotik bosimini oshiradi, qurg'oqchilik esa ildiz tizimi orqali suvning kirishini qiyinlashtirsa, yuqori harorat va garmisel (shamollar) fiziologik va biokimyoviy jarayonlarni o'zgartirib, o'simliklar tanasida suv tanqisligini keltirib chiqaradi[2; 132-b.].

Ba'zan tuproqda tuzlarning to'planishi fiziologik qurg'oqchilikning paydo bo'lishiga ham sabab bo'ladi. Natijada tuproqda suv yetarli bo'lishiga qaramasdan o'simliklarning suv balansida jiddiy o'zgarishlar yuzaga kelib, so'lish alomatlari kuzatiladi va mahsuldorlikning pasayishiga sabab bo'ladi[3; B. 93-96].

Xususan, suv tanqisligi asosiy cheklovchi omil bo'lib, har yili butun dunyo bo'ylab soya ishlab chiqarishni sezilarli darajada kamaytirmoqda. Buning yechimi sifatida A.N. Yusupov va boshqalar genetik resurslarni o'rganish va keyinchalik qurg'oqchilikka chidamli navlarni yaratish qurg'oqchilikka qarshi kurashning muqobil usullaridan biri ekanligini qayd etadi[4; B. 76-82] .

O'simliklarning fiziologik funksiyalari – fotosintez, nafas olish, suv iste'moli, mineral oziqlanish va boshqa omillar o'simlik tup soni bilan bog'liq. Tup soni qalinligiga esa, bevosita yetishtirish texnologiyasi, jumladan ekish muddati, me'yori va usullari, hududning namlik bilan ta'minlanganligi va boshqa omillar ta'sir ko'rsatadi[5; B. 172-174].

Shu bilan birga, unib chiqishdan gullashgacha bo'lgan davrda o'simliklar tuproqdagi namlikning vaqtinchalik tanqisligiga va yuqori havo haroratiga bardosh bera oladi. Namlikka bo'lgan talablar bo'yicha muhim davr - bu gullashning boshidan urug'larni to'ldirishning tugashigacha bo'lgan davr, bu vaqtda soya uchun umumiy suv iste'molining 50-70 % ini talab qiladi. Reprodukativ davr o'simlikda birinchi gul ochilgan paytdan boshlab belgilanadi. O'sishning determinant turiga ega bo'lgan ko'pchilik dukkakli ekinlarda gullashning davomiyligi 25-35 kun davom etadi. Bu davrda namlik tanqisligi o'simlik unumdorligining pasayishiga olib keladi.

Namlik organizmlar hayotida muhim rol o'ynaydi. O'simliklarning suv yetishmasligiga chidamliligini aniqlaydigan fiziologik xususiyatlarini aniqlash eng muhim vazifa bo'lib, uni hal qilish katta nazariy va amaliy ahamiyatga ega. Suvsizlanish protoplazmaning yopishqoqligi va o'tkazuvchanligi, kolloidlarining gidratsiya darajasi va tizimning pH darajasi kabi muhim parametrlarni o'zgartiradi. Bu muqarrar ravishda hujayraning ferment tizimlarining holati va faoliyatida tub o'zgarishlarga olib keladi .

Transpiratsiya o'simliklarda muhim va zarur fiziologik jarayonlardan biri bo'lib, o'simliklarni quruq va issiq ob-havo sharoitida haddan tashqari issiqlik va suvsizlanishdan saqlaydi, shuningdek, suv va suvda erigan moddalarni o'simlik tanasi bo'ylab harakatlanishi, gaz almashinuvida muhim ahamiyatga ega. Yuqori darajada transpiratsiya qiladigan bargning harorati, transpiratsiya qilinmaydigan so'ligan bargdan taxminan 7°C past bo'ladi. Barglarning transpiratsiya faolligi ularning o'simlikdagi joylashishiga, kunning vaqtiga va o'sish fazasiga bog'liq.

Transpiratsiyaning jadalligi atrof-muhitning agroekologik omillariga bog‘liq masalan: havo harorati, tuproq namligi, shamol kuchi, quyosh nuri jadalligi, quruqlik va bargning anatomik tuzilishi, o‘simliklarning o‘sinh davrlari va boshqalar.

Suv almashinuvi o‘simlik hujayrasida gomeostazning asosiy regulyatori hisoblanadi, uning asosiy omillari transpiratsiyaning jadalligi va o‘simlik bargining suv saqlash xususiyatidir. Barglarning suv saqlash xususiyatini o‘rganish nihoyatda muhim, chunki bu ko‘rsatkich suvsizlanishga qarshi turish xususiyatini tavsiflaydi va qurg‘oqchilikka chidamlilik bilan chambarchas bog‘liqdir. Hujayralar, organlar va umuman o‘simlikning suv saqlash xususiyati yetishtirish sharoitiga bog‘liq. Bu ko‘rsatkichga o‘simliklarning oziqlanishi va suv ta‘minoti sharoitlari katta ta‘sir ko‘rsatadi.

Soya navlari barglarining suv saqlash xususiyati vegetatsiya davriga, kun davomida havo haroratiga va tuproq namligiga bog‘liq (1-jadval).

1-jadval

**Soya navlari barglarining suv saqlash xususiyati, %
(barg vazniga nisbatan)**

Soya navlari	Aniqlangan faza				O‘rtacha
	Chinbarg	Shonalash	Gullash	Dukkaklash	
Mo‘tadil namlik (70-80-70 %)					
“Baraka”	63,9±0,72	62,4±0,58	59,9±0,46	58,6±0,44	61,2
“Vilana’	61,8±0,68	60,7±0,33	59,4±0,48	57,1±0,61	59,8

Suv saqlash xususiyatining eng yuqori ko‘rsatkichining eng past ko‘rsatkich “Vilana” navining dukkaklash fazasida kuzatilib, 57,1±0,61 % ni tashkil etdi. Eng yuqori ko‘rsatkich esa “Baraka” navining chinbarg fazasida kuzatilgan bo‘lib, bunda 63,9±0,72 % ni tashkil etdi.

Xulosa qilib aytganda, soya navlari barglarining suv saqlash xususiyati o‘simlikning rivojlanish fazalari bo‘yicha kamayib boradi.

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HUMAN CAPITAL AND MANAGEMENT EFFICIENCY IN SOCIOLOGY: THEORETICAL AND PRACTICAL ANALYSIS

Abstract. *This article focused on the theoretical analysis of the approach to ensuring the effectiveness of management on the basis of human capital in sociology, the sociological study of the concept of human capital in social development, the aspects of its development as a social phenomenon, and the problem of human capital as a socio-cultural phenomenon. Also, the trends of human capital growth are studied and conclusions are given.*

Key words: *human, human capital, social phenomenon, socio-economic, management, violence, society.*

Introduction:

Today, international organizations and communities prioritize the development of human capital. This is because sustainability in socio-economic sectors is no longer dependent on raw materials or goods but is fundamentally linked to the long-term socio-economic growth of society, which hinges on the advancement of the population's "human capital."

First and foremost, in today's world, humans—along with their talents, abilities, knowledge, skills, and qualifications—have become the cornerstone of societal prosperity and a nation's economic development. In sociology, the study of human capital is considered a unique social phenomenon. This is because developed countries place significant emphasis on the quality of life of their populations, the management of human resources, the human factor, and human values.

Today, the goal of the New Uzbekistan Strategy is to ensure that our country secures its place among the world's most advanced, stable, and democratic nations with high human capital—where happy and talented citizens live in peace, and the principles of social justice and equality are fully realized. Uzbekistan actively promotes cooperation in various fields, primarily the enhancement of human capital and human values, the construction of a prosperous state, democratic reforms, the advancement of business, investments, and innovations, cultural exchanges, and the expansion of many other areas [1;464].

Human capital includes several socio-biological concepts and directs it to society. The components of population include demographic, health, housing, education, cultural, moral-ethical, and informational accessibility aspects. Each of these designated components functions as capital, corresponding to necessary social activities and functional imperatives. Additionally, it is possible to distinguish various competency types that serve human capital. In the explanatory dictionary of the Uzbek language, "human" refers to mankind, humanity, while "capital" is derived from the German word "capital" and the Latin "capitalis," meaning "wealth

used for self-multiplication, bringing benefit and income to its owner," representing a set of resources and means [2].

The theory of "human capital" was primarily formed in the 1960s based on economic sciences, but its roots trace back to ancient times. Since antiquity, representatives of all economic schools, starting from the economic teachings of ancient Asia and ancient Greece, have sought to study the causes of surplus value and how to increase it. For example, the laws of the Babylonian king Hammurabi (1792–1750 BCE) are considered the world's first legal code, addressing issues such as property betrayal, wage labor relations, payment of wages and their amounts, and legal protection of producers. From this, we can see that special attention was paid to human capital even in ancient times. The concept of human capital was mainly developed in economic sciences.

However, its sociological content also holds great importance, as it is regarded as a crucial factor in the stable functioning of social structures, social equality, and social institutions. From a sociological perspective, we evaluate human capital as the aggregate of individuals' knowledge, skills, health, and cultural values, which becomes a fundamental resource in enhancing the efficiency of social systems.

Although human capital primarily plays a significant role in improving the efficiency of social systems through individuals' knowledge, skills, qualifications, and social values, modern management approaches based on human capital also contribute to economic efficiency, social stability, and strengthening social relations. According to sociological theories, human capital not only reflects individual competencies but also serves as a fundamental factor in strengthening social networks and social trust within society. A high level of human capital in the management system lays the groundwork for the effective functioning of social institutions and the expansion of social cooperation.

In the process of improving management efficiency, policies and strategies aimed at developing human capital—such as the education system, professional training, healthcare, and social protection systems—play a key role. These factors strengthen the social foundation of management and ensure the efficient management of human resources.

Moreover, in sociology, the interconnectedness of human capital and social capital also directly impacts management efficiency. Sociological approaches highlight the importance of human capital not only from an economic benefit perspective but also in terms of social unity, cooperation, and cultural exchange. Beyond this, when utilizing the concept of human capital, we consider mechanisms to enhance human competencies as integral components of social processes, thereby increasing the role of the human factor and subjective agency in social development. This includes activating investments in economic, moral, cultural, educational, and upbringing spheres necessary for human development.

In this regard, Professor M. Bekmurodov states the following about elevating human capital in society: "Human capital means enhancing and strengthening the

capabilities of every individual. This requires amplifying the biological, psychological, and intellectual competencies inherent in each person.

For this process to be mature and robust, it must be built on a scientific foundation. In other words, it is essential to create theoretical and empirical bases for improving human capital, develop social mechanisms to involve Uzbekistanis in social and labor activities and real societal governance, and ensure transparency in expressing individual interests" [3]. At the same time, the scholar emphasizes the need to focus on the following aspects to elevate human capital.

For instance, "If human capital is not active, no grand task facing our nation can be accomplished. In activating human capital, the social status of each individual holds significant importance. Therefore, in human development, special attention must be paid to the following aspects: patriotism, knowledge and skills, responsibility, conscience and enlightened faith, a modern worldview, the desire and spirit to satisfy people, noble goals, national values, social aspirations, behavior, role models, the scope and capability of human capital, social status among people, reputation, and place in the spiritual environment of the community, among others" [4].

The theory of human capital is a highly complex and multifaceted concept, which is why its essence is being extensively researched by economists such as K.H. Abdurakhmanov, J.H. Ataniyazov, T. Jalilov, D. Rakhmonov, and B. Usmonov in the field of economic sciences.

Among sociologists, the ethno-sociological aspects of human capital issues within the framework of national mentality have been studied by M. Bekmurodov, socio-cultural factors by A. Umarov, and the importance of social capital in improving the quality of life of the population by H. Akramov.

Human capital was established as an independent theory in the 1960s by professors T. Schultz and G. Becker from the University of Chicago.

Regarding this, Becker states that human capital is the stock of knowledge, skills, and motivations present in every individual. It is formed through investments in humans, such as education, training, healthcare, migration, and information about prices and income, in the form of long-term capital [5;314]. Education, accumulation of production experience, healthcare, and information-seeking constitute investments in human capital. Education and training increase an individual's level of knowledge, thereby expanding the volume of human capital. Healthcare reduces illness and mortality, extending an individual's service period. Migration and information-seeking enable labor to move to sectors and areas where human capital is valued higher and more fully compensated.

The works of G. Becker, T. Schultz, and their followers revolutionized labor economics. The theory of human capital shed light on many issues, such as the distribution system of personal incomes, income dynamics by age, wage disparities between men and women, and the causes of migration. Some economists define human capital as "the stock of knowledge, abilities, and motivations present in every individual" [6.362]. It emerges as capital because it is a source of future income. It is called human capital because it is unique to humans and inseparable from them.

Uzbek scholars B.Sh. Usmonov, M.K., Kodirov, Zh.D. Eltazarov define "human capital" as a socio-economic, political-philosophical concept (term), which includes the following aspects of an individual:

- Fundamental and practical knowledge, experience, skills, and the ability to approach natural and social phenomena, events, and processes scientifically and logically, as well as the professional level in finding innovative solutions;

- Intellectual property, the ability to produce material and spiritual wealth, and the presence of forces and means that ensure the development of individuals and society;

- Mental labor and high innovative thinking, which determine the standard of living, career growth, and social status and position in society" [7].

Based on conducted research, scholars studying the theory of human capital can be divided into three directions:

- The first direction includes those who recognize human capital as an individual's knowledge, skills, and qualifications;

- The second direction includes those who, while accepting the ideas of the first direction, additionally consider an individual's abilities, health, motivation, activity, and other socio-psychological characteristics;

- The third direction includes those who consider human capital as an object of investment. It is known that investments in human capital are also very important within the family, as the formation and growth of human capital are directly linked to the family's financial investment in their child. On one hand, a child is a source of satisfaction (joy) for parents, while on the other hand, raising a child involves both explicit and implicit costs.

The accumulation of intellectual and psychophysiological abilities within the family serves as the foundation for the future development and improvement of human capital. Investments made for the development of children's human capital not only benefit their own growth but also form the basis for the development of future generations' human capital. Various types of human capital are shaped through education and upbringing in families. Basic psychophysiological and mental abilities emerge, and the individual's personality is formed. The goal of the policies being implemented in our country today is precisely this, which is no secret to anyone.

Today, the World Bank has announced the Human Capital Index for 174 countries for the year 2020. Data related to healthcare and education in our country were included. Key indicators of children's health and education were collected before the pandemic period began. According to research results, Uzbekistan, with a 62% score, ranks after Belarus, Russia, and Kazakhstan among CIS countries.

The World Bank's Human Capital Index evaluates a child's development trajectory (from birth to adulthood) based on several key indicators:

- Survival probability (from birth to age 5);
- Expected years of schooling adjusted for the quality of primary and secondary education;
- Percentage of children with stunted growth;

- Adult survival rate.

Additionally, today, the Green Economy Index has been studied by the UN in 105 countries. The Green Economy Index measures achievements related to economic opportunities, social and environmental protection. This index includes 13 indicators reflecting challenges in transitioning to an inclusive green economy (energy consumption, air pollution, protected areas, gender inequality, green trade, renewable energy sources, Palm coefficient, environmental patents, life expectancy, average years of education, pension provision, and its utilization).

Sustainable Society Index. The Sustainable Society Foundation studied 154 countries. The Social Resilience Index reflects a country's current resilience index. It is based on 21 indicators, grouped into seven categories (basic needs, health, personal and social development, natural resources, climate and energy, transition period, and economy).

These indices are based on three dimensions (human, ecological, and economic well-being). Through such indices, we assess the well-being levels of countries today.

Within the scope of the studied topic, it was concluded that indices compiled by international organizations, public funds, research institutes, and other influential organizations do not always fully reveal the socio-economic level of society. Challenges and shortcomings in determining the development level of human capital include the neglect of ecological factors, societal mentality, and the spiritual and educational development processes of individuals.

The development and formation of human capital are achieved through investments. Based on conducted research and studied theoretical data, a SWOT analysis was performed to identify strengths, weaknesses, opportunities, and threats.

Strengths – identifying and evaluating the leading aspects and advantages of human capital development.

Weaknesses – factors hindering the effective development of human capital.

Opportunities – state strategies aimed at human capital development, created favorable conditions, and utilizing existing socio-economic infrastructure.

Threats – factors negatively impacting the formation and development of human capital.

The SWOT analysis provides an opportunity to identify the balance between the positive and negative aspects of investments directed toward human capital, as well as their social characteristics.

Thus, based on the above-emphasized and explained ideas, the following conclusion can be drawn. Human capital in society manifests the universal human values of humanity, based on the health, abilities, and needs created, produced, and enhanced by the individual themselves. All the signs that are interpreted as a factor serving the capital base are among them.

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SURXONDARYO VILOYATI IJTIMOIIY – IQTISODIY RIVOJLANISHIDA IQTISODIY GEOGRAFIK O'RNINING ASOSIY XUSUSIYATLARI

Annotatsiya: Ushbu maqolada Surxondaryo viloyatining iqtisodiy-geografik o'rni, tabiiy va ijtimoiy-iqtisodiy xususiyatlari tahlil qilingan. Viloyatning relyefi, iqlimi, balandlik mintaqalari, suv resurslari, qishloq xo'jaligi va sanoat salohiyati, shuningdek, iqtisodiy rivojlanish darajasi yoritilgan. Tadqiqotda Surxondaryo viloyatining O'zbekiston iqtisodiy tizimidagi o'rni va mintaqaning tarixiy taraqqiyoti ham ko'rib chiqilgan.

Kalit so'zlar: Surxondaryo viloyati, Iqtisodiy-geografik o'rin, Tabiiy resurslar, Balandlik mintaqalari, Qishloq xo'jaligi, Sanoat salohiyati, Ijtimoiy-iqtisodiy rivojlanish, Sug'orish tizimi, Relyef va iqlim sharoiti.

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MAIN FEATURES OF THE ECONOMIC GEOGRAPHICAL POSITION IN THE SOCIO-ECONOMIC DEVELOPMENT OF SURKHANDARDO REGION

Abstract: This article analyzes the economic-geographical position of the Surxondaryo region, along with its natural and socio-economic characteristics. It covers aspects such as relief, climate, elevation zones, water resources, agricultural and industrial potential, and the level of economic development. The research also highlights the historical evolution of the region and its role within Uzbekistan's economic system.

Keywords: Surxondaryo region, Economic-geographical position, Natural resources, Elevation zones, Agriculture, Industrial potential, Socio-economic development, Irrigation system, Relief and climatic conditions

O'zbekistonning barcha mintaqalari kabi Surxondaryo ham qator o'ziga xos xususiyatlarga ega. Ularning geografik o'rniga aloqador bo'lgan asosiy ko'rsatkichlari mazkur ishning 1.2 bandida o'z bahosini olgan. Unga ko'ra respublika mintaqalari orasida Surxondaryo viloyati eng past reyting ko'rsatkichlari bilan ajralib turadi.

Shu bilan birga tadqiqot obyektining iqtisodiy va ijtimoiy taraqqiyotiga, uning o'ziga xos ishlab chiqarish ixtisosiga tubdan ta'sir ko'rsatadigan muhim tomonlari ham mavjuddir. Ular quyidagilar:

- viloyat respublikaning eng janubida joylashganligi. Shu sababdan uning yozi boshqa mintaqalarga nisbatan ancha issiq va davomli (iyulning o'rtacha harorati $+28^{\circ}+32^{\circ}\text{S}$), qishi esa ancha iliq va qisqa (yanvarning o'rtacha harorati $+1^{\circ}+4^{\circ}\text{S}$) bo'ladi. O'z navbatida, bu agroiklim resurslariga boy bo'lgan o'lkada eng issiqsevar qishloq xo'jalik ekinlarini ekish, ularni erta yetishtirish imkoniyatlari bilan ta'minlaydi .

- relyefining o'ziga xosligi. Surxondaryo relyefining xilma - xilligi bilan alohida ajralib turadi. Uning hududi dengiz yuzasidan balandligi 270 m (janubida) dan 4643 m (shimolidagi Hisor tog' tizmasi) gacha bo'lgan balandliklardan tashkil topgan. Viloyat hududi shimoliy, g'arbiy va sharqiy tomonlaridan baland tog'lar bilan o'ralgan va ulardan kirib keladigan sovuq havo oqimlarini to'sib qolishi mintaqa ijtimoiy hayotida hamisha katta ijobiy rol o'ynab keladi;

- hududining keng darajada vertikal mintaqalanishi. Unda mutloq balandligi 270-600 m bo'lgan tekislik qismi, 600-1000 m bo'lgan maydonlarni egallagan tog' oldi - adirlik qismi va 1000 m dan balandda joylashgan hududlarni o'zida birlashtirgan tog'lik qismlari yaqqol ajralib turadi. Bu balandlik mintaqalari I.Safarovning topo-gipsometrik xaritalar asosida aniqlagan ma'lumotlariga ko'ra, viloyatning umumiy maydoniga nisbatan tekislik qismi hissasiga 36 %, tog' oldi - adirlik qismiga 23 % hamda baland tog'larga 41 % to'g'ri keladi.

- Alohida ta'kidlamochimizki, O'zbekistonning biron iqtisodiy rayonida balandlik mintaqalari Surxondaryochalik ko'rinishga ega emas.

Surxondaryo tabiiy botig'ining pastki voha qismini egallagan tekislik mintaqasida hozirgi vaqtda jami sug'oriladigan maydonlarning 90 % joylashgan. Binobarin, bu mintaqa viloyatning asosiy iqtisodiy tayanchi hisoblanadi. Viloyat aholisining 85 % dan ko'proqi, shahar va sanoat korxonalarining mutlaqo ko'pchiligi ana shu balandlik mintaqasida joylashgan. Tog' oldi - adirlik mintaqasining ayniqsa yuqori - shimoli qismi suv resurslari bilan nisbatan yaxshi ta'minlanganligi sababli azaldan iqtisodiy jihatdan o'zlashtirib kelingan. Hozirgi kunda uning hissasiga jami sug'oriladigan maydonlarning 7 % va aholisining 10 % ga yaqini to'g'ri keladi.

Garchi Surxondaryo hududining 40 % dan ko'prog'i tog' mintaqasiga to'g'ri kelsa-da, uning iqtisodiyoti asosan tabiiy geografik omillar ta'sirida ancha cheklangan. Umumiy sug'oriladigan yer maydonlarining atigi 3 %, jami aholi manzilgohlarining 5 % ga yaqinini ana shu balandlik mintaqasi tashkil etadi.

Yuqorida qayd qilingan balandlik mintaqalari Markaziy Osiyodagi aholi tomonidan o'zlashtirilgan eng qadimiy sivilizatsiya maskanlaridan sanaladigan Surxondaryo o'lkasining ijtimoiy hayotida o'ziga xos ahamiyat kasb etib kelgan. O'lka boshidan kechirgan barcha tarixiy davrlar davomida voha - tekislik mintaqasi boshqa balandlik mintaqalariga nisbatan iqtisodiy - ijtimoiy jihatdan har tomonlama yetakchilik qilgan. O'zbekistonning barcha mintaqalari kabi bu o'lkada ham ariqlar va boshqa sug'orish inshootlaridan foydalanib, hayotiy mahsulotlar

yetishtirishga erishilgan. Hozirgi vaqtda ham faoliyatda bo'lgan Zang kanali shular jumlasidandir.

Surxondaryo viloyatining tog' oldi - adirlik mintaqasi uning tekislik qismini har tomonlama o'rab turishi va asosan janubdan shimolga qarab tobora torayib borishi bilan xarakterlanadi. Shu bilan birga u ayniqsa vohaning janubiy va markaziy qismlarida tabiatning quruq va iqtisodiy jihatdan kam o'zlashtirilganligi bilan ajralib kelgan. Bu balandlik mintaqasi shu sababli ko'proq chorvachilik, shimoliy qismlarigina dehqonchilik va bog'dorchilikka ixtisoslashgan.

Viloyat hududining yarmiga yaqinini egallagan tog' mintaqasi, barcha tog'li hududlarda bo'lganidek, o'ziga xos iqtisodiy - ijtimoiy imkoniyatlarga ega. Relyefi va boshqa tabiiy sharoiti murakkabliklari, albatta, xududni keng doirada o'zlashtirishga imkon bermaydi. Ammo aholi asrlar davomida uning qulay tog' oralig'i botiqlari, yonbag'irlaridan ekinzorlar, bog' mevazorlar va yaylovlar sifatida keng foydalanib kelgan. Shuning uchun qulay tog' oralig'i botiqlari, daryo va soy bo'ylari azaldan Boysun, Poshxurd, Darband, Mochay, Vaxshivor, Sina kabi o'z davrining ancha yirik aholi manzilgohlari shakllangan. Tog'lararo oqib tushadigan Sherobod, Xo'jaipok, Sangardak va boshqa daryolar, Boysun, Vaxshivor, Sina soylarining vodiylarida joylashgan aholi nisbatan zich yashaydigan hududiy tizimlar hozir ham mintaqa ijtimoiy hayotida o'ziga xos o'rin tutadi.

Alohida qayd qilmoq lozimki, Surxondaryo viloyati iqtisodiyoti XX asr boshlarigacha tashqi bozor uchun tovar mahsulotlar ishlab chiqarishga ixtisoslashgan emas edi. Unda aholi, eng avvalo, o'lkaning respublika markaziy rayonlaridan chekkada joylashganligi sababidan, ichki bozor uchungina turli kundalik ehtiyoj uchun zarur bo'lgan mahsulotlarni ishlab chiqargan: g'alla, meva-sabzavot, chorvachilik mahsulotlari, turli ish qurollari, uy - ro'zg'or buyumlari, ayrim mahalliy gazlama turlari va boshqalar. Bunday holatlar mintaqa sifatida Surxondaryo ijtimoiy - iqtisodiy hayotining yaqin o'tmishi ko'rinishlaridir va u bu jihatdan ham O'zbekiston rayonlari orasida yagona bo'lib qolmoqda.

Mamlakatimizning alohida mintaqasi sifatida Surxondaryo viloyati o'zining bir qator iqtisodiy geografik ko'rsatkichlari bilan boshqa viloyatlardan ajralib turadi. Jumladan, u 2023 - yil ma'lumotlariga asosan respublikada egallagan maydoniga ko'ra 6 o'rinda tursa, aholisining soni bo'yicha 8, sanoat mahsulotlari ishlab chiqarish hajmiga ko'ra 10, qishloq xo'jalik mahsulotlari hajmi bo'yicha 7, yalpi milliy mahsulot ishlab chiqarish hajmiga ko'ra 10 o'rinlarni egallaydi. Ishlab chiqarish unumdorligi, infratuzilma, tadbirkorlik va investitsiya, moliya, ijtimoiy rivojlanish, tashqi iqtisodiy faoliyat kabi muhim iqtisodiy va ijtimoiy ko'rsatkichlar tahliliga ko'ra esa Qoraqalpog'iston Respublikasi, Xorazm, Sirdaryo, Namangan, Jizzax viloyatlari bilan birgalikda respublikaning qoloq mintaqalari qatoriga kiradi.

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AHOLI VA HUDUDLARNI FAVQULODDA VAZIYATLARDAN MUHOFAZA TADBIRLARINI TASHKIL ETISH

Annotatsiya: Ushbu maqola aholi va hududlarni favqulodda vaziyatlardan muhofaza qilishga oid tashkil etiladigan tadbirlarni tahlil qiladi. Maqolada favqulodda vaziyatlarning turlari, ularning aholi va infratuzilmaga ta'siri, shuningdek, favqulodda vaziyatlarga tayyorlanish va ularga qarshi samarali himoya tizimlarini yaratish zarurligi haqida batafsil ma'lumot berilgan. Maqola favqulodda vaziyatlar bilan kurashish uchun zarur bo'lgan tayyorgarlik, rejalashtirish, resurslar va texnologiyalarni qo'llash, mutaxassislar va tashkilotlar o'rtasidagi hamkorlikni o'rganishga bag'ishlangan. Shuningdek, maqolada ilgari yuzaga kelgan favqulodda vaziyatlarning tahlili va kelajakda ushbu vaziyatlarga qarshi ko'riladigan choralar hamda ularni hal etish yo'llari ko'rib chiqilgan.

Maqola aholi xavfsizligini ta'minlash, infratuzilma va iqtisodiy tizimni himoya qilish uchun zarur bo'lgan muhofaza tadbirlarini rivojlantirish, xalqaro tajribalardan o'rganish va texnologiyalarni integratsiya qilishning ahamiyatini ta'kidlaydi.

Kalit so'zlar: Favqulodda vaziyatlar, aholi himoyasi, hududlarni himoya qilish, tayyorlik va rejalashtirish, texnogen va tabiiy favqulodda vaziyatlar, muhofaza tadbirlari, evakuatsiya tizimlari, resurslar va texnologiyalar, infratuzilma himoyasi, xalqaro tajribalar, favqulodda vaziyatlar boshqaruvi.

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ORGANIZATION OF MEASURES TO PROTECT THE POPULATION AND AREAS FROM EMERGENCY SITUATIONS

Abstract: This article analyzes the measures to protect the population and territories from emergency situations. It provides a detailed discussion on the types of emergencies, their impact on the population and infrastructure, and the need for the creation of effective protection systems to prepare for and respond to such situations. The article focuses on emergency preparedness, planning, resource management, the application of technologies, and the collaboration between specialists and organizations. It also reviews past emergency events, analyzes their consequences, and discusses the measures to address these situations in the future.

The article emphasizes the importance of developing protection measures to ensure population safety, protect infrastructure and economic systems, learn from international experiences, and integrate modern technologies.

Keywords: *Emergency situations, population protection, territory protection, preparedness and planning, technogenic and natural emergencies, protection measures, evacuation systems, resources and technologies, infrastructure protection, international experiences, emergency management.*

Aholi va hududlarni favqulodda vaziyatlardan muhofaza qilish, bugungi kunda jahonning barcha davlatlarida dolzarb masalalardan biri hisoblanadi. Tabiiy va texnogen favqulodda vaziyatlar tez-tez sodir bo'lib, ulardan inson hayoti, iqtisodiyot va infratuzilma jiddiy zarar ko'radi. Bunday vaziyatlarda hayotni saqlab qolish, resurslarni tejash va to'liq tiklash uchun samarali tizimlar zarur. Mazkur maqolada aholi va hududlarni favqulodda vaziyatlardan himoya qilishga oid tashkil etiladigan tadbirlar va ularning samaradorligi tahlil qilinadi.

Favqulodda vaziyatlar ko'p jihatdan tabiiy va texnogen bo'lib, har birining o'ziga xos tavsiflari va xavflari mavjud. Tabiiy ofatlar, masalan, zilzilalar, toshqinlar, sel va boshqa iqlim hodisalari, insoniyatga katta zarar yetkazadi. Texnogen favqulodda vaziyatlar esa sanoat halokatlari va yadro inshootlaridagi falokatlar kabi hodisalarni o'z ichiga oladi. Bunday vaziyatlarning oldini olish va muhofaza qilish tadbirlarini tashkil etish bugungi jamiyat uchun nihoyatda muhim ahamiyatga ega.

Favqulodda vaziyatlarning turli xil turlari mavjud, va ular har biri turli xil xavflarni keltirib chiqaradi. Tabiiy favqulodda vaziyatlar, masalan, zilzilalar va toshqinlar, odatda kutilmagan tarzda yuzaga keladi va ular aholi va infratuzilmaga katta zarar etkazadi. Zilzilalar yer yuzida sodir bo'lgan silkinishlardir, ular yerning pastki qatlamlaridagi o'zgarishlar natijasida yuzaga keladi va ularning oqibatlari ko'pincha halokatli bo'ladi. Toshqinlar esa, suvning ko'payishi bilan bog'liq hodisalar bo'lib, daryolarning ko'tarilishi yoki kuchli yomg'irlar natijasida sodir bo'lishi mumkin.

Texnogen favqulodda vaziyatlar esa inson faoliyati natijasida yuzaga keladi. Kimyoviy zavodlardagi yong'inlar yoki portlashlar, yadro inshootlaridagi nosozliklar va boshqa sanoat halokatlari, insoniyatga katta xavf tug'diradi. Bunday hodisalar ko'plab odamlarning hayotiga xavf solishi, shuningdek, ekologik va iqtisodiy salbiy oqibatlarga olib kelishi mumkin.

Ijtimoiy favqulodda vaziyatlar ham alohida ahamiyatga ega. Bu turdagi vaziyatlar odatda terroristik hujumlar, urushlar yoki ijtimoiy noroziliklardan kelib chiqadi. Bunday vaziyatlarda nafaqat aholi xavfsizligi, balki jamiyatning barqarorligi ham xavf ostida qoladi.

Aholi va hududlarni favqulodda vaziyatlardan muhofaza qilish uchun samarali tizimlar yaratish zarur. Bunday tizimlarning asosiy maqsadi aholi xavfsizligini ta'minlash, infratuzilmani himoya qilish va favqulodda vaziyatlardan kelib chiqadigan iqtisodiy va ekologik zararlarni kamaytirishdir. Muhofaza tadbirlari, shu bilan birga, infrastrukturani saqlash va tezda tiklashni o'z ichiga oladi.

Favqulodda vaziyatlarga tayyorlanish va ularni boshqarishning asosiy maqsadi, aholini xavf-xatarlarni minimallashtirish orqali saqlab qolishdir. Bunga yordam berish uchun davlatlar va jamoatlar oldindan tayyorlanishi va favqulodda vaziyatlarga qarshi aniq strategiyalarni ishlab chiqishi zarur.

Favqulodda vaziyatlarga tayyorlik va ularni boshqarish, muvaffaqiyatli himoya tadbirlarini amalga oshirishning muhim bosqichidir. Har bir hududda favqulodda vaziyatlar uchun oldindan tayyorlangan reja bo'lishi kerak. Bu reja, nafaqat favqulodda vaziyatlarni oldini olish, balki yuzaga kelgan vaziyatlarda tezkor va samarali choralar ko'rish uchun zarur. Hududiy va milliy darajadagi rejalashtirishning asosiy elementlari, xavfli hududlarni aniqlash, resurslarni taqsimlash va evakuatsiya jarayonlarini rejalashtirishdan iborat.

Aholini ogohlantirish tizimlari, favqulodda vaziyatlar yuzaga kelganidan oldin odamlarni xavotirga solmasdan, ular uchun kerakli choralar ko'rishga imkon beradi. Tizimlar, radiolar, telefon orqali ogohlantirishlar va hatto mobil ilovalar yordamida aholi xavfsiz hududlarga o'z vaqtida evakuatsiya qilinishi mumkin.

Favqulodda vaziyatlarga tayyorlanish va muhofaza tadbirlarini tashkil etishning asosiy tamoyili tizimli yondashuvni ta'minlashdir. Har bir qadamni rejalashtirish, ehtiyot choralarini ko'rish va zarur resurslarni oldindan tayyorlash favqulodda vaziyatlarga tezkor javob berishga yordam beradi.

Bundan tashqari, favqulodda vaziyatlarni boshqarish uchun turli mutaxassislar va tashkilotlar o'rtasida samarali hamkorlik bo'lishi lozim. Favqulodda vaziyatlar uchun zarur bo'lgan resurslar, masalan, tibbiy yordam, oziq-ovqat va boshpana tizimlari allaqachon tayyor bo'lishi kerak. Bu resurslarni samarali taqsimlash va muhtojlarga tez yetkazib berish juda muhimdir.

Favqulodda vaziyatlarga qarshi tayyorlanishda zarur resurslar va texnologiyalar muhim rol o'ynaydi. Yangi texnologiyalar, masalan, dronlar, sun'iy intellekt va GPS tizimlari, favqulodda vaziyatlar paytida samarali boshqaruvni ta'minlaydi. Dronlar yordamida favqulodda vaziyatlarni kuzatish va zarar ko'rgan hududlarni aniqlash mumkin. Shuningdek, mobil ilovalar va boshqa ogohlantirish tizimlari aholini va tegishli tashkilotlarni o'z vaqtida xabardor qilishda katta yordam beradi.

Bundan tashqari, davlat va xususiy sektorning hamkorligi favqulodda vaziyatlar uchun zarur texnologiyalarni ishlab chiqarish va resurslarni taqsimlashda yordam beradi.

Favqulodda vaziyatlar yuzaga kelgandan keyin, ularni tahlil qilish va o'tgan yillardagi tajribalardan o'rganish zarur. O'tgan voqealar va ularning oqibatlari tahlil qilinib, yangi choralar ishlab chiqilishi kerak. Xalqaro tajribalarni o'rganish va ularni milliy tizimlarga integratsiya qilish, favqulodda vaziyatlarga tayyorlikni yanada mustahkamlashga yordam beradi.

Favqulodda vaziyatlarga tayyorlanishda ba'zi muammolar mavjud. Resurslar yetishmasligi, zarur infratuzilmaning yo'qligi yoki boshqaruvning samarali emasligi kabi muammolar oldinga qo'yilgan maqsadlarga erishishni qiyinlashtiradi. Bu muammolarni hal qilish uchun innovatsion texnologiyalarni qo'llash, resurslarni to'g'ri taqsimlash va zarur hujjatlarni tayyorlash zarur.

Favqulodda vaziyatlardan himoya qilish tadbirlari aholi va hududlarni saqlab qolishda katta ahamiyatga ega. Samarali tayyorlanish va tizimli boshqaruv orqali favqulodda vaziyatlarda ko'rsatilgan yordam va himoya darajasi sezilarli darajada yaxshilanadi. Biroq, bunday tizimlarni doimiy ravishda yangilab borish, yangi texnologiyalarni qo'llash va xalqaro tajribalardan o'rganish zarur. Aholi va hududlarni favqulodda vaziyatlardan himoya qilishning ahamiyati kelajakda yanada ortib borishi kutilmoqda.

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WAYS TO IMPROVE RISK MANAGEMENT IN PAYMENT SYSTEMS

Annotation. *This article analyzes various methods for classifying risk management tools for payment systems. A unified scheme of the main directions of classifying risk management methods specific to payment systems has been developed. The main goal of this study is to correctly assess and manage risks in the developing payment systems market today. Also, this article systematically analyzes ways to improve risk management in payment systems and develops the necessary recommendations and conclusions.*

Keywords. *Payment system, risk management, classification, systematization, method.*

Establishing a highly efficient system of monetary circulation and using modern payment mechanisms is a prerequisite for the development of the country's economy.

housing sector requires confidence in the timely and correct fulfillment of payment obligations.

Cash flow disruptions negatively impact material production, which serves as the basis for the formation of the financial resources of the entire country.

In the modern economic system, every day economic participants carry out numerous transactions for the exchange of goods, services and financial assets, which, in turn, are carried out through monetary settlements. The effectiveness of the functioning of the national economic mechanism depends on the uninterrupted, fast and secure implementation of payments and settlements in payment systems.

Scientific and technological progress is triggering the process of changing payment and settlement relations in the country. Forms and methods of payment, payment instruments are changing, the latest information technologies are being introduced to increase the speed, reliability and quality of payment services provided, and reduce transaction costs of payment operations. At the same time, the rapid development of this industry leads to an increase in the risks inherent in payment systems.

The new legislation on the payment system of the Republic of Uzbekistan strengthens the requirements for the procedure for ensuring the continuity of the operation of payment systems, the risk management system, as well as general aspects of regulation and supervision.

One of the main components of the procedure for ensuring the continuity of payment systems developed by the payment system operator is the selection of appropriate tools for managing payment system risks.

Discussion and results

Currently, in economic practice, a wide variety of methods are used to manage the risks of payment systems.

At the same time, the study showed that there is no clear logical systematization of the methods used.

, it is proposed to consider risk management methods from two perspectives to form a classification:

- risk management methods used by international financial organizations;
- risk management methods given in scientific literature.

Below, we will examine these aspects in more detail.

The methodology used by the Bank for International Settlements distinguishes two main groups of methods for managing payment system risks: analytical and operational procedures.

Analytical procedures involve continuous monitoring and analysis of the risks to which participants are exposed to the system.

Operational procedures involve the implementation of risk management decisions, such as setting credit limits for positions at risk, managing transaction queues,¹ etc.

In the materials of the Bank of Finland on the regulation and control of payment system risks, risk management mechanisms are grouped according to the areas of the risk minimization strategy: areas of settlement organization, creation of payment system rules, organization of self-regulation, security,² etc.

¹Regulirovanie i kontrol riskov platejnyx system — Finnish perspective. Platezhne i raschetne sistemy. Mejdunarodnyi opyt. Central Bank of the Russian Federation. Vyp. 19. 2009. URL: <http://www.cbr.ru/publ/PRS/prs19.pdf> (Russian)

²Regulirovanie i kontrol riskov platejnyx system — Finnish perspective. Platezhne i raschetne sistemy. Mejdunarodnyi opyt. Central Bank of the Russian Federation. Vyp. 19. 2009. URL: <http://www.cbr.ru/publ/PRS/prs19.pdf> (Russian)

A distinctive feature of the Bank of England's approach to classifying the risks of payment systems and their management tools is a detailed analysis of the main business processes of payment system participants,

as well as the distinction between risk subjects (settlement participant, payment agent, system component) and three main types of risk of disruption of the functioning of the payment system: settlement, business and operational ³.

One variant of the classification of payment system risk management methods in the materials of the Committee on Payment and Settlement Systems of the Bank for International Settlements presents the risk of disruption of the uninterrupted operation of the payment system from a structural point of view according to the system of risk types:

- credit risk management methods (use of systems with zero credit risk; access criteria; credit limits for maximum amounts at risk, etc.);
- liquidity risk management methods (payment sequence management; setting limits on positions; collateral; use of hybrid systems, etc.);
- operational risk management methods.

The operational risk management methods described in the Bank for International Settlements guidelines, in turn, are divided into three areas: ensuring operational reliability, ensuring security, and ensuring the uninterrupted operation of the payment system ⁴.

In the process of analyzing mechanisms for managing this type of risk in payment systems, such as operational, it is recommended to refer to materials devoted to the analysis of operational banking risk.

The Central Bank of the Russian Federation has grouped these types of risk management methods into the following main sections: Stages of operational banking risk management: identification, assessment, monitoring, control and risk minimization ⁵.

In this arrangement, the use of business continuity mechanisms acts as a general measure to limit operational risk.

Below, we will consider the most common approaches to classifying payment system risks found in the scientific literature.

In the works of EV Kurdyumova, the three main components of an integrated risk management system for payment systems are analyzed: organizational (institutions and bodies), information (collection and analysis of information on the state of risks) and methodological (risk management policy, risk assessment methods) elements.

³ Risk-orientirovannaya methodology monitoring of payment systems. Nbludenie Banka Anglii za mejbankovskimi payment sistema v sootvetstvii s "Law on banking" telnosti" in 2009. Competition and regulirovaniev evropeyskikh roznichnyx paymentjnyx sistemax // Payment and raschetnye sistemy. Mejdunarodnyi opyt. Central Bank of the Russian Federation. Vyp. 27. 2011. URL: <http://www.cbr.ru/publ/PRS/prs27.pdf>

⁴ Klyuchevye principy dlya sistemno znachimyx payment system. Komitet po payment i raschetnym sistema Banka medunarodnykh raschetov // Payment i raschetnye sistemy. Mejdunarodnyi opyt. Central Bank of the Russian Federation. Vyp. 23. 2010. URL: <http://www.cbr.ru/publ/PRS/prs23.pdf>

⁵ O svoevremennosti osushchestvleniya raschetov po korrespondentskim schetam i merah po upravleniyu riskami pri osushchestvlenii raschetov: pismo Banka Rossii No. 18-T dated 08.02.2010.

In his scientific work, he also identifies two levels of risk management: microlevel (individual credit institutions, associations and unions) and macrolevel (government bodies, auditing, consulting firms, investors, etc.) ⁶.

Also, bank risk management methods can be classified into four areas: localization, distribution (distribution), risk avoidance and compensation ⁷. This scheme can be used to create a risk classification of payment systems.

In his scientific work, researcher NV Zhukov analyzes the methods of managing credit risk and liquidity risk in settlement and clearing systems used by central banks of different countries. The scientist also adds to the list of risk management methods the establishment of criteria for selecting participants according to their financial reliability and technical equipment. Analyzing the means of limiting the maximum permissible risks of payment systems, he determines the limits regulating the individual net credit positions of banks and debit limits for the system as a whole. He also describes in detail the methods of managing operational risks (the use of double-entry technology, identity control) and methods of managing fraud risks (data encryption technology, access restrictions, two-way control, password protection) [6].

LI Khomyakova analyzes the methods of risk management of payment systems based on the principle of systematization of the risk of disruption of the uninterrupted operation of the payment system. The researcher analyzes each type of credit risk, liquidity risk, as well as operational and currency risk, and risk management methods in turn ⁸.

A distinctive feature of this approach is the separation of methods for managing currency risks.

A distinctive feature of the SV Krivoruchko approach is a careful formulation of the risks of disrupting the uninterrupted operation of the payment system and the identification of risk management tools for each specific type (subtype) of risk ⁹.

In her scientific work, AS Obaeva considers methods for managing payment system risks in two groups depending on the type of system (net and gross settlements). Studying the net settlement system, she analyzes the Lamfalussi standards ¹⁰.

Based on the comparative analysis conducted, it is possible to compile a unified scheme of the main areas of classification of risk management mechanisms inherent in payment systems, shown in Figure 1.

⁶Kurdyumova E.V. Nekotorye aspekty po stroeniya complexnoy sistemy management riskami v payment system // Fundamentalnye issledovaniya. 2007. No. 6. S. 36-40.

⁷Sokolinskaya N.E. Creation of an effective system of complex and internal control for banking risk // Accounting and banking. 2000. No. 7. S. 33-39.

⁸Khomyakova L.I. Upravlenie riskami v platezhnyx sistemax // Bankovskoe delo. 2008. No. 9. S. 81-89.

⁹Krivoruchko S.V. Reformirovanie payment system and financial integration: the role of central bank. M.: BDTs-press, 2006.

¹⁰Obaeva A.S. Teoreticheskie aspekty postroeniya i razvitiya platezhnoy sistemy. SPb.:Izd-vo Saint-Peterb. un-ta ekonomiki i finansov, 1996. 159 p.

An option for classifying risk management methods for payment systems, built on the basis of the classification of bank risk management methods, is also proposed.

This classification method is of practical importance when the payment system operator is solving the problems of changing the risk management system and developing a procedure for ensuring the uninterrupted operation of payment systems.

In the context of the adoption of new legislation and increased requirements for ensuring business continuity in the country's payment system, designing a risk management system is one of the main tasks facing the payment system operator.

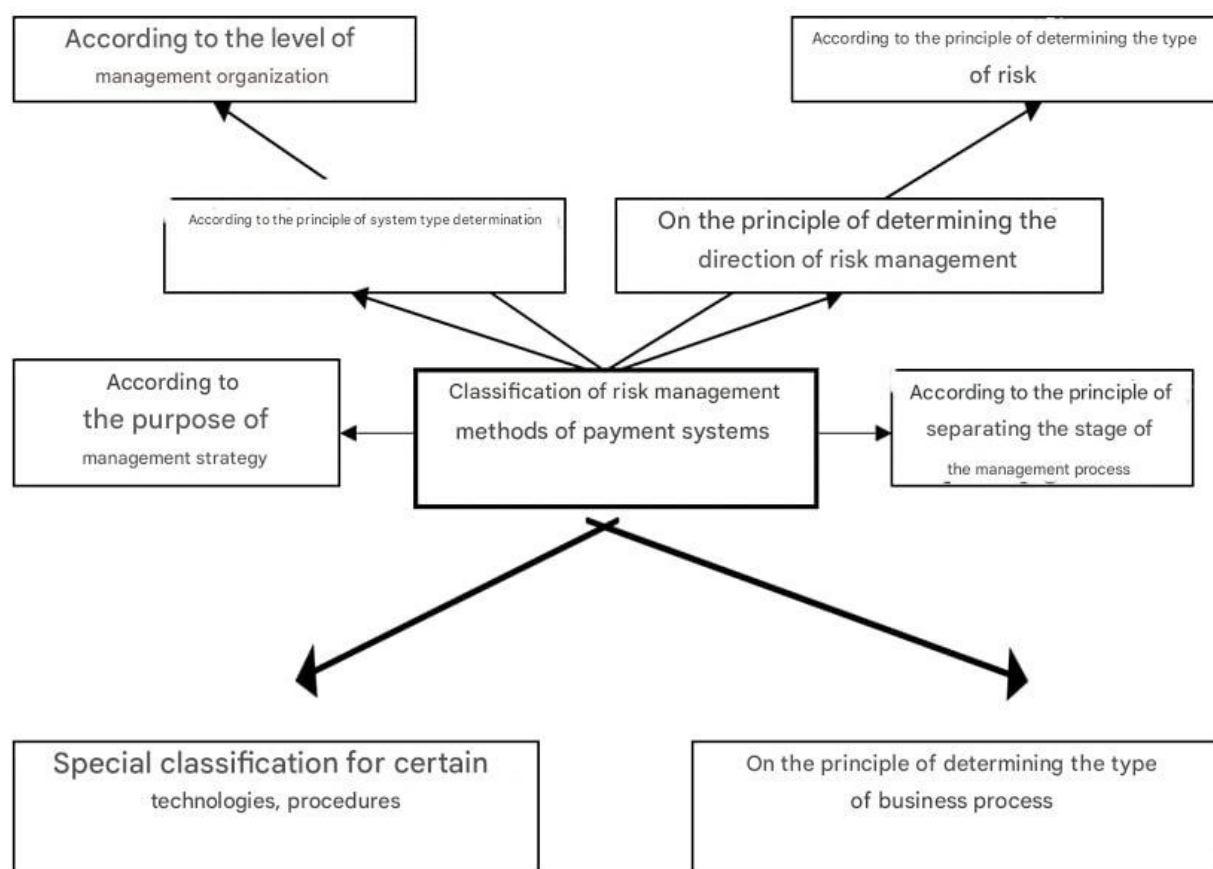


Figure 1. Main approaches to classifying payment system risk management methods

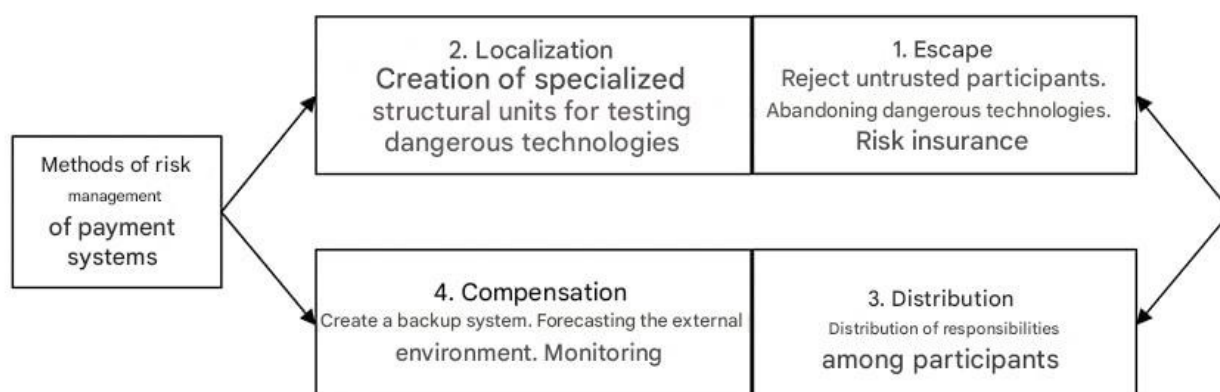


Figure 2. Payment system risk management methods based on the classification of bank risk management methods

Conclusion

Depending on the strategy being implemented and the task being solved, as well as the specifics of the organization of internal business processes, the payment system operator may use one or another of the approaches we have considered to classify payment system risk management mechanisms.

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SUN'IY INTELLEKT SOHASIDA QO'LLANADIGAN ZAMONAVIY PYTHON KUTUBXONALARI

***Annotatsiya.** Sun'iy intellekt (SI) sohasida Python dasturlash tili juda mashhur, chunki u ko'plab samarali kutubxonalar va vositalarga ega. Quyida sun'iy intellektning turli sohalarida foydalaniladigan zamonaviy Python kutubxonalari haqida batafsil ma'lumot berilgan.*

***Kalit so'zlar.** Sun'iy intellekt (SI), Python dasturlash tili, kutubxonalar, vositalar, TensorFlow, GPU, TPU, Keras, PyTorch, Scikit-learn, Pandas, OpenCV, NLTK (Natural Language Toolkit), XGBoost.*

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MODERN PYTHON LIBRARIES USED IN ARTIFICIAL INTELLIGENCE

Annotation. *The Python programming language is very popular in the field of Artificial Intelligence (AI) because it has many effective libraries and tools. Below is a detailed description of modern Python libraries used in various areas of AI.*

Keywords. *Artificial Intelligence (AI), Python programming language, libraries, tools, TensorFlow, GPU, TPU, Keras, PyTorch, Scikit-learn, Pandas, OpenCV, NLTK (Natural Language Toolkit), XGBoost*

TensorFlow — bu Google tomonidan ishlab chiqilgan ochiq manbali kutubxona bo'lib, asosan chuqur o'rganish (deep learning) va sun'iy neyron tarmoqlarini yaratish va o'rgatishda ishlatiladi. U keng ko'lamli ma'lumotlar to'plamlarida ishlash uchun optimallashtirilgan.

- Asosiy xususiyatlari:
 - Chuqur o'rganish, neyron tarmoqlari va kompyuter ko'rish sohalarida keng qo'llaniladi.
 - Yaxshi parallelizatsiya imkoniyatlari va GPU va TPU yordamida tez ishlash imkoniyati.
 - TensorFlow Lite va TensorFlow.js kabi mobil va veb-illovalar uchun versiyalar.

- Qo'llanilish sohalari:
 - Natural language processing (NLP)
 - Kompyuter ko'rish (CV)
 - O'z-o'zini o'rgatish (Reinforcement learning)

Keras — bu yuqori darajadagi neyron tarmog'i API'si bo'lib, TensorFlow yoki Theano kabi backend tizimlaridan foydalanadi. Keras oddiy va tezkor tajriba o'rganishni amalga oshirish uchun ideal kutubxona hisoblanadi.

- Asosiy xususiyatlari:
 - Foydalanuvchilarga yuqori darajadagi API orqali neyron tarmoqlarini yaratish imkoniyatini beradi.
 - TensorFlow bilan birga ishlaydi.
 - Chuqur o'rganish modellari va tarmoqlarini yaratish uchun oddiy va samarali vosita.

- Qo'llanilish sohalari:
 - Sun'iy intellekt tizimlarini tezkor ishlab chiqish.
 - Modelni sinovdan o'tkazish va optimallashtirish.

PyTorch — bu Facebook tomonidan ishlab chiqilgan ochiq manbali kutubxona bo'lib, u chuqur o'rganish, neyron tarmoqlarini yaratish va tadqiqotlar uchun juda mos keladi. PyTorchda dinamik hisoblash grafigi ishlatiladi, bu esa kodni tuzish va tuzatishni juda osonlashtiradi.

- Asosiy xususiyatlari:
 - Dinamik hisoblash grafigi (eager execution) yordamida tezroq va samarali prototiplash.
 - GPU hisoblash imkoniyatlari mavjud.
 - Keng tarqalgan ma'lumotlar to'plami va dasturiy ta'minot imkoniyatlari.

- Qo'llanilish sohalari:

- Chuqur o'rganish.
- Natural language processing (NLP) va kompyuter ko'rish.
- O'z-o'zini o'rgatish (Reinforcement learning).

Scikit-learn — bu klassik mashinalarni o'rganish (machine learning) algoritmlari va metodlaridan foydalanish uchun qulay kutubxona. U regressiya, tasniflash, klasterlash va boshqa ko'plab mashinalarni o'rganish usullarini qo'llab-quvvatlaydi.

- Asosiy xususiyatlari:

- Keng doiradagi mashinalarni o'rganish algoritmlarini taklif etadi.
- Ma'lumotni oldindan tayyorlash va modelni baholash uchun vositalar mavjud.

- Prototiplash va tezkor model yaratish uchun juda yaxshi.

- Qo'llanilish sohalari:

- Klassifikatsiya va regressiya vazifalari.
- Ma'lumotlarni tahlil qilish va modellash.

Pandas — bu ma'lumotlarni tahlil qilish va qayta ishlash uchun mo'ljallangan kutubxona. Pandas orqali ma'lumotlar to'plamlarini yuklash, ularni filtratsiya qilish, ajratish va boshqa ko'plab operatsiyalarni amalga oshirish mumkin.

- Asosiy xususiyatlari:

- Ma'lumotlar bazasini ishlov berish va to'plash.
- DataFrame ob'ektlari orqali ma'lumotlar bilan ishlash.
- Statistik tahlil qilish va vizualizatsiya qilish imkoniyatlari.

- Qo'llanilish sohalari:

- Ma'lumotlarni to'plash, tahlil qilish va qayta ishlash.
- Sun'iy intellekt modellari uchun ma'lumotlar tayyorlash.

OpenCV — bu kompyuter ko'rish va tasvirni qayta ishlash sohasida keng qo'llaniladigan kutubxona. U real vaqtda tasvirlarni qayta ishlash, ob'ektlarni aniqlash, yuzni tanish va boshqa ko'plab ko'rish texnologiyalarini qo'llab-quvvatlaydi.

- Asosiy xususiyatlari:

- Raqamli tasvirni tahlil qilish va qayta ishlash.
- Ob'ekt aniqlash, yuzni tanish, video va tasvirlarga ishlov berish.
- Kamera va video oqimlaridan foydalanish imkoniyatlari.

- Qo'llanilish sohalari:

- Kompyuter ko'rish (CV).
- Ob'ekt aniqlash va yuzni tanish.

NLTK — bu tabiiy tilni qayta ishlash (NLP) uchun mo'ljallangan kutubxona. U matnni tahlil qilish, tilni tushunish, lemmatizatsiya va boshqa ko'plab tabiiy tilni qayta ishlash jarayonlarini amalga oshiradi.

- Asosiy xususiyatlari:

- Tabiiy tilni qayta ishlash uchun keng kutubxona va vositalar to'plami.
- Matnni tozalash, lemmatizatsiya va grammatika analizi.
- NLP vazifalari uchun maxsus kutubxonalar.

- Qo'llanilish sohalari:
 - Tabiiy tilni qayta ishlash (NLP).
 - Matnni tahlil qilish, sentiment tahlili va so'zlarni tasniflash.

XGBoost — bu ma'lumotlarni klassifikatsiya qilish va regressiya qilish uchun optimallashtirilgan gradientni kuchaytirish algoritmi. U tezligi va samaradorligi bilan mashhur bo'lib, ko'plab mashhur musobaqalarda yuqori natijalar ko'rsatgan.

- Asosiy xususiyatlari:
 - Kengaytirilgan gradientli kuchaytirish algoritmi.
 - O'rganish jarayonida yuqori samaradorlik va tezlik.
 - Doimiy optimizatsiya va yaxshilanish imkoniyatlari.
- Qo'llanilish sohalari:
 - Klassifikatsiya va regressiya vazifalari.
 - Kaggle va boshqa ma'lumotlar musobaqalarida ishlatiladi.

Sun'iy intellekt va mashina o'rganish sohasida Python kutubxonalari juda keng va turli sohalarda ishlatiladi. Har bir kutubxona o'ziga xos vazifalarni hal qilish uchun mo'ljallangan va ma'lum bir sohada eng yaxshi natijalarni taqdim etadi. Yangi boshlovchilar va tajribali dasturchilar uchun bu kutubxonalar samarali vositalar bo'lib, ular yordamida sun'iy intellektni ishlab chiqish, o'rgatish va optimallashtirish jarayonlarini osonlashtiradi.

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ARDUINO PLATFORMASIDAN FOYDALANIB SUV SARFINI HISOBLOVCHI DASTURIY VA TEXNIK TA'MINOT ISHLAB CHIQISH

Annotatsiya. Mazkur maqolada Arduino platformasiga asoslangan holda suv sarfini hisoblovchi dasturiy va texnik ta'minot ishlab chiqish masalasi ko'rib chiqilgan. Qurilma yordamida suvdan foydalanish jarayonini nazorat qilish, resurslarni tejash hamda ekologik barqarorlikka erishish imkoniyatlari tahlil etilgan.

Kalit so'zlar: Arduino, suv sarfi, sensor, ekologik barqarorlik, iqtisodiy samaradorlik.

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DEVELOPMENT OF SOFTWARE AND EQUIPMENT FOR CALCULATING WATER CONSUMPTION USING THE ARDUINO PLATFORM

Abstract. *This article discusses the development of software and hardware for water consumption measurement based on the Arduino platform. The possibilities of controlling water usage, saving resources, and achieving environmental sustainability through this device are analyzed.*

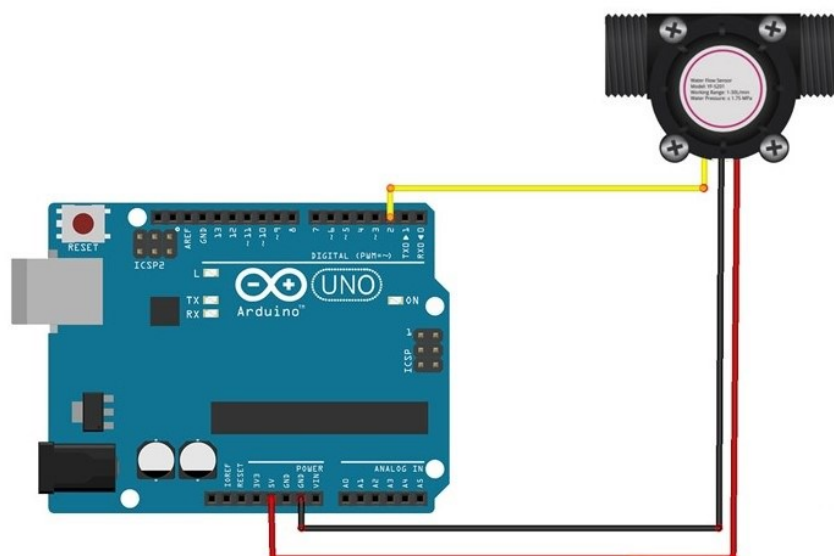
Keywords: *Arduino, water consumption, sensor, environmental sustainability, economic efficiency.*

Kirish. Global miqyosda suv resurslarining tanqisligi va ularning noto'g'ri sarfi ekologik muammolarni keltirib chiqarmoqda. Aholi sonining ko'payishi, sanoatning kengayishi va qishloq xo'jaligida suvga bo'lgan talabning ortib borishi bu muammoni yanada dolzarb qilmoqda. Shuning uchun zamonaviy texnologiyalar yordamida suv sarfini nazorat qilish zarurati ortmoqda. Yangi ijtimoiy-iqtisodiy bu sharoitda mutaxassisni ish bilan ta'minlash kafolati ishlab chiqish bilan belgilanadi yuqori malaka, turli masalalar bo'yicha vakolatlarning paydo bo'lishi, asosiy kasbi bilan bog'liq. Sun'iy intellekt yordamida katta ma'lumotlar tahlili va bulutdagi kelajakdagi yutuqlar hisoblash monitoring usullarini yanada takomillashtirish va jarayonlarni optimal yechimga olib kelish yanada moslashuvchan va samarali hisoblanadi.

Loyihaning dolzarbligi. Suvdan oqilona foydalanish O'zbekistonning barqaror rivojlanish strategiyasida muhim o'rin tutadi. Arduino platformasi asosida ishlab chiqilayotgan qurilma orqali suv sarfini real vaqt rejimida o'lchash va nazorat qilish imkoniyati mavjud. Bu esa, resurslardan samarali foydalanishga xizmat qiladi.

Loyihaning iqtisodiy samaradorligi. Ushbu loyiha oddiy texnologik echimlar asosida amalga oshirilgan bo'lib, arzon narxdagi komponentlar orqali sifatli natijaga erishish mumkin. Qurilma suvdan ortiqcha foydalanishni aniqlash orqali iqtisodiy yo'qotishlarning oldini olishga yordam beradi.

Suv resurslarini tejashning ahamiyati. Suv resurslarini tejash nafaqat iqtisodiy, balki ekologik jihatdan ham muhimdir. Nazorat qilinadigan suv sarfi ortiqcha isrofgarchilikning oldini olib, tabiiy resurslarning uzoq muddatga yetishini ta'minlaydi.



1-rasm. Qurilmalarning ulanish sxemasi.

Ekologik barqarorlik. Suv sarfini boshqarish orqali atrof-muhitga salbiy ta'sirni kamaytirish, yerosti suvlarining kamayishini oldini olish va ekologik muvozanatni saqlab qolish mumkin.

Qo'llanilgan usullar. Loyiha doirasida Arduino UNO mikrokontrolleri, suv oqim sensori (YF-S201), LCD displey, buzzer, va boshqa komponentlardan foydalanildi. Dastur C++ tilida yozilib, Arduino IDE muhiti orqali qurilmaga yuklandi.

Olingan natijalar. Qurilma suv sarfini aniq o'lchab, LCD displeyda ko'rsatadi. Belgilangan limitdan oshganda buzzer yordamida ogohlantirish signali beradi. Tajriba sharoitida qurilma yuqori aniqlik bilan ishladi.

Dastur kodi:

```
#include <LiquidCrystal.h>
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
volatile int flow_frequency;
unsigned int l_minute;
unsigned long currentTime, cloopTime;

void flow () {
  flow_frequency++;
}

void setup() {
  pinMode(2, INPUT);
  digitalWrite(2, HIGH);
  attachInterrupt(digitalPinToInterrupt(2), flow, RISING);
  lcd.begin(16, 2);
  currentTime = millis();
```

```

    cloopTime = currentTime;
}

void loop () {
    currentTime = millis();
    if (currentTime >= (cloopTime + 1000)) {
        cloopTime = currentTime;
        l_minute = (flow_frequency * 60 / 7.5);
        flow_frequency = 0;
        lcd.clear();
        lcd.print("Suv sarfi: ");
        lcd.print(l_minute);
        lcd.print(" L/min");
    }
}

```

Texnik qurilma tasnifi:

- Arduino UNO – boshqaruv moduli
- YF-S201 suv oqim sensori – suv oqimini o‘lchovchi sensor
- 16x2 LCD displey – natijalarni ko‘rsatuvchi qurilma
- Signalizatsiya (buzzer) – ogohlantirish tizimi
- USB kabel va quvvat manbai



2-rasm. Suv sarfini o‘lchovchi sensor.

Muammo va kamchiliklar:

- Qurilma faqat oqim miqdorini hisoblaydi, bosim yoki sifat tahlili mavjud emas.
- Internetga ulanmagan, ya'ni IoT funksiyalari yo'q.
- Sensorning ishlashi suvning tarkibiga qarab o'zgarishi mumkin.

Xulosa va takliflar. Arduino platformasiga asoslangan suv sarfini hisoblovchi qurilma kichik hajmda, arzon va samarali nazorat tizimi bo'lib, mahalliy xo'jaliklarda joriy etish uchun mosdir. Kelgusida IoT texnologiyalarini joriy qilish, natijalarni masofadan monitoring qilish va mobil ilova bilan integratsiya qilish orqali tizim yanada mukammallashtirilishi mumkin.

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ELEKTRON HUKUMAT VA ELEKTRON RAQAMLI IMZONING QO'LLANILISHI

Annotatsiya. Maqolada elektron hukumat va elektron raqamli imzo zamonaviy davlat boshqaruvi va huquqiy tizimlarda ma'lumotlarni tezkor va xavfsiz ishlashni ta'minlashga yordam beradigan asosiy vositalardan hisoblanishi haqida fikr yuritilgan. Elektron hukumat davlat xizmatlarini raqamlashtirish va onlayn platformalar orqali taqdim etishni, shuningdek, fuqarolar, biznes va davlat organlari o'rtasidagi muloqotni soddalashtirishni maqsad qilgan tizimni anglatadi. Elektron raqamli imzo esa, shaxsni tasdiqlash va hujjatlarni rasmiylashtirishda ishlatiladigan xavfsiz elektron vositadir.

Kalit so'zlar. Elektron hukumat, tezlik, shaffoflik, tezkorlik, xavfsizlik, quvvatlash, ERI, tizimga kirish va autentifikatsiya hujjatning yaxlitligi, davlat xizmatlari, onlayn imzolash.

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APPLICATION OF E-GOVERNMENT AND E-DIGITAL SIGNATURE

Annotation. *The article discusses the idea that e-government and electronic digital signatures are key tools that help ensure fast and secure data processing in modern public administration and legal systems. E-government refers to a system that aims to digitize and provide public services through online platforms, as well as simplify communication between citizens, businesses and government agencies. An electronic digital signature is a secure electronic tool used to verify identity and execute documents.*

Keywords. *E-government, speed, transparency, agility, security, support, EDS, system login and authentication, document integrity, public services, online signing.*

Elektron hukumat — bu davlat organlari va fuqarolar oʻrtasidagi munosabatlarni raqamli texnologiyalar yordamida boshqarish, davlat xizmatlarini onlayn platformalarda taqdim etish va ma'lumotlarni elektron shaklda uzatish jarayonidir. Bu tizimning asosiy maqsadi davlat xizmatlarini samarali, tezkor va shaffof qilishdir.

Elektron xizmatlar: Fuqarolar va biznes sub'ektlari uchun davlat xizmatlarini onlayn tarzda koʻrsatish. Masalan, soliq toʻlovlarini amalga oshirish, fuqarolik holati hujjatlarini olish, imtiyozlar uchun ariza berish va boshqa koʻplab xizmatlar.

Onlayn portal va tizimlar: Davlat organlari tomonidan foydalanuvchilarga taqdim etilayotgan xizmatlar uchun elektron platformalar. Bu tizimlar orqali fuqarolar va biznes sub'ektlari barcha kerakli hujjatlarni ariza shaklida toʻldirish, onlayn roʻyxatdan oʻtish va murojaatlar yuborishlari mumkin.

Ma'lumotlar bazalari va integratsiya: Turli davlat organlari oʻrtasida ma'lumotlarni almashish va integratsiya qilish. Bu tizimlar davlat organlarining bir-biri bilan hamkorlik qilishini ta'minlaydi va xizmatlarni tezkor koʻrsatishni osonlashtiradi.

1. Xavfsizlik va shaffoflik: Elektron hukumat tizimlarida ma'lumotlar xavfsizligi juda muhim. Fuqarolar va bizneslarning shaxsiy ma'lumotlari himoyalangan boʻlishi kerak, shuningdek, barcha jarayonlar shaffof va ishonchli boʻlishi zarur.

Elektron hukumatning foydalari:

- **Tezlik:** Davlat xizmatlariga ariza berish, hujjat olish va boshqa koʻplab jarayonlarni tez va samarali bajarish imkoniyati.

- **Xavfsizlik:** Ma'lumotlarni saqlash va uzatishda zamonaviy xavfsizlik texnologiyalaridan foydalanish, masalan, shifrlash va autentifikatsiya.

- **Shaffoflik:** Davlat xizmatlarining har bir bosqichi shaffof boʻlib, fuqarolar tizimdagi harakatlarni kuzatib borishi mumkin.

- **Quvvatlash:** Fuqarolarga eng kerakli xizmatlarni uzoqdan turib olish imkonini yaratadi, bu esa ularning vaqtini tejaydi.

- **Biroq,** ba'zi davlatlarda raqamli infrastrukturani yaratish va fuqarolarni bu tizimlarga oʻrgatish vaqti talab qilishi mumkin.

2. Elektron raqamli imzo (ERI)

Elektron raqamli imzo (ERI) — bu elektron hujjatlarni imzolashda foydalaniladigan, shaxsni tasdiqlovchi xavfsiz vositadir. ERI, an'anaviy imzo o'rnini bosib, elektron hujjatlarni rasmiylashtirishni imkonini beradi va qonuniy kuchga ega bo'lgan hujjatlar sifatida qabul qilinadi.

Elektron raqamli imzoning asosiy vazifalari:

1. Shaxsni tasdiqlash: ERI foydalanuvchining haqiqiyligini tasdiqlash uchun ishlatiladi. Bu tizimda imzo faqat shaxsga tegishli bo'lishi va uni tasdiqlovchi kalitlarga ega bo'lishi zarur.

2. Hujjatning yaxlitligini ta'minlash: ERI yordamida imzolanadigan hujjatlarning ma'lum bir vaqtda o'zgartirilmaganligi tekshiriladi. Bu hujjatning o'zgartirilishiga yo'l qo'ymaydi va imzolanayotgan matnni himoya qiladi.

3. Elektron hujjatning qonuniyligini ta'minlash: Elektron raqamli imzo an'anaviy imzo kabi, hujjatning rasmiy va qonuniy kuchga ega bo'lishini ta'minlaydi. Bu, masalan, shartnomalar, kelishuvlar va boshqa rasmiy hujjatlar uchun muhimdir.

Elektron raqamli imzoning asosiy foydalari:

1. Tezlik va samaradorlik: Hujjatlarni tezda elektron tarzda imzolash imkonini beradi, bu esa jarayonlarni tezlashtiradi.

2. Xavfsizlik: Elektron raqamli imzo hujjatlarni shifrlash orqali hujjatlarni xavfsizligini ta'minlaydi. Shuningdek, ERI yordamida hujjatlar faqat imzo qo'ygan shaxs tomonidan tasdiqlanadi.

3. Xarajatlarni tejash: An'anaviy imzolash va hujjatlarni chop etishning o'rniga elektron imzo ishlatish orqali resurslarni va vaqtni tejash mumkin.

4. Huquqiy ahamiyat: Elektron raqamli imzo jahon miqyosida huquqiy ahamiyatga ega bo'lib, elektron hujjatlar va shartnomalar jismoniy imzolar bilan teng huquqiy kuchga ega bo'ladi.

Elektron raqamli imzoning ishlash prinsipi:

• **Asimmetrik shifrlash:** ERI ishlashida asimmetrik shifrlash texnologiyasidan foydalaniladi. Har bir foydalanuvchida ikkita kalit mavjud — **xususiy kalit** (private key) va **ommaviy kalit** (public key). Foydalanuvchi xususiy kalit yordamida hujjatni imzolaydi, va ommaviy kalit yordamida bu imzo tasdiqlanadi.

• **Tizimga kirish va autentifikatsiya:** Elektron raqamli imzolar odatda maxsus sertifikatlar orqali ta'minlanadi, bu esa foydalanuvchining haqiqiyligini tasdiqlashni osonlashtiradi.

• **Hujjatning yaxlitligi:** ERI yordamida hujjatni imzolashda, uning o'zgartirilmasligi va haqiqiyligi ta'minlanadi.

Davlat xizmatlari: Elektron hukumat tizimlari orqali fuqarolar soliq to'lovlarini amalga oshirish, fuqarolik holati to'g'risidagi hujjatlarni olish, sug'urta dasturlarida qatnashish va boshqa davlat xizmatlaridan foydalanishlari mumkin.

Onlayn imzolash: ERI yordamida davlat va biznes sektorlari o'rtasidagi shartnomalar va kelishuvlar elektron shaklda imzolanadi, bu esa vaqtni tejaydi va jarayonni tezlashtiradi.

Elektron ta'lim va ish hujjatlari: Elektron imzolarni ta'lim muassasalarida diplomlar, attestatlar va boshqa rasmiy hujjatlarni imzolashda ishlatish mumkin.

Mahalliy va xalqaro savdo: Elektron raqamli imzo yordamida xalqaro shartnomalar va hujjatlar rasmiylashtiriladi va qonuniy kuchga ega bo'ladi.

Elektron hukumat va elektron raqamli imzo zamonaviy davlat boshqaruvi va huquqiy tizimlarining ajralmas qismlariga aylanmoqda. Elektron hukumat davlat xizmatlarini yanada samarali va tezkor qilishga yordam beradi, elektron raqamli imzo esa hujjatlarning xavfsizligini ta'minlab, qonuniy ahamiyatga ega bo'lishini ta'minlaydi. Bu tizimlar fuqarolarning va biznesning davlat bilan munosabatlarini osonlashtiradi va davlat xizmatlarining shaffofligini ta'minlaydi.

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ПРОФЕССИОНАЛЬНОГО ОБРАЗОВАНИЯ В ИЗМЕНЯЮЩИХСЯ СОЦИАЛЬНО-ЭКОНОМИЧЕСКИХ УСЛОВИЯХ //Yosh mutaxassislar. – 2023. – Т. 1. – №. 8. – С. 31-36.

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NUTQNI TANISH TIZIMINI CHUQUR NEYRON TARMOQLARI YORDAMIDA YARATISH BOSQICHLARI

Annotatsiya. Ushbu maqolada nutqni tanish tizimlarini chuqur neyron tarmoqlari asosida yaratish bosqichlari tizimli ravishda tahlil etilgan. Ma'lumotlarni tayyorlash, xususiyatlarni ajratib olish, model arxitekturasini tanlash, o'rgatish, baholash va optimallashtirish jarayonlari yoritilgan. Zamonaviy texnologiyalar va innovatsion yondashuvlarning amaliy samaradorligi haqida fikr yuritilgan.

Kalit so'zlar: nutqni tanish, chuqur neyron tarmoqlar, MFCC, CTC, wav2vec 2.0, til modeli, dekodlash.

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STAGES OF CREATING A SPEECH RECOGNITION SYSTEM USING DEEP NEURON NETWORKS

Abstract. This article systematically analyzes the stages of developing speech recognition systems based on deep neural networks. It discusses data preparation, feature extraction, model architecture selection, training, evaluation, and optimization processes. The practical effectiveness of modern technologies and innovative approaches is explored.

Keywords: speech recognition, deep neural networks, MFCC, CTC, wav2vec 2.0, language model, decoding.

Nutqni avtomatik tarzda tanish texnologiyalari sun'iy intellekt va chuqur o'rganish yutuqlari natijasida sezilarli darajada rivojlanmoqda. Ayniqsa, chuqur neyron tarmoqlarga asoslangan tizimlar inson nutqini aniqlik bilan tahlil qilish va matn shaklida ifodalash imkonini beradi. Ushbu maqolada nutqni tanish tizimini yaratishning asosiy bosqichlari ko'rib chiqiladi.

Ma'lumotlar bazasini tayyorlash

Nutqni tanish tizimi uchun sifatli ma'lumotlar bazasi hal qiluvchi ahamiyatga ega.

Ma'lumot turi	Tavsifi	Manba
Nutq yozuvlari	Audio fayllar (.wav, .flac)	LibriSpeech, CommonVoice
Transkriptlar	Nutqdagi so'zlarning matn ko'rinishi	Professional transkriptorlar
Anotatsiyalar	Lahja, shovqin darajasi va boshqa metama'lumotlar	Maxsus belgilar

Nutq korpusining hajmi va xilma-xilligi modelning umumlashuv qobiliyatiga bevosita ta'sir qiladi. Misol uchun, LibriSpeech korpusi 1000 soatdan ortiq inglizcha nutq namunalarini o'z ichiga oladi.

2. Akustik xususiyatlarni ajratish

Nutq signallaridan foydali ma'lumotlarni ajratib olish uchun akustik xususiyatlar hisoblanadi.

Xususiyat turi	Izoh
MFCC	Mel chastota kepstral koeffitsientlari, inson quloq sezgirligiga moslab olingan
Spectrogram	Chastota va vaqt o'zgarishini tasvirlovchi rasm
Log-Mel Spectrogram	Logarifmik o'lchovdagi energiyani tasvirlaydi

MFCC hisoblash formulasi:

Bu yerda - signalning spektral quvvati, - umumiy koeffitsientlar soni.

3. Model arxitekturasini tanlash

Model tanlash tizim samaradorligiga sezilarli ta'sir qiladi.

Model turi	Afzalliklari	Kamchiliklari
RNN/LSTM	Uzoq ketma-ketliklarni o'zida saqlay oladi	Hisoblash xarajati yuqori
CNN	Lokal xususiyatlarni tez aniqlaydi	Sekvensial kontekstni to'liq ushlaymaydi
Transformer/wav2vec 2.0	Parallel hisoblash va yuqori aniqlik	Katta ma'lumot va resurs talab qiladi

4. Modelni o'qitish va izlanishlar

Eksperimentlar uchun quyidagi shartlar o'rnatildi:

- O'quv to'plam: 960 soat LibriSpeech
- Optimallashtiruvchi: Adam, boshlang'ich o'rganish tezligi 0.0001
- Batch size: 32

Tajriba natijalari:

Model	WER (%)
LSTM-CTC	10.5
CNN-CTC	8.9
wav2vec 2.0 fine-tuned	5.2

O'qitish jarayoni grafigi:

Tajribada wav2vec 2.0 modeli ancha tez konvergentsiyaga erishdi.

5. Dekodlash va transkripsiya

Dekodlash strategiyalari transkripsiya sifati uchun muhimdir.

Dekodlash turi	Xato darajasi (WER)
Greedy decoding	6.0%
Beam Search + 5-gram LM	5.2%

Greedy decoding formulasi:

$$\hat{y} = \arg \max_y P(y|x)$$

Bu yerda x - kiruvchi signal, y- transkripsiya.

6. Baholash va optimallashtirish

Model sifatini baholash uchun quyidagi metrikalar ishlatiladi:

• Word Error Rate (WER):

$$WER = \frac{S + D + I}{N}$$

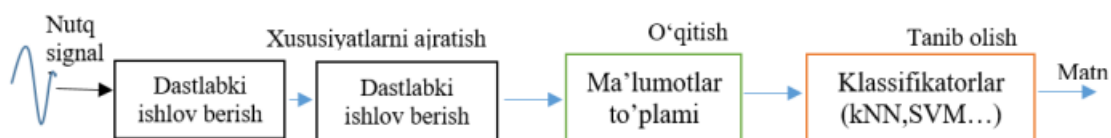
- S- almashtirishlar soni,
- D- o'chirishlar soni,
- I- qo'shishlar soni,
- N- asl so'zlar soni.

Optimallashtirish uchun:

- Model siqish (quantization)
- Tarmoqlarning nozarur vaznlarini olib tashlash (pruning)
- Distillation orqali yengil modellar yaratish


$$\begin{array}{ccccccc} & & \vdots & & \vdots & & \\ \vdots & 1 & 1 & & 1 & & \vdots \\ & 1 & & \vdots & & 1 & \\ & & \vdots & & \vdots & & \\ & & & 1 & & & \\ & & & & 1 & & \\ & & & & & \ddots & \\ & & & & & & 1 \end{array}$$

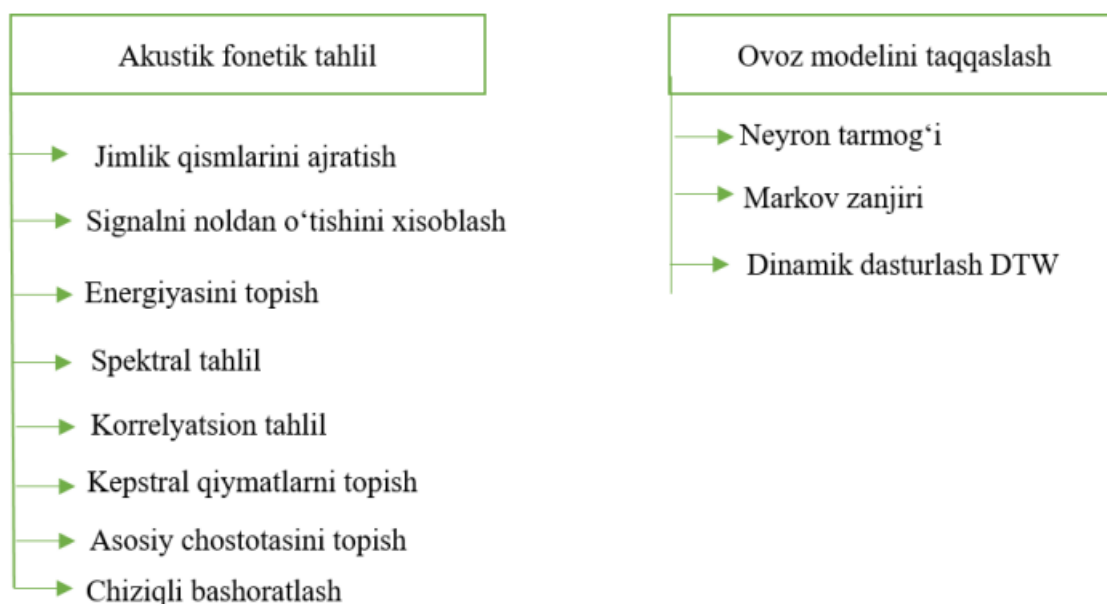
Dastlabki ishlov berish – signalni qabul qilish, analogdan raqamli ko‘rinishga o‘zgartirish, filtrlashdan iborat. Xususiyatlarni ajratish – jimlik sohalarini olib tashlash, oynalardan o‘tqazish, spektr qiymatlarini va MFCC(ing. Mel Frequency Cepstral Coefficient - Mel chastotaviy kepsstral koeffitsienti) parametrlarini hisoblashni tashkil etadi. o‘qitish va tanib olish – bunda har bir nutq so‘zi olingan parametralari bo‘yicha mashinali o‘qitish va sun‘iy intellekt algoritmlari orqali o‘qitiladi va tanib olinadi. Nutqni avtomatik tanib olishning eng muvaffaqiyatli ajratilgan so‘zlarni tanib olish uchun suxandonga sozlangan tizimlar bo‘lib chiqdi. Bunday tizimlar ikki rejimdan birida ishlaydi. o‘qitish rejimida foydalanuvchi tizimga mikrofondan tanib olish uchun har bir so‘zni aytib, ovozi tanib olishga o‘rgatadi. Tizim har bir so‘zni na‘munasini(etalonini) yaratadi va xotirada saqlaydi. Tanib olish rejimida har bir aytilgan so‘z yana raqamlashtiriladi va uning na‘muna etaloni xotiradan olingan na‘muna etalonlar bilan taqqoslanadi. Agar mos keladigan bo‘lsa, unda so‘z tanib olinadi va tizim bu haqda foydalanuvchini xabardor qiladi yoki biron bir harakatni amalga oshiradi. Bunday tizimlarning ishlashi suxandonning har bir so‘z oldidan yetarlicha pauza qilishiga, shovqinli fonga va so‘zlarning aniq va to‘g‘ri talaffuz qilinishiga bog‘liq. Tanib olish paytida nutq signallariga raqamli ishlov berishning eng muhim amallari, xususiyatlarni ajratish, og‘zaki nutqlardan alohida namunalar olinib etalonlar yaratish va namunalardan kerakligini tanlab olish, etalonlar xotirada saqlanadigan yozuvlar bilan taqqoslash bajariladi (2-rasm).



2-rasm. Nuqtani tanib olish tizimining umumiy blok-sxemasi

Nutq signallariga ishlov berishning dastlabki va nisbatan eng sodda darajasi bu akustik va fonetik tahlil bo'lib, asosan gap bo'lagini ichidagi alohida ajratilgan so'zlarni tanib olishga bag'ishlangan. Nutq buyruq so'zlarini tanib olishda akustik ishlov berish bosqichini amalga oshirish yetarli hisoblanadi. Keyingi nisbatan murakkab darajasi esa bu leksik, sintaktik va semantik tahlil hisoblanib, qo'shma murakkab gaplarni tushunishga qaratilgan

Bajarilgan ilmiy ishlanmalar va eksperimental tadqiqotlarni tahlil qilib qaraydigan bo'lsak, nutqni tahlil qilish va tanib olish usullari va algoritmlari orasida alohida ajratilgan nutqlarga ishlov berishning quyidagi protseduralarini ajratib ko'rsatishimiz mumkin(3-rasm). Akustik tahlil muhitda tarqalgan akustik axborotni aniqlash, tahlil qilish va tasniflashga qaratilgan usullarni anglatadi. Akustik tahlil qilish avtomatik kuzatuv, aqlli videokonferensiya, inson-kompyuter aloqasi va eshitish apparatlari texnologiyalari kabi bir necha xil ilovalarga ega bo'lgan usullarni o'z ichiga olishi mumkin. Akustik hodisalarni aniqlash va tasniflash usullari bu tovushlarning vaqt chegaralarini aniqlash va ularni sinf bo'yicha turkumlashga qaratilgan. Akustik tahlilning asosiy muammolaridan biri signallarning nutq faolligi aniqlash, nutqli va nutqsiz sinflarga ajratishdir. Nutq signallarida energiya chegaralari va chastotaning noldan o'tish qiymatlarini aniqlash orqali nutqning aktivligini aniqlash eng sodda usullaridir. Bundan tashqari nutq signali aktivligini aniqlashning chuqur o'rganishiga asoslangan usullari keng tarqalgan. Nutq signallariga dastlabki ishlov berishning bir nechta asosiy algoritmlari mavjud. Ushbu algoritmlarning barchasi, shu jumladan eng murakkablari ham bir xil arifmetik amallarni takrorlaydi. Signallarga dastlabki ishlov berish amallari yuqorida keltirilgan ma'lumotlarni yig'ish(o'qib olish), segmentlash, filtrlash, o'zgartirishlar(almashtirishlar) orqali xususiyatlarini ajratish, tanib olish bosqichlarida amalga oshiriladi. Nutq signallariga ishlov berish barcha asosiy amallari uchun faqat oddiy arifmetik amallar - ko'paytirish, qo'shish, ayirish va o'zgartirish amallarini bajarish talab qilinadi. Svyortka signallarga raqamli ishlov berishda eng ko'p ishlatiladigan amallardan biri bo'lib, raqamli filtrlash asosini tashkil etadi va ko'paytirib jamlash amalidan tashkil topadi.



3-rasm. Tahlil qilish usullari.

Filtrlashning maqsadi bu foydali signalda shovqinni yo'qotish yoki kamaytirishdan iborat. Zamonaviy nutq signallariga ishlov berishda va ayniqsa ovozli boshqaruv tizimlarida real sharoitlarda murakkab filtrlash amallarini talab etadi. Bunday murakkab filtrlash amallarini adaptiv filtrlar, ya'ni ma'lum bir muhitga moslashuvchi filtrlar orqali amalga oshiriladi. Nutq signallarini tanib olish va uni qurilmaga integratsiya qilish yangi chuqur neyron tahlilga asoslangan yondashuvlarni talab etadi. Bu orqali qisqa lug'atga asoslangan nutq buyruqlarini tanib olishda yuqori natijalarga erishish mumkin

Xulosa

Nutqni tanish tizimlarini yaratishda chuqur neyron tarmoqlarga asoslangan yondashuvlar yuqori natijalar bermoqda. Tajriba natijalari shuni ko'rsatadiki, wav2vec 2.0 modeli an'anaviy metodlardan sezilarli ustunlikka ega. Kelgusida o'z-o'zini nazorat qilishga asoslangan o'qitish va multimodal tizimlarni rivojlantirish nutqni tanish texnologiyalarining yangi bosqichini belgilashi mumkin.

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RAQAMLI MEDIA MARKETING

Annotatsiya. *Maqolada internet va boshqa raqamli platformalar orqali mahsulot yoki xizmatlarni reklama qilish va ularga bog'liq marketing strategiyalarini amalga oshirish jarayonlari keltirilgan. Raqamli media marketing an'anaviy marketing usullaridan farq qilishi yangi texnologiyalar va internet imkoniyatlarini kengaytiradi, shu bilan birga keng auditoriyaga tez va samarali tarzda yetib boradi. Ushbu marketing turida internet, ijtimoiy tarmoqlar, mobil ilovalar, elektron pochta va boshqa onlayn vositalar orqali reklama va targ'ibot ishlari olib borilishi yoritilgan.*

Kalit so'zlar. *SMM, SEM, Email marketing, kontent marketingi, mobil marketing, affiliate marketing, keng auditoriya, tezkor o'lchov, tahlil, kam harajatlar, maqsadli auditoriya, SEO, Influencer marketing.*

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DIGITAL MEDIA MAKING

Abstract. *The article presents the processes of advertising products or services through the Internet and other digital platforms and implementing related marketing strategies. Digital media marketing differs from traditional marketing methods in that it expands the capabilities of new technologies and the Internet, while reaching a wide audience quickly and effectively. This type of marketing covers advertising and promotion through the Internet, social networks, mobile applications, email and other online tools.*

Keywords. *SMM, SEM, Email marketing, content marketing, mobile marketing, affiliate marketing, large audience, rapid measurement, analytics, low costs, target audience, SEO, Influencer marketing.*

Ijtimoiy tarmoqlar marketingi — bu Facebook, Instagram, Twitter, LinkedIn, TikTok kabi ijtimoiy tarmoqlar orqali mahsulot yoki xizmatlarni reklama qilish jarayonidir. Ijtimoiy tarmoqlar global auditoriyaga ega bo'lgani uchun, ular marketing uchun juda katta imkoniyatlar yaratadi. Bu orqali foydalanuvchilarni jalb qilish, ularning fikrlarini olish va to'g'ridan-to'g'ri muloqot qilish mumkin.

Qidiruv tizimlari marketingi — bu mahsulot yoki xizmatlarni qidiruv tizimlarida (Google, Yandex, Bing va boshqalar) reklama qilish usulidir. SEM asosan ikki turga bo'linadi:

- **To'lov asosida reklama (PPC - Pay Per Click):** Google Ads kabi platformalarda to'lov asosida reklama berish. Bu usulda reklamalar qidiruv natijalarida ko'rsatiladi va har bir bosish uchun pul to'lanadi.

- **Qidiruv tizimi optimizatsiyasi (SEO - Search Engine Optimization):** Saytning qidiruv tizimlarida yuqori o'rinlarda ko'rsatilishini ta'minlash uchun saytdagi kontentni va strukturasi optimallashtirish.

Email marketing — bu potensial mijozlarga yoki mavjud mijozlarga elektron pochta orqali maxsus takliflar, yangiliklar va mahsulot reklamalari yuborish usulidir. Bu marketing turidagi asosiy maqsad auditoriya bilan shaxsiy va samarali aloqada bo'lish, ularga tegishli ma'lumotlarni etkazishdir. Email marketing mijozlarni saqlab qolish va yangi mijozlar jalb qilish uchun samarali vosita hisoblanadi.

Kontent marketingi — bu foydalanuvchilarga qiziqarli, foydali va ma'lumotli kontent taqdim etish orqali ularni jalb qilish va biznesni rivojlantirish jarayonidir. Kontent marketingi blog postlari, maqolalar, videolar, infografikalar, elektron kitoblar va boshqa turdagi mazmunni o'z ichiga oladi. Asosiy maqsad foydalanuvchilarga qimmatli kontentni taqdim etish orqali ularning ishonchini qozonish va ularni xaridorlarga aylantirishdir.

Mobil marketing mobil ilovalar, SMS, push xabarnomalar va mobil veb-saytlar orqali marketing qilishni anglatadi. Bugungi kunda mobil qurilmalarning keng tarqalishi tufayli mobil marketing juda samarali hisoblanadi, chunki mobil telefonlar orqali foydalanuvchilar internetga doimiy ravishda kirishadi.

Affiliate marketing — bu boshqa odamlar yoki kompaniyalar orqali mahsulotni reklama qilish va har bir sotuvdan komissiya olish usulidir. Affiliate marketingda kompaniyalar o'z mahsulotlarini reklama qilish uchun veb-saytlar yoki bloggerlar bilan hamkorlik qiladi. Har bir sotuv yoki harakat uchun hamkorlarga mukofotlar to'lanadi.

Raqamli marketing yordamida global miqyosda auditoriya topish va unga xizmatlarni yoki mahsulotlarni taqdim etish mumkin. Ijtimoiy tarmoqlar va qidiruv tizimlaridan foydalanish bu imkoniyatni yanada kengaytiradi.

Raqamli marketing kampaniyalari real vaqtda tahlil qilinishi mumkin. Statistik ma'lumotlar yordamida qanday reklama turining samarali ekanini, foydalanuvchilarning qanday munosabatda bo'lishini va reklama harajatlarini qanday boshqarish mumkinligini aniqlash osonlashadi.

Raqamli marketing strategiyalari orqali kompaniyalar o'z mijozlari bilan tezkor aloqada bo'lishlari va ularni harakatga keltirishlari mumkin. Masalan, ijtimoiy tarmoqlarda tezkor javob berish, reklama kampaniyalari orqali mijozlarni jalb qilish, to'g'ridan-to'g'ri aloqalar o'rnatish mumkin.

An'anaviy reklama usullari bilan solishtirganda, raqamli marketing ko'pincha arzonroq bo'ladi. Masalan, reklama bannerlari, video kontent va SEO kabi xizmatlar an'anaviy reklama vositalariga qaraganda ancha arzon bo'lishi mumkin.

Raqamli marketing orqali aniq va maqsadli auditoriyani tanlab, ular uchun moslashtirilgan reklama kampaniyalarini amalga oshirish mumkin. Masalan, Google Ads yoki Facebook Ads yordamida demografik ko'rsatkichlar, qiziqishlar va boshqa mezonlarga asoslangan reklama berish.

SEO texnikalari yordamida web-saytning qidiruv tizimlarida yuqori o'rinlarga chiqishi ta'minlanadi. Bu kontentni optimallashtirish, kalit so'zlar qo'llash, texnik SEO va link-building kabi metodlarni o'z ichiga oladi. Yaxshi SEO strategiyasi o'z mijozlari tomonidan qidiriladigan kontentni taqdim etish orqali saytning ko'rinishini oshiradi.

Facebook, Instagram, TikTok va boshqa ijtimoiy tarmoqlarda to'g'ridan-to'g'ri reklama berish orqali keng auditoriyani jalb qilish mumkin. Ijtimoiy tarmoqlarda reklama qilish — bu har bir foydalanuvchining qiziqishlari va maqsadlariga moslashtirilgan reklama kontentini yaratishning samarali usulidir.

O'zgacha va qiziqarli kontent yaratish raqamli marketingning muhim jihatlaridan biridir. Bu video, blog postlari, maqolalar, infografikalar va boshqa turdagi kontentni o'z ichiga oladi. Kontentni taqdim etishda foydalanuvchining ehtiyojlari va qiziqishlari e'tiborga olinishi kerak.

Mashhur ijtimoiy tarmoq shaxsiyati yoki bloggerlar bilan hamkorlik qilish orqali mahsulotni targ'ib qilish — bu influencer marketingning asosiy usulidir. Ularning auditoriyasi va ishonchi orqali mahsulotni keng auditoriyaga tanitish mumkin.

Raqamli media marketing bugungi kunda kompaniyalar uchun muvaffaqiyatli rivojlanish va o'sishning muhim vositasiga aylandi. Internet va mobil qurilmalar orqali marketing kampaniyalarini samarali olib borish, keng

auditoriyani jalb qilish va biznesni yanada rivojlantirish imkonini beradi. Yaxshi strategiya va doimiy tahlil orqali raqamli marketing juda samarali bo‘lishi mumkin.

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QANDLI DIABET 2 TURI BILAN XASTA BEMORLARDA ANEMIYANI RIVOJLANISHI

Annotatsiya. Anemiya gipoksiyaning asosiy sababi bo'lib, qandli diabet bilan og'rigan bemorlarda diabetik asoratlarning rivojlanishini xavfi ortishiga va o'limga olib keladi. Tadqiqotni o'tkazishdan maqsad qandli diabet bilan og'rigan odamlarda anemiya tarqalishini aniqlash edi. 2-toifa qandli diabet bilan og'rigan 40 yoshdan oshgan jami 80 nafar bemor tekshirildi. 23,7 foiz tekshiruvga olingan bemorlarda anemiya aniqlangan. Anemiyani tarqalishi erkaklarda (22,6%) va ayollarda (21,5%) deyarli bir xil. Anemiya aniqlangan bemorlarning 74 foizida qon zardobidagi kreatinin $<110 \mu\text{mol/l}$, 72 foizida esa hisoblangan kreatinin klirensi $>60 \text{ ml/min}$. Qandli diabet bilan hasta bemorlarning qon analizida har beshtadan bittasida anemiya bo'lishi mumkin. Anemiyani barvaqt aniqlash va samarali davolash, qandli diabet kasalligida rivojlanadigan asoratlarning kelib chiqishini oldini olishga yordam beradi.

Kalit so'zlar: anemiya, qandli diabet, diabetik asoratlarning kelib chiqishini.

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DEVELOPMENT OF ANEMIA IN PATIENTS WITH TYPE 2 DIABETES

Annotation. Anemia is a major cause of hypoxia, which increases the risk of diabetic complications and death in patients with diabetes. The aim of the study was to determine the prevalence of anemia in people with diabetes. A total of 80 patients with type 2 diabetes over 40 years of age were examined. Anemia was detected in 23.7% of the examined patients. The prevalence of anemia is almost the same in men (22.6%) and women (21.5%). Of the patients with anemia, 74% had serum creatinine $<110 \mu\text{mol/l}$, and 72% had estimated creatinine clearance $>60 \text{ ml/min}$. One in five patients with diabetes may have anemia in their blood test. Early detection and effective treatment of anemia help prevent the development of complications that develop in diabetes.

Keywords: anemia, diabetes mellitus, diabetic complications.

Kirish. Qandli diabet (QD) keng tarqalgan metabolik kasallik hisoblanadi. [1, 2]. Tibbiyotning dolzarb muammolaridan biri bo'lib, u turli mikro- va makrovaskulyar asoratlarning tufayli o'limning yuqori ko'rsatkichlari va hayot

sifatining pasayishi bilan izohlanadi [3]. Bundan tashqari, gipoksiya diabetning makro va mikrovaskulyar asoratlari patogenezida muhim rol o'ynaydi.

Anemiya gipoksiyaning asosiy sababi bo'lib, yurak-qon tomir patologiyasi rivojlanishini va o'lim xavfini oshiradi [4, 5]. Anemiya, yurak-qon tomir patologiyasi va buyrak shikastlanishi o'rtasidagi patofiziologik munosabatlarning doirasi -kardiorenal anemiya sindromi deb ataladi [6].

Kardiorenal sindromni doimiy ravishda shakllantiradigan patofizyologik ta'sirlar asta sekin anemiya ta'sirida kelib chiqqan to'qimalarning gipoksiyasi, NO ishlab chiqarishning ko'payishi, periferik tomirlarning kengayishi va simpatik faollikning oshishini o'z ichiga oladi. O'z navbatida, simpatik faollikning oshishi buyraklarda qon oqimi va glomerulyar filtratsiya tezligining pasayishiga, renin faolligining oshishiga, angiotensin va aldosteron ishlab chiqarilishining oshishi, organizmda suyuqlikni ushlab qolinishi esa plazma hajmining oshishiga ilib keladi. Keyinchalik tizimli arterial bosimning oshishi, chap qorincha gipertrofiyasi va kengayishi rivojlanadi, apoptoz faollashadi va yurak yetishmovchiligi rivojlanishi kuchayadi[7]. To'qimalarning kislorod bilan to'yinishini o'zgarishi natijasida o'lim xavfini ortishida anemiyaning muhim rolini aks ettiradi.

Qandli diabetda anemiya rivojlanish xavfining oshishi surunkali yurak yetishmovchiligi (SYuYe) prognozini sezilarli darajada yomonlashtiradi. Anemiyaning qon tomir prognoziga salbiy ta'sirining sabablaridan biri gemoreologik kasalliklar deb ataladi. Ular endotelial funktsiyaga ta'sir qiladi va mikroangiopatik asoratlarning rivojlanishiga olib keladi [8]. Buyraklarning gemoglobin (Hb) darajasining pasayishiga javoban eritropoetinning chiqarilishini ko'paytirmasligi gemoreologik kasalliklar rivojlanishining asosiy omili hisoblanadi [4, 9]. Anemiya glomerulyar filtratsiya tezligining tez pasayishi bilan bog'liq va yurak-qon tomir asoratlarning bashoratchisi hisoblanadi [10-12]. Qandli diabet bilan og'rigan bemorlarda kamqonlikning mavjudligi qandli diabet bilan hasta lekin kamqonligi bo'lmagan bemorlarga nisbatan prognozni sezilarli darajada yomonlashtirishi, SYuEdan o'lim xavfini oshirishi anemiyani o'z vaqtida tashxislash va davolash zarurligini isbotlaydi.

Tadqiqotning maqsadi diabetning 2-turi bilan hasta odamlarda anemiya tarqalishini aniqlash.

Materiallar va usullar

40 yoshdan oshgan diabetning 2-turi bilan kasallangan 80 nafar bemor ishtirok etdi. Tekshiruvdan o'tganlar orasida 43 erkak va 37 ayol bor. Ayollar va erkaklarning o'rtacha yoshi mos ravishda 58 ± 14 va 62 ± 12 yoshni tashkil etdi. Qandli diabetning o'rtacha davomiyligi $11,42 \pm 2,2$ yil. Nazorat guruhini anamnezida diabet bo'lmagan 38 ta bemor (o'rtacha yoshi $58,6 \pm 2,3$ yil) tashkil etdi.

Tadqiqotdan chiqarib tashlash mezonlari 30 yoshdan kichik, 1-turdagi diabet, ketoatsidotik holat, shuningdek, AAF ingibitorlarini qabul qilish, surunkali buyrak yetishmovchiligi (CBYe), buyrakning o'ziga xos bo'lmagan shikastlanishi va yomon sifatli o'sma.

Qandli diabetning kompensatsiya darajasini aniqlash uchun glikirlangan gemoglobin - HbA1c o'rganildi. Butun jahon sog'liqni saqlash tashkiloti (BJSST,

2012) tavsiyasiga ko'ra, buyrak shikastlanishi bo'lmagan bemorlarda gemoglobin darajasi ayollarda <120 g/l va erkaklarda <130 g/l dan kamayishi, va buyrak shikastlanishi bo'lgan shaxslarda (BSKda kamqonlikni davolash bo'yicha Evropa tavsiyalari), 70 yoshgacha bo'lgan ayollarda gemoglobin darajasining <115 g / l gacha va erkaklarda <135 g / l gacha pasayishi anemiyaning tashxisiy mezon bo'ldi [10].

Gemoglobin kontsentratsiyasi kolorimetrik usul yordamida o'lchandi. Transferrin kontsentratsiyasi (Tf) immunoturbodimetrik usul va Transferrin reaktiv to'plami (DIALAB, Avstriya) yordamida aniqlandi. Transferrinni temir bilan to'yinganlik koeffitsienti (TTK) qon zardobidagi temir darajasining Tf darajasiga nisbati sifatida aniqlandi.

Ferritin kontsentratsiyasi Ferritin ELISA reaktiv to'plami (DAI, AQSh) yordamida immunoferment usuli orqali aniqlandi. Tf/log ferritin indeksi eruvchan transferrin retseptorlari darajasining ferritin logarifmiga nisbati sifatida hisoblangan [12]. Ushbu indeksning $>1,7$ qiymatlari mutlaq temir tanqisligi belgisi sifatida qabul qilinadi [13].

Zardobdagi kreatinin miqdori Jaffe usuli yordamida baholandi. Zardobdagi kreatinin ko'rsatkichlari, >150 mkmol/l bo'lsa, yuqori deb hisoblanadi va Surunkali buyrak yetishmovchiligi [14] deb hisoblanadi.

Olingan ma'lumotlarning statistik tahlili tibbiy va biologik tadqiqotlar uchun umumiy tavsiyalarga muvofiq Windows uchun STATISTICA 8.0 dasturining variatsion matematik statistika usullaridan foydalangan holda amalga oshirildi.

Tadqiqotga kasallikning davomiyligi 5 yildan ortiq bo'lgan 2-turdagi diabet bilan kasallangan 80 nafar bemor ishtirok etdi, ulardan 26 (56,5%) erkaklar va 20 (43,5%) ayollar. Kasallikning davomiyligi 5 yildan kam bo'lgan bemorlarning 15 tasi (44,1%) erkaklar va 19 tasi (55,8%) ayollardir. HbA1C erkaklarda 7,1% (4,8-15,0), ayollarda - 6,6% (4,9-11,1), umumiy guruhda uning qiymati 6,9% (4,8-15,0) edi. 36 (28,8%) bemorda qandli diabet anemiya bilan birlashtirildi. Hb, HbA1C darajalari va siydik bilan albumin ajralishi, shuningdek, siydikda albumin/kreatinin nisbati o'lchovi har bir jins uchun alohida ko'rib chiqildi (jadval).

Siydikdagi albumin/kreatinin nisbati erkaklarda 9,0 (0,8– >1000) mg/g, ayollarda – 9,9 (1,0– >1000) mg/g, umumiy guruhda – 9,6 (0,8– >1000) mg. /g. Kreatinin klirensi erkaklarda 112 ± 42 ml/min, ayollarda 86 ± 33 ml/min, umumiy guruhda 103 ± 41 ml/min. Bemorlarning 87 foizida (erkaklarning 86 foizi va ayollarning 84 foizi) normal qon zardobida kreatinin (<110 mkmol/l) kuzatilgan. Bemorlarning 75% (erkaklarning 74% va ayollarning 77%) normal albumin/kreatinin nisbatiga ega (<24 mg/g). O'rtacha Hb darajasi erkaklarda $14,2 \pm 1,3$ g/dL, ayollarda esa $13,6 \pm 1,5$ g/dL edi. 19 (23,7%) bemorga JSST mezonlariga ko'ra anemiya tashxisi qo'yilgan, shu jumladan 11 erkak va 8 ayolda Hb darajasi o'rtacha mos ravishda erkaklarda $12,3$ g / dL (10,9 dan 12,9 gacha) va ayollarda o'rtacha $11,5$ g / dL (9,2 dan 11,9 gacha). 10 ta anemiyasi mavjud erkaklar uchun o'rtacha korpuskulyar hajm (MCV) $90,1 \pm 5,4$ ni tashkil etdi, faqat bitta bemorda $MCV < 78$. 5 ta kamqonligi mavjud ayollar uchun o'rtacha MCV qiymati $84,5 \pm 7,8$ ni tashkil etdi, 8 ta bemordan 3 tasida $MCV < 78$. Shuning uchun

bemorlarning ko'pchiligi (85%) da normositar anemiya aniqlandi. Anemiyani aniqlash uchun JSST mezonlaridan foydalangan holda, anemiyasi mavjud bemorlarning 74% da qon zardobida kreatinin <110 mkmol/L, anemiya bilan og'rigan bemorlarning 72 % da kreatinin klirensi >60 ml/min bo'lgan. Qon zardobida kreatinin miqdori meyorda (<110 mkmol/L) bo'lganlarning 7% erkaklarda va 14% ayollarda anemiya bo'lgan, 24% erkaklarda va 38% ayollarda kreatinin darajasi ko'tarilgan (>110 mkmol/L).

Ushbu epidemiologik tadqiqot natijalariga ko'ra, 2-tur diabet bilan og'rigan odamlarda kamqonlikning tarqalishi 23,7% ni tashkil qildi. Anemiya borligiga qaramay kreatinin klirensi eng yuqori korrelyatsiyaga ega bo'lgan. 75% ga yaqin anemiyasi bor bemorlarda kreatininning zardobdagi miqdori (<110 mkmol/L) va kreatinin klirensi (>60 ml/min) meyorda bo'lgan. Xorijiy mualliflarning nashrlarida anemiya tarqalishining o'lchovlari o'rganilayotgan aholi soniga va qo'llaniladigan diagnostika usullariga qarab farqlanadi [15]. Ushbu tadqiqot shuni ko'rsatadiki, buyrak funktsiyasi saqlanib qolgan taxminan 60 yosh guruhida (glomerulyar filtratsiya tezligi 1,73 m² uchun 60 ml / min), anemiya tarqalishi 23,7% ni tashkil qiladi, bu xorijiy mualliflarning tadqiqotlari ma'lumotlariga to'g'ri keladi [15]]. Qandli diabet bilan og'rigan odamlarda anemiyaning og'irligi bir qator omillar, jumladan glomerulyar filtratsiya tezligi, siydikda albumin ajralishi va HbA1C darajalari bilan bog'liq [4]. Bundan tashqari, qandli diabet bilan og'rigan bemorlarda kamqonlikning tarqalishi umumiy populyatsiyadagi taqqoslanadigan buyrak etishmovchiligi bo'lgan bemorlarga qaraganda 2-3 baravar yuqoridir [4, 15].

Ushbu tadqiqot natijalari xorijiy mualliflarning xulosalari bilan mos keladi. Biroq, ushbu tadqiqotda yosh, zardobdagi kreatinin va hisoblangan kreatinin klirensi bilan bog'liqlik erkaklarda kuchliroq bo'lgan. Keyingi uyg'unlikning yo'qligi tadqiqotga jalb qilinganlarning kichik hajmi bilan bog'liq bo'lishi mumkin. Yana bir muhim topilma qandli diabetning davomiyligi va anemiya tarqalishi o'rtasidagi bog'liqlik edi. 5 yildan ortiq davom etgan diabet bilan og'rigan bemorlarda kamqonlik rivojlanish xavfi 5 yildan kam davom etgan diabet bilan kasallanganlarga qaraganda 1,7 baravar yuqori. Ushbu kuzatishlar shuni ko'rsatadiki, anemiyani aniqlash diabet bilan og'rigan shaxslarni muntazam skriningning bir qismi bo'lishi va nefropatiya va retinopatiya kabi mikrovaskulyar asoratlarni xavfini minimallashtirish uchun o'z vaqtida davolashni osonlashtirishi kerak.

Xulosa

Qandli diabet bilan og'rigan shaxslar orasida kamqonlikning nisbatan yuqori tarqalishi ushbu toifadagi shaxslarni tekshirishda anemiya skriningi zarurligini ko'rsatadi. Bundan tashqari, normal buyrak funktsiyasi bo'lgan bemorlarda anemiyaning nisbatan yuqori tarqalishi, qon zardobidagi kreatinin miqdori bilan o'lchanishi, bunday skrining faqat nefropatiya bilan og'rigan bemorlar bilan cheklanmasligi kerakligini ko'rsatadi.

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THE USE OF TECHNOLOGIES AND ONLINE PLATFORMS IN TEACHING ENGLISH TO STUDENTS OF TECHNICAL UNIVERSITIES: ADVANTAGES AND CHALLENGES

Abstract: *This article explores modern approaches to the integration of digital technologies and online platforms in the process of teaching English to students of technical specialties. It outlines the main advantages of using technologies, including increased student motivation, access to authentic materials, flexibility in the learning process, and the development of autonomous learning skills. At the same time, the article analyzes the key challenges faced by both instructors and learners, such as lack of technical resources, insufficient methodological training of teachers, and the risk of digital overload. In conclusion, it emphasizes the importance of a balanced approach and the continuous improvement of digital pedagogy.*

Keywords: *online learning, technical education, digital technologies, English language, language training, motivation, challenges.*

Introduction

In the context of rapid technological advancement and the digitalization of education, the implementation of innovative tools in foreign language teaching has become particularly relevant. This issue is especially critical in technical universities, where students not only master engineering and applied sciences but also require a high level of English proficiency as the language of international scientific and professional communication. The use of online platforms, interactive applications, and multimedia resources allows the learning process to be adapted to students' individual needs, making it more flexible and modern.

1. Advantages of Using Technologies in English Language Teaching

1.1 Increasing Motivation and Engagement

Gamification tools such as Kahoot!, Quizlet, and the use of visual content (videos, infographics) enhance students' interest in learning. Modern students are “digital natives,” and the familiar format of digital interaction contributes to their active participation and engagement.

1.2 Access to Authentic Materials

Resources like YouTube, TED Talks, Coursera, and academic platforms provide students with access to real, contemporary, and professionally oriented language. This promotes the development of reading, listening, and comprehension skills in professional contexts.

1.3 Flexibility and Individualization

Online courses (e.g., Moodle, Edmodo, Google Classroom) enable asynchronous learning, which is especially important for students involved in internships or project work. The ability to rewatch lectures and learn at their own pace encourages independent study.

1.4 Supports for Professional Orientation

Integrating technical vocabulary and simulating professional situations (such as project presentations or participation in online conferences) contributes to the formation of skills necessary for future engineers and IT specialists.

2. Key Challenges and Issues

2.1 Limited Technical Access

Not all students have access to appropriate devices or a stable internet connection, particularly in remote learning settings. This creates a digital divide.

2.2 Insufficient Teacher Training

English language proficiency and pedagogical skills do not always coincide with digital competence. Teachers require support, professional development courses, and access to methodological guidelines for using digital tools effectively.

2.3 Risk of Overload and Decreased Motivation

An excess of digital content and the constant need to stay online may lead to fatigue and reduced interest. It is essential to balance the workload and maintain live communication whenever possible.

2.4 Assessment and Knowledge Control Issues

Automated tests often fail to assess communicative skills adequately. Therefore, flexible and multi-level evaluation systems are needed, including portfolios, projects, peer reviews, and reflective tasks.

3. Practical Recommendations for Technology Integration

- Adopt a **blended learning approach**, combining online tools with traditional in-person classes.
- Implement **technical simulations**, project-based tasks, and real-world case studies.
- Encourage students to create **digital content** (blogs, video presentations, podcasts).
- Provide regular **feedback and monitoring** of the effectiveness of online tools.
- Join **professional networks** and teaching communities to share best practices.

Conclusion

The integration of digital technologies and online platforms into the English language teaching process in technical universities represents a pivotal shift in the educational paradigm of the 21st century. It not only modernizes the classroom experience but also aligns language learning with the realities of a digitally-driven global professional environment. For students of technical disciplines—future engineers, IT specialists, and scientists—proficiency in English is not merely an

academic requirement but a vital skill for career advancement and international collaboration.

The advantages of technology-enhanced learning are undeniable. Through interactive platforms, gamification, and access to authentic and specialized content, students become active participants in their own learning journeys. Digital tools foster autonomous learning, support the acquisition of professional vocabulary, and simulate real-life communication scenarios relevant to their future careers. Moreover, the flexibility provided by online environments meets the practical needs of technical students who often juggle academic, research, and project-based responsibilities.

However, the digital transformation of education is not without its complexities. A range of challenges—technological, pedagogical, and psychological—can hinder the effectiveness of these innovations if left unaddressed. The digital divide remains a significant concern, as does the preparedness of educators to implement and manage technology-rich instruction. Furthermore, without a well-structured pedagogical framework, excessive reliance on digital platforms may lead to cognitive overload, disengagement, or superficial learning.

Therefore, a balanced, evidence-based approach is essential. Technology should be viewed as a means to enhance—not replace—core educational principles. Effective implementation requires thoughtful instructional design, continuous teacher training, adequate technical infrastructure, and mechanisms for student support and feedback. Furthermore, institutional commitment to fostering digital literacy for both faculty and learners must be prioritized.

In conclusion, the use of technologies and online platforms in teaching English to technical university students is a promising strategy that, if executed strategically, can significantly improve language competence and professional readiness. It offers the potential to transform English language learning into a dynamic, relevant, and future-oriented process. However, its success depends on the thoughtful integration of tools, the adaptability of teaching practices, and the continuous evaluation of pedagogical outcomes in line with the evolving needs of students in technical fields.

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TOSHKENT VILOYATI HUDUDIY REKREASION RESURSLARNING TASNIFI

Annotatsiya: Ushbu maqolada Toshkent viloyatining hududiy rekreatsion resurslari tizimli ravishda tahlil qilinadi. Rekreatsion resurslar tabiiy, madaniy-tarixiy va ijtimoiy-infratuzilma omillari asosida tasniflanadi. Tabiiy resurslar qatoriga tog'li hududlar, iqlim sharoiti, daryo va suv omborlari kiradi. Madaniy-tarixiy resurslar esa viloyatdagi tarixiy obidalar, ziyoratgohlar va arxeologik yodgorliklar bilan bog'liq. Shuningdek, sanatoriyalar, dam olish maskanlari va turizm infratuzilmasi rekreatsion imkoniyatlarni yanada boyitadi. Maqolada ushbu resurslardan samarali foydalanish imkoniyatlari va ularni rivojlantirish yo'nalishlari ham ko'rib chiqiladi.

Kalit so'zlar: Toshkent viloyati, rekreatsion resurslar, tabiiy resurslar, madaniy-tarixiy obidalar, turizm, dam olish maskanlari, hududiy tasnif, ekologik turizm, sanatoriya, iqlim sharoiti.

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CLASSIFICATION OF TERRITORIAL RECREATIONAL RESOURCES OF THE TASHKENT REGION

Abstract: This article will provide a systematic analysis of the territorial recreational resources of the Tashkent region. Recreational resources are classified according to natural, cultural, historical, and socio-infrastructural factors. Natural resources include mountainous areas, climatic conditions, rivers, and reservoirs. On the other hand, cultural and historical resources are linked to historical monuments, shrines and archaeological sites in the province. Sanatoriums, resorts, and tourist infrastructure also further enrich recreational opportunities. The article will also consider the possibilities of effective use of these resources and the directions of their development.

Keywords: Tashkent region, recreational resources, natural resources, cultural and historical monuments, tourism, resorts, territorial classification, ecological tourism, sanatoriums, climatic conditions.

KIRISH: Toshkent viloyati O'zbekistonning markaziy hududi bo'lib, bu hududning gastronomik salohiyati juda katta. Viloyatda o'zbek milliy taomlarining keng tanlovi mavjud, shu bilan birga, bu hudud turizm salohiyati yuqori bo'lgan

joylardan biridir. Toshkent viloyatidagi restoranlar va kafe tarmog‘i hali nisbatan yosh bo‘lishiga qaramay, ular o‘zining turli xil taomlari va taqdimot uslublari bilan ajralib turadi. Biroq, hozirgi kunda gastronomik turizm viloyatda to‘liq rivojlanmagan va turizmni yangi jihatlaridan rivojlantirish uchun keng imkoniyatlar mavjud.

Viloyatda gastronomik turizmning rivojlanishiga to‘siq bo‘lishi mumkin bo‘lgan omillar ham mavjud. Bular orasida:

- infratuzilmaning yetarli darajada rivojlanmaganligi,
- restoranlar va kafe tarmog‘ining notekis rivojlanishi,
- marketing va reklama strategiyalarining yetishmasligi kabi muammolar bor.

Gastronomik turizmni rivojlantirish uchun viloyatning turistik salohiyatidan to‘liq foydalanish zarur, bunda milliy taomlarni faqat mahalliy aholi uchun emas, balki turistlar uchun ham ko‘rsatilishi kerak.

Gastronomik turizmni rivojlantirish uchun zarur infratuzilma. Gastronomik turizmni rivojlantirish uchun infratuzilma alohida ahamiyatga ega. Ushbu sohada rivojlanish uchun quyidagi muhim infratuzilma jihatlari talab etiladi:

Restoranlar va kafe tarmog‘ini kengaytirish: Toshkent viloyatida gastronomik turizmni rivojlantirish uchun milliy taomlarni taqdim etadigan restoranlar va kafelar sonini ko‘paytirish, ularning sifatini yaxshilash zarur. Hozirgi kunda faqat ba'zi restoranlar milliy taomlar taklif qiladi, lekin ularning umumiy soni juda kam. Yangi restoranlar ochish, ular orasida raqobatni kuchaytirish va xizmat sifatini oshirish talab etiladi.

Gastronomik festivallar va tadbirlar: Viloyatda gastronomik festivallar va turli taomlar tanlovlarini tashkil etish gastronomik turizmni rivojlantirishga yordam beradi. Festival va tadbirlarda mahalliy va xorijiy turistlarga viloyatning gastronomik salohiyatini namoyish etish, shuningdek, O‘zbekistonning oshxona madaniyati haqida bilimlarni oshirish muhim.

O‘quv kurslari va ta'lim: Oshpazlik san'ati bo‘yicha o‘quv kurslari tashkil etish va mutaxassislar tayyorlash viloyatda gastronomik turizmni rivojlantirishga yordam beradi. Oshpazlar, restoran menejerlari va boshqa turizm sohasi mutaxassislari uchun ta'lim olish imkoniyatlarini yaratish, mahalliy kadrlar sifatini oshirish kerak.

Gastronomik turizmni rivojlantirishda marketing strategiyalari. Gastronomik turizmni rivojlantirishda marketing strategiyalari muhim o‘rin tutadi. Ushbu sohada samarali marketingni amalga oshirish uchun quyidagi strategiyalarni ishlab chiqish zarur:

Onlayn reklama va marketing: Bugungi kunda internet marketingining roli juda katta. Viloyatdagi gastronomik turizmni targ‘ib qilish uchun zamonaviy onlayn platformalardan foydalanish muhim. Mavjud restoranlar va festivallarni internetda reklama qilish, ijtimoiy tarmoqlarda faoliyatni kuchaytirish, turistik saytlar va platformalarda Toshkent viloyatining gastronomik salohiyatini taqdim etish zarur.

Brending: Toshkent viloyatining gastronomik turizmni brend sifatida tanitish va bu brendni xalqaro miqyosda reklama qilish kerak. Har bir hududning o‘ziga xos

gastronomik xususiyatlarini ajratib ko'rsatish va ularni bir butun brend sifatida taklif etish viloyat turizmini rivojlantiradi.

Turistik mahsulotlarni diversifikatsiya qilish: Gastronomik turizmni faqat taomlar bilan bog'lamay, balki madaniyat, san'at va tabiat bilan ham bog'lash. Masalan, turistlarga o'zbek milliy taomlarini tayyorlash bo'yicha master-klasslar, taom tayyorlashda ishlatiladigan ingredientlarni yig'ish turlari va boshqa qo'shimcha xizmatlarni taqdim etish.

Xorij tajribasidan foydalanish. Gastronomik turizmni rivojlantirishda xorij tajribasidan foydalanish juda muhimdir. Dunyo bo'ylab gastronomik turizmni muvaffaqiyatli rivojlantirgan mamlakatlar tajribasini o'rganish va Toshkent viloyatida ushbu tajribalarni qo'llash imkoniyatlarini aniqlash zarur. Masalan, Frantsiya, Italiya va Yaponiyada gastronomik turizmning rivojlanishiga olib kelgan asosiy faktorlarni tahlil qilish kerak. Bu mamlakatlar o'zlarining oshxona madaniyatini jahon bo'ylab tarqatish va turizmni rivojlantirishda samarali strategiyalarni ishlab chiqqan. Toshkent viloyatiga moslashtirilgan bunday tajribalar gastronomik turizmni samarali rivojlantirishga yordam beradi.

Rekreatsion hududlarning antropogen ta'sirga nisbatan alohida zaifligini hisobga olgan holda, ularning ijtimoiy-madaniy, biologik va landshaft xilma-xilligi, suv, biologik, rekreatsion va mineral resurslar ombori sifatida ahamiyati, turar-joy va iqtisodiyotning maxsus shakllari ijtimoiy-iqtisodiy rivojlanishning bugungi voqeliklarini qayta ko'rib chiqish, uni mamlakatni rivojlantirish strategiyasi bilan bog'lash kerak. turizmni rivojlantirish, tabiiy tabiatni muhofaza qilish va Toshkent viloyatining kompleks rivojlanishi [1].

O'zbekiston tog'li hududida yaxlit rivojlanish va dam olishni hududiy tashkil etish istiqbollari konsepsiyasi quyidagi asosiy tamoyillarga asoslanishi kerak:

1) tog' va tog' oldi zonalarining tabiiy-rekreatsion salohiyatidan keng foydalanish va rekreantlarni joylashtirishga ixtisoslashgan aholi punktlarining maxsus tizimini shakllantirish orqali mamlakatning rekreatsion ehtiyojlarining katta qismini qondirish [2];

2) tiklanishning eng muhim omili sifatida tog' muhitining yuqori sifatini saqlash va himoya qilish;

3) rekreatsion iqtisodiyotni intensivlashtirish va kontsentratsiya, kooperatsiya va ixtisoslashuv orqali resurslardan foydalanishni doimiy ravishda takomillashtirish;

4) rekreatsion ehtiyojlar va talablarni boshqarish, birinchi navbatda, rekreatsion resurslar va turistik imidjni samarali reklama qilishni yo'lga qo'yish orqali;

5) hududiy rekreatsiya tizimlarini boshqarishni takomillashtirish hisobiga tog' rekreatsiya tizimi faoliyati samaradorligini sezilarli darajada oshirish imkoniyati;

6) turizm, mahalliy rivojlanish va tabiatni muhofaza qilishning kombinatsiyasi.

Ilgari surilgan kontsepsiyaga muvofiq, ayniqsa ta'kidlash kerak bo'lgan eng muhim tadbirlar orasida:

1) rivojlangan rekreatsion infratuzilmani yaratish va tog'li hududlarga yil davomida xavfsiz kirishni ta'minlash, ixtisoslashtirilgan dam olish markazlari, majmualar, dam olish yo'llari va jihozlangan dam olish joylari va xizmat ko'rsatish korxonalari bilan sayyohlik yo'llari tarmog'ini shakllantirish. Dam olish va sayyohlik ob'ektlarini ko'paytirish bo'yicha kompleks tadbirlarni rejalashtirishda biz ushbu mintaqaning seysmik faolligi haqida unutmashimiz kerak, shu munosabat bilan, bizning fikrimizcha, chet el tajribasidan foydalanish tavsiya etiladi, masalan, Yaponiya bu masalada ulkan yutuqlarga erishdi. vaziyatni modellashtirish va rejalashtirilgan ob'ektning maket sinovidan foydalangan holda;

2) barcha viloyatlardagi milliy (tabiiy) bog'lar maydonini hududlar sifatida sezilarli darajada kengaytirish tabiatni muhofaza qilish va rekreatsion funktsiyalarni birlashtirish printsipli asosida tashkil etilgan, ammo hozirga qadar. "Muhofaza etiladigan tabiiy hududlarga mulk huquqi", "muhofaza etiladigan tabiiy hududlar to'g'risida" gi qonun, yer uchastkalari va boshqa tabiiy obyektlar yuridik va jismoniy shaxslarga faqat xususiy buyurtma qo'riqxonalar va tabiiy pitomniklar tashkil etish uchun foydalanish uchun berilishi mumkin. Bizning fikrimizcha, kuzatuv va ekologik turizmni rivojlantirishga imkon beradigan tegishli o'zgarishlarni amalga oshirish kerak;

3) tog' hududidan rekreatsion foydalanishni qishloq xo'jaligi, suv xo'jaligi va o'rmon xo'jaligidan foydalanish bilan tabiatni muhofaza qilish funktsiyasi va boshqalar bilan birlashtirish. rekreatsiya va ishlab chiqarishni birlashtirish tamoyillari asosida ishlaydigan kooperatsiyani yaratish orqali;

4) dam olish tashkilotchilarining e'tiborini alohida korxonalarni tashkil etishdan rekreatsion jihozlangan hududlar tizimini yaratishga, infratuzilmani rivojlantirishga, dam olishni tashkil etish tizimiga chiziqli balandlikdagi (ekskursiya, dam olish, sayyohlik yo'nalishlari) va nuqta (ekskursiya joylari va ob'ektlari) elementlarini kiritish;

5) tog'lar iqtisodiyotini ko'p tarmoqli iqtisodiyotga aylantirishning faol omili sifatida kichik va xususiy tadbirkorlikni rekreatsiya qilishni tashkil etishga keng jalb qilish. Shu maqsadda tog'larda dam olishda asosiy e'tibor kapital tuzilmalar va professional xizmatlarga emas, balki minimal texnik vositalar bilan jihozlangan, sport, yurish turizmi va alpinizmga imkon qadar yaqin bo'lgan sayyohlarga, tog' aholisining an'anaviy turmush tarziga (ekoturizm)qaratilishi kerak.;

6) O'zbekiston tog'larining sayyohlik atlasini yaratish.

Ushbu muammolarning barchasini hal qilish, bir tomondan, tog'larning rekreatsion funktsiyalarini kuchaytirishga, boshqa tomondan, mamlakatimizning ushbu noyob burchaklarining tabiati va madaniyatini saqlab qolishga imkon beradi. Shu munosabat bilan turli xil investitsiya manbalaridan foydalangan holda dam olish resurslarini rivojlantirishni tabaqalashtirish maqsadga muvofiqdir.

Toshkent viloyati misolida rekreatsion faoliyatni samarali tashkil etish, keyinchalik xizmat ko'rsatish sohasining turli tarmoqlarini rivojlantirishga turtki berish imkoniyatlari ko'rib chiqildi. Mintaqaning imkoniyatlari, tahdidlari, ijobiy va salbiy tomonlarini aniqlash maqsadida Ching'on-Chorok kurort-rekreatsiya zonasining rekreatsion-turistik salohiyatini SWOT-tahlil qilish o'tkazildi. Chorvok

suv ombori zonasining o'tkazish qobiliyati ko'rib chiqildi. Ushbu tahlil natijasida mintaqa ekotizimidagi salbiy o'zgarishlar bilan bog'liq muammolar aniqlandi va Toshkent viloyatining rekreatsion-turistik salohiyatini pasaytirish imkoniyati haqida taxminlar ilgari surildi. Shuningdek, Toshkent viloyatining tog' va tog' oldi zonalarini rayonlashtirish ishlari olib borildi. Natijada tog' dam olish maskanlarining to'rt xil funktsional turlari aniqlandi. O'zbekiston tog' zonasida yaxlit rivojlanish va dam olishni hududiy tashkil etish istiqbollari konsepsiyasi taklif qilindi va uning faoliyatining asosiy prinsiplari ishlab chiqildi.

Toshkent viloyati dam olish va turizm faoliyatini rivojlantirish uchun alohida imkoniyatlarga ega. Bugungi kunda viloyatda mahalliy va xorijiy rekreantlar va sayyohlarga xizmat ko'rsatuvchi 120 ta tashkilot, shu jumladan kuniga 2440 sayyohga xizmat ko'rsatish imkoniyatiga ega 15 ta turoperator va 45 ta mehmonxona, shuningdek, 71 ta sanatoriya va dam olish maskanlari faoliyat ko'rsatmoqda. Toshkent viloyatida Chimgan-Chorvoq kurort-rekreatsiya zonasi rekreantlarning eng sevimli dam olish maskani hisoblanadi. Ushbu zonani SHOT-tahlil qilish natijalariga ko'ra asosiy zaif tomonlar aniqlandi: o'simlik qoplami o'zlashtirilgan hududlarda monoton va kam emas, ko'ngilochar ob'ektlarning etishmasligi, taklif etilayotgan turistik xizmatlarning tor doirasi, mehmonxona va uning infratuzilmasining etarli darajada o'tkazilmasligi. Asosiy tahdidlar: doimiy rekreatsion oqimlar tufayli ma'lum bir hudud ekotizimining keskin o'zgarishi xavfi mavjud bo'lib, bu butun mintaqadagi ekologik vaziyatning yomonlashishiga, turizm sohasini rivojlantirayotgan qo'shni hududlarning raqobatining kuchayishiga va taklif etilayotgan xizmatlarning past darajasi tufayli iste'molchilarning hududga bo'lgan qiziqishining zaiflashishiga olib kelishi mumkin. Hududning o'tkazish qobiliyati haqida gapirganda, dala tadqiqotlari natijalariga ko'ra, faqat yozgi davrda bu erda 300 mingga yaqin odam dam olishi aniqlandi. Yakshanba kunlari faqat "Sohil" zonasida, plyajda, yaxshi kunlarda 500 dan 1500 gacha avtoullovchilar to'xtaydi. Shu bilan birga, ushbu hududning tabiiy imkoniyatlari, ayniqsa qirg'oq zonasida, allaqachon charchash arafasida. Tuproq va o'simlik qoplaminin degradatsiyasi mavjud. Hayvonlarning ko'p turlari yo'qolib bormoqda. Eroziya jarayonlari kuchaymoqda. Bu butun Janubiy qirg'oqqa xosdir (kengligi 200 m gacha bo'lgan chiziq). Toshkent viloyati tog'zonasida rekreatsiya faoliyatini samarali tashkil etish maqsadida ekotizim saqlanishini hisobga olgan holda 3 ta funktsional jihatdan har xil turdagi tog' rekreatsiya tumanlarini ajratib ko'rish mumkin:

- 1) Pargos - Oqtosh,
- 2) Chimgan-Chorvoq sog'lomlashtirish tumani,
- 3) Parkent-Sukoq sog'lomlashtirish tumani.

Biz olib borgan tadqiqotlar natijasida O'zbekiston tog'zonasida yaxlit rivojlanish va dam olishni hududiy tashkil etish istiqbollari kontsepsiyasi taklif qilindi, u quyidagi asosiy tamoyillarga asoslanishi kerak:

- 1) tog' va tog' oldi zonasining tabiiy-rekreatsion salohiyatidan keng foydalanish va rekreantlarni joylashtirishga ixtisoslashgan aholi punktlarining maxsus tizimini shakllantirish orqali mamlakatning rekreatsion ehtiyojlarining katta qismini qondirish;

2) tog' muhitining yuqori sifatini saqlash va muhofaza qilish eng muhim omil hisoblanadi;

3) rekreatsion iqtisodiyotni intensivlashtirish va kontsentratsiya, kooperatsiya va ixtisoslashuv hisobiga resurslardan foydalanishni doimiy ravishda takomillashtirish;

4) rekreatsion ehtiyojlar va talablarni, birinchi navbatda, rekreatsion resurslar va turistik imidjni samarali reklama qilishni yo'lga qo'yish orqali boshqarish;

5) hududiy rekreatsion tizimlarni boshqarishni takomillashtirish orqali tog' rekreatsion tizimining samaradorligini sezilarli darajada oshirish imkoniyatlari;

6) turizm, mahalliy rivojlanish va tabiatni muhofaza qilishning kombinatsiyasi.

Toshkent viloyatini rivojlantirishning istiqbolli maqsadi uni zamonaviy, yuqori samarali turistik-rekreatsion markazga aylantirish, fuqarolar va xorijiy mehmonlarning turistik-rekreatsion xizmatlarga bo'lgan ehtiyojlarini qondirish, zarur investitsiyalar oqimini ko'paytirish, shuningdek, ish o'rinlari sonining ko'payishiga ko'maklashishdir. Mintaqaning dam olish va turizm sohasidagi o'zgarishlarning yakuniy maqsadi rivojlangan turizm infratuzilmasi bilan samarali iqtisodiyotni yaratishdir. [3]

Bugungi kunda zamonaviylikning talabi alohida turistik loyihalarni ishlab chiqishdan kelajakdagi klasterlarning asosi bo'lib xizmat qiladigan dam olish va sayyohlik zonalarini yaratishga o'tishdir.

Rekreatsion-turistik kompleks iqtisodiy tizim sifatida - bu iqtisodiy ob'ektlarning o'zaro ta'sirini, dam olish va sayyohlik xizmatlarini ishlab chiqarish va sotishni ta'minlaydigan faoliyat xususiyatini belgilaydigan tashkiliy-iqtisodiy munosabatlar va institutlar to'plamidir. Bugungi tushunchaga ko'ra, dam olish va sayyohlik zonalarini dam olish va sayyohlik mahsulotlari yaratilgan, infratuzilma to'plangan va dam olish va sayyohlik oqimlari yo'naltirilgan eng istiqbolli hududlardir. Boshqa joylar past potentsialga ega deb e'lon qilinadi. Zamonaviy rekreatsion-turistik oqimning tuzilishi maqsadli auditoriyaga, jozibadorligiga, turizm yo'nalishiga va uni rivojlantirish maqsadlariga qarab diversifikatsiyalangan. Turizm bilan bog'liq daromadlarni oshirish uchun Toshkent viloyati xarid qilish qobiliyatining barcha toifalariga sayyohlarni jalb qilishi zarur. Toshkent viloyatida aholini yaqin hududlardan va Toshkent shahridan jalb qilish hisobiga qamrov zonasi va savdo zonasi ko'payishi kerak. Maqsad Toshkent viloyatida rekreatsion-turistik yo'nalishlarni tashkil etish va raqobatdosh yo'nalishlarga tashrif buyuradigan sayyohlarga moslashtirilgan rekreatsion-turistik mahsulotni taklif qilish: Qirg'iziston (Issiqko'l), Turkiya va boshqalar. Ushbu maqsadga erishish uchun Toshkent viloyatida mavjud bo'lgan rekreatsion-turistik resurslarni mutanosib ravishda rivojlantirish zarur. Shu bilan birga, oldida turgan asosiy vazifa

Davlat va mahalliy hokimiyat organlari mintaqaning ekotizimini saqlab qolish va mavjud dam olish va sayyohlik resurslarini ko'paytirishdir.

Bugungi kunda Toshkent viloyatida mahalliy va xorijiy rekreantlar va sayyohlarga xizmat ko'rsatuvchi 120 ta tashkilot, shu jumladan kuniga 2440 sayyohga xizmat ko'rsatish imkoniyatiga ega 15 ta turoperator va 45 ta

mehmonxona, shuningdek, 71 ta sanatoriya va dam olish maskanlari faoliyat ko'rsatmoqda.[4]

Yuqoridagilardan kelib chiqqan holda, bugungi kunda rekrekreantlar orasida juda mashhur bo'lgan Toshkent viloyati hududlarini tahlil qilish zarur deb hisoblaymiz.

Toshkent viloyati hududi landshaftning barcha elementlari - tabiiy, ijtimoiy va iqtisodiy elementlarning majmui bo'lib, ular barqaror rivojlanishga alohida xususiyat beradi.

Toshkent viloyatining marvaridi-Chorvoq suv ombori zonasi, biz ushbu hududning rekreatsion imkoniyatlarini tahlil qilamiz.

Jahon tajribasi shuni ko'rsatadiki, dam olish va sayyohlik zonalarini tanlashda hududda suv resurslarining mavjudligi ularning shakllanishida hal qiluvchi omil hisoblanadi.

Toshkent viloyatida Rekreatslarning sevimli dam olish joyi-Chorvoq suv omborining zonasi. Suv omborlarining rekreatsion qiymati ko'plab omillar bilan belgilanadi, masalan, suv sathining shakli, chuqurligi, oyna maydoni, tozaligi, shaffofligi, sho'rliigi, suv harorati, suv omborining aholi punktlaridan uzoqligi, transport magistrallari bilan ta'minlanishi va boshqalar.

Shuni ta'kidlash kerakki, Charvak suv ombori rekreatsion maqsadlarda keng qo'llaniladigan kompleks suv havzasi hisoblanadi. Charvak suv omborining qirg'oq zonasi, ayniqsa uning Janubiy qismi, suv omborini qurish va faoliyat ko'rsatishdan oldin rekreatsion maqsadlarda ishlatilgan. Bunga chimgansay daryosi vodiysi va Chatkal daryosining chap qirg'og'i kiradi. Bu katta Chimg'on, kichik Chimg'on, Qiziljar o'lkalari tog'larining go'zal manzarali qiyaliklari bo'lgan hudud. U tog' turizmi, qishki sport turlari va shunchaki aholining ko'ngil ochishi va dam olishi uchun ishlatilgan. Bu yerda Chimgan sayyohlik bazasi, sog'lomlashtirish sanatoriylari, bir nechta bolalar sog'lomlashtirish oromgohlari qurilgan. [4]

ZAIF TOMONLARI

Tabiiy resurslar: o'simlik qoplami bir xil emas va rivojlangan dam olish va sayyohlik hududlarida kam uchraydi.

Mehmonxona madaniy resurslari: ko'ngilochar majmualarning ko'ngilochar ob'ektlari, tematik parklar va boshqalar etishmasligi);

turistik firmalar tomonidan kirish va ichki turizm bo'yicha taklif etilayotgan xizmatlarning tor doirasi va tog', suv turizmi ekskursiya va dam olish turizmi dasturlarining rivojlanmaganligi);

mintaqada turistik va axborot markazlarining etishmasligi tufayli qulay axborot muhitining yo'qligi;

Turizmning moddiy-texnik bazasi:

mehmonxona iqtisodiyoti va uning infratuzilmasining etarli darajada o'tkazilmasligi;

umumiy ovqatlanish va sayyohlarga xizmat ko'rsatish korxonalarining rivojlanmaganligi;

noqulay transport yoki uning etishmasligi; rekreatsion hududlarni obodonlashtirishning past darajasi.

KUCHLI TOMONLAR

Tabiiy resurslar: qulay, yumshoq iqlim, kashfiyot yil davomida imkoniyatlar dam olish va sayyohlik mavsumi;

Chiroyli tog' landshafti, tezkor daryolar, suv omborining mavjudligi

Mehmondo'stlikning madaniy manbalari:

g'or rasmlari va boshqa tarixiy yodgorliklar; mahalliy xalq badiiy hunarmandchiligi turlarining xilma-xilligi, musiqiy va folklor an'analari, jadal rivojlanmoqda yarmarka faoliyati infratuzilmasi.

Turizmning moddiy-texnik bazasi:

mavjud transport aloqasi tizimi, Toshkent shahri bilan ishonchli va qulay transport aloqasi;

sanatoriy-kurort muassasalarining tashkil etilgan tarmog'i.

Tahdidlar

Doimiy dam olish va sayyohlik oqimlari tufayli ushbu hudud ekotizimida keskin o'zgarish xavfi mavjud bo'lib, bu butun mintaqadagi ekologik vaziyatning yomonlashishiga olib kelishi mumkin; turizm sohasini rivojlantirayotgan qo'shni hududlarning raqobatining kuchayishi; taklif etilayotgan xizmatlarning past darajasi tufayli iste'molchilarning hududga bo'lgan qiziqishining pasayishi.

Imkoniyatlar qulay mavjudligi investitsiya muhiti, jalb qilishni rag'batlantirish turizm infratuzilmasini rivojlantirishga investitsiyalar kiritish; loyiha bo'yicha o'zbek va xorijiy sayyohlar uchun yangi turistik yo'nalishlarni yaratish: "Chorvoq" Erkin turistik zonasi.

Yozda bu yerda turli baholarga ko'ra har yili 5-20 ming kishi dam olgan. Suv omborini qurgandan so'ng, ushbu hududda dam oluvchilar soni bir necha baravar ko'paydi. Bunga suv ombori atrofida yangi avtomobil yo'li qurilishi, qirg'oq plyajlari, Bakachulning yangi qirg'oq zonalari yordam berdi. Sohil bo'yida ko'plab yangi dam olish maskanlari, sanatoriylar, pansionatlar, plyajlar, bolalar sog'lomlashtirish oromgohlari, qayiq stantsiyalari qurildi. Janubiy sohilda yubiley, Yangiqo'rg'on, Yusupxon shaharchalari paydo bo'ldi. Kungurbuka tog'larining yon bag'irlarida ko'plab kottejlar va lagerlar qurilgan.

Bularning barchasi ushbu hududning yangi dam olish imkoniyatlarining paydo bo'lishi va ishlatilishiga yordam berdi. Shu bilan birga, ushbu hududning tabiiy imkoniyatlari, ayniqsa qirg'oq zonasida, allaqachon charchash arafasida. Tuproq va o'simlik qoplamining degradatsiyasi mavjud. Hayvonlarning ko'p turlari yo'qolib bormoqda. Eroziya jarayonlari kuchaymoqda. Bu butun Janubiy qirg'oqqa xosdir (kengligi 200 m gacha bo'lgan chiziq) [5].

Bugungi kunda, turli xil hisob-kitoblarga ko'ra, shuningdek, biz olib borgan dala tadqiqotlari natijalariga ko'ra, faqat yozda bu erda 300 mingga yaqin odam dam olishini aniqlash mumkin. Yakshanba kunlari faqat "Sohil" zonasida, plyajda, yaxshi kunlarda 500 dan 1500 gacha avtoullovchilar to'xtaydi. Ushbu zonada sanitariya muhofazasi, gigiena punktlari bilan bog'liq katta muammolar mavjud. Shu bilan birga, ushbu hududning suv va boshqa tabiiy resurslaridan yirtqich foydalanish mavjud. Butalar, yong'oq bog'lari kesiladi, tabiiy manbalar ifloslanadi.

Chimgansay daryosi vodiysi bugungi kunda dam olish uchun eng ko'p ishlatiladigan zonalaridan biridir. Bu yerda 20 dan ortiq yirik rekreatsiya obyektlari joylashgan. Bular Chimgan sayyohlik majmuasi, sil kasalligi sanatoriysi, Chimgan sport majmuasi, ko'plab maktab sog'lomlashtirish lagerlari. Chimgansay daryosi vodiysi, ayniqsa uning o'rta qismi va og'zi, inson xo'jalik faoliyatining turli mahsulotlari bilan juda ifloslangan.

Ushbu muammoning echimi, bizning fikrimizcha, dam olish va sayyohlik zonalarini rivojlantirishning nomutanosibligini bartaraf etish, ya'ni boshqa hududlarning jozibadorligini oshirish, butun viloyat bo'ylab dam olish va sayyohlik oqimlarini tarqatish orqali amalga oshiriladi [6,9, 11,12].

Chorvok suv omborining g'arbiy qirg'og'ida, Nauvalisay daryosi og'zidagi Sijaki qishlog'i zonasida rekreatsiya maqsadlarida juda intensiv rivojlanish sodir bo'ldi. Bu yerda ko'plab dam olish uylari, pansionatlar, lagerlar qurilgan. Shu bilan birga, aholining ko'payishi yog'och uyushmalariga zarar etkazdi, chunki ko'plab daraxtlar yoqilg'i sifatida kesilgan. Shunday qilib, ko'plab noyob yong'oq bog'lari yo'q qilindi, ular ilgari deyarli barcha saev va suxodol vodiylarida ko'p bo'lgan. Yaqinda bu erda tabiatni brakonerlardan va ushbu zonaning o'rmon resurslaridan oqilona foydalanmaslikdan himoya qiladigan ovchilar va ovchilar uchun maxsus jamiyat tashkil etildi.[10]

Shu bilan birga, bu erda tog' turizmini rivojlantirish uchun alohida sayyohlik majmualarini tashkil qilish mumkin.

Mintaqaning tog' va tog' oldi zonasining istiqbolli yo'nalishlarini ko'rib chiqing.

Toshkent viloyatida tog' va tog' oldi rekreatsiya komplekslari va markazlarining faol shakllanishiga ushbu mintaqaning qulay transport-geografik joylashuvi (Toshkent shahri va viloyatning boshqa sanoat markazlarining mavjudligi va yaqinligi) yordam berdi. Turizmning maxsus shakli yozgi turizmni o'z ichiga oladi, chunki shahar aholisining katta oqimi tog'larda joylashgan ko'plab yozgi qishloqlarga yo'naltiriladi. Tog'larda tog' rekreatsiyasining 4 xil funktsional turlari shakllangan:

1) Pargos-Aktash-Karjantau past tog'lari va o'rta tog'lari, davolash-sog'lomlashtirish tumani tog'li iqlim, mineral buloqlar, Xodjikent suv ombori sohillaridan foydalanish asosida tashkil etilgan. Bu yerda

Tavaksay (800 m), HUMSAN (1150 m), Aktash (1140 m) sanatoriylari va boshqa dam olish zonolari, bolalar lagerlari, sport bazalari joylashgan;

2) Chimgan-Charvak sog'lomlashtirish tumani Charvak suv ombori sohili bo'ylab cho'zilib, g'arbiy Tyan-Shanning tabiiy jihatdan eng jozibali qismini-Charvak vodiysi va Chimgan tog' o'lkasini qamrab oladi. Ushbu tumanda O'zbekistondagi eng yirik dam olish maskani tashkil etildi. Mintaqa Toshkent shahri korxonalari va tumanlarining dam olish zonasining ustunligi, suv ombori qirg'og'iga tortiladigan bolalar va talabalar tashkilotlari majmualari bilan ajralib turadi va vakolatli mutaxassislarning fikriga ko'ra, bunday tendentsiya o'n yildan ko'proq vaqt davomida saqlanib qoladi. Shuning uchun ushbu zona haqiqiy dam olish

imkoniyatlarini (tog'-sayyohlik va tog' -chang'i va sport ixtisoslashuvi) to'liq qayta ko'rib chiqishga va dam olish va sayyohlik faoliyatini faollashtirishga muhtoj;

3) Parkent-Sukok sog'lomlashtirish tumani Chotkal silliqqligining past tog'li-o'rta tog'li zonasini, shu jumladan Ugam-Chotkal tabiat bog'i hududini qamrab oladi.

Shuni ta'kidlashni istardimki, Toshkent viloyati hududi ekotizimlari to'plamining xilma-xilligi va to'liqligi O'zbekistonning eng katta tabiiy ekologik, ijtimoiy va iqtisodiy boyligi, uning landshaftining barqarorligi va umuman mamlakatning barqaror rivojlanishining kalitidir.

Bu bir tomondan saqlanib qolgan tabiiy va yarim tabiiy ekotizimlar va landshaftlarni muhofaza qilish, barqaror ekotizimlar, landshaftlarni saqlash, yaratish va boshqa tomondan mintaqaning ijtimoiy-iqtisodiy rivojlanish darajasini oshirish to'g'risida fikrlashning yangi turiga o'tish zarurligini anglatadi. [7,8]

Shu munosabat bilan nafaqat tabiatni muhofaza qilish masalalarini o'z ichiga olgan, balki Toshkent viloyatida rekreatsion-turistik faoliyatni rivojlantirish uchun imkoniyatlar ochadigan kontseptsiyani ishlab chiqish masalasi dolzarbdir. Natijada, Toshkent viloyatida rekreatsion iqtisodiyot kelajakda asosiy funktsiyaga aylanishi, uning profilini belgilashi kerak.

Tog' rekreatsiyasini rivojlantirish strategiyasi kuchli mavsumiy va balandlik-zonali konditsionerlikni va zarur resurslarning ko'pchiligiga (ayniqsa iqlim) bog'liqligini, shuningdek, rekreatsion faoliyatni hududiy tashkil etishning mavsumiyligi va balandlik zonalligini har tomonlama hisobga olishni o'z ichiga oladi. Masalan, iqlim omillari turizm turlarini va ishlatilgan sayyohlik mavsumlarini belgilaydi.

Yana bir o'ziga xos xususiyat shundaki, dam olish xizmatlari va tovarlari mahalliy darajada iste'mol qilinadi va iste'molchi (rekreant) ularga etkaziladi. Shu munosabat bilan, mavjudlikni yaxshilash turizm va dam olishni rivojlantirishda muhim omil hisoblanadi. Biroq, dam olish atrof-muhitga va madaniy landshaftni shakllantiradigan an'anaviy faoliyatga salbiy ta'sir ko'rsatishi mumkin.

Shunday qilib, Toshkent viloyatining rekreatsion tizimini yanada rivojlantirish iqtisodiy jihatdan eng rivojlangan poytaxt sanoat mintaqasi korxonalari va tashkilotlari mablag'lariga yo'naltirilishi mumkin. Bundan tashqari, mavjud moddiy-texnik bazadan foydalangan holda, ushbu mintaqada xorijiy investitsiyalarni jalb qilish mumkin.

Respublikaning boshqa viloyatlarining rekreatsion resurslari asosan korxona va tashkilotlar mablag'lari hisobidan to'liq o'zlashtirilishi mumkin emas, chunki bu erda sanoatning rivojlanish darajasi poytaxt mintaqasiga qaraganda ancha past va shuning uchun investitsiya imkoniyatlari kamroq.

Chet el kapitali uchun ushbu hududlar ko'plab sabablarga ko'ra etarlicha jozibadorlikni keltirib chiqarmaydi: rivojlanishning past darajasi, infratuzilmaning etishmasligi va boshqalar.

Tog' zonasining istiqbolli rekreatsion tizimi O'zbekiston aholisining asosiy qismini yil davomida barcha turdagi dam olishga bo'lgan ehtiyojini ta'minlashi kerak. Dam olish talabini shakllantirish markazlariga nisbatan tog'li hududlarning

географик joylashuviga qarab (tekis-sug'oriladigan zona) kunlik (yarim soatlik transport imkoniyati), qisqa muddatli (haftalik, 1,5-2 soatlik transport imkoniyati doirasida) va uzoq muddatli dam olish toifalarini tashkil qilish kerak (yillik-ta'til va ta'til davrida, asosan uzoq muddatli dam olish uchun). tumanlar tog'lari). [10]

Xulosa: Hozircha tog' ekoturizmining imkoniyatlari xalqaro turizmni tashkil etishda deyarli qo'llanilmaydi va ular chet ellik sayyohlarga asosan faqat me'moriy yodgorliklarni namoyish etish bilan cheklanadi. Shu munosabat bilan tog' ekoturizmining jadal rivojlanishi mamlakatning butun sayyohlik mintaqasining jozibadorligini belgilovchi muhim omil bo'lib, valyuta tushumlarining sezilarli barqaror oqimini ta'minlab, turizm biznesida jiddiy daromad moddasiga aylanishni va'da qilmoqda.

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PLANNING OF CONSTRUCTION OF CIVIL BUILDINGS IN A DRY, HOT CLIMATE

Abstract: *This article discusses the issue of planning the construction of civil buildings in a dry hot climate, the choice of appropriate building materials and structures for the enclosing parts of buildings, the use of sun protection devices, as well as mechanical means for creating an artificial microclimate of premises. Issues when choosing a construction site, methods of using all the natural possibilities of lowering temperatures, reducing radiation intensity, protection from harmful winds are considered.*

Keywords: *planning, climate, wind, temperature, radiation, construction, construction site, microclimate, relief, method.*

A hot, dry climate is a type of climate that is included in the climate classification (by temperature and humidity) and has a mixed class (estimated by both temperature and humidity).

Areas of hot, dry climate include territories with average annual temperatures equal to or above 200. The characteristic features of this climate are: high levels of solar radiation and insolation, high air temperatures, uncomfortable humidity and wind conditions that negatively affect human well-being and require special measures to protect people from the adverse effects of all these factors. The hot climate has a negative effect on materials, building structures, equipment and mechanisms.

In summer, daytime temperatures in such areas can range from 27 to 45 degrees Celsius, and at night from 15 to 24 degrees Celsius. Daytime temperatures are lower in winter. These natural and climatic features of areas with a hot, dry climate require a closed indoor environment, reliable protection of humans from external adverse effects. Additional costs are required during the construction of buildings, so it is very important to make the most accurate assessment of the specific climatic conditions of the construction area.

The linear structure assumes a linear layout of the city with a longitudinal compositional axis of development. For a hot, dry climate, a closed type of

settlement with compact, wide-body, and mostly low-rise buildings comprising alternating enclosed and open spaces of varying heights is most acceptable. The city center, residential, industrial, communal and warehouse, transport, sanitary protection and park areas should have the location of buildings and structures in a closed composition. The use of a closed composition for a dry, hot climate has been historically considered since the emergence of the peristyle courtyard. The courtyard, shaded on all sides and surrounded by a gallery, forms a deep shadow that cools the walls and the dwellings located behind it. A water spring located in the center of the courtyard and green spaces gradually give off coolness and moisture to the surrounding area during the hot day.

According to experts in communal hygiene, in the southern regions, the optimal height of residential buildings not equipped with sun protection devices should be 3.2 - 3.5 m. As is known, the influence of the height of a room on its microclimate is related to temperature, radiation temperatures and cubic capacity of air per person, and air mobility. In rooms with a high altitude, the air temperature is usually lower than in rooms with a lower altitude. However, this difference, as studies conducted in Uzbekistan show, is small. In experimental studies, the difference between the average daily indoor air temperatures of 3.8 and 2.5 m was only 0.7 °C with night ventilation, and only 0.2-0.3 °C with round-the-clock ventilation. At the same time, such an increase in the height of the premises causes an increase in the cost of the building by about 10%. In general, practice shows that a decrease in room temperature is achieved not so much by increasing its volume as by air mobility. The shape of rooms in hot climates plays an essential role in maintaining a favorable microclimate. However, if in a hot, humid climate we strive to ensure the widest possible outlet of the room to the facade of the building in order to provide the best ventilation conditions, then in a hot, dry climate there is a desire to reduce the surface of the enclosure of the room facing the facade of the building, pull this room inside, hide it from the effects of scorching sunlight and reduce the possibility of penetration of external hot air. The process of forming a modern urban environment in hot climates naturally leads to a composition of residential complexes in which their surrounding spatial environment is an extension of their own homes. This feature of urban planning is a reflection of national and historical traditions for construction in hot climates. In this regard, for areas of hot climate, projects should provide conditions for protection from overheating of streets and squares, ensuring maximum shade, effective aeration and favorable natural lighting conditions.

Solar exposure or insolation of the territory and premises is measured by the amount of direct exposure time in hours and minutes. The minimum solar exposure for apartments, living rooms in hotels and dormitories, children's institutions and playgrounds, etc. is 3 hours on the days of the autumn and spring equinox. Ensuring the necessary insolation is achieved by the appropriate orientation of buildings and reducing the time and area of shading of buildings and territories by neighboring buildings. For houses in which all rooms of apartments face one side (houses of limited orientation), orientation of living rooms to the northern sector of the horizon

in the range from 310 to 50 ° is not allowed. To ensure the necessary insolation, houses of limited orientation (meridional) are located in the building only meridionally. For houses with apartments with a two-sided orientation (houses with unlimited orientation are latitudinal), any location in the building is possible under the conditions of insolation. For houses with partially limited orientation (some apartments have one-sided and some have two-sided orientation), a meridional and latitudinal location in the building is possible (with one-sided apartments facing south).

The recommended orientation of the living rooms is to the southeast. The eastern, southern and southeastern orientation is also recommended for the main premises of children's institutions and schools. This orientation, while ensuring the required duration of insolation, eliminates overheating of the premises under the influence of solar radiation. In order to avoid overheating of the premises in the southern regions, orientation to the southwestern sector of the horizon (from 200 to 290 °) of living rooms of one-sided apartments and the main premises of children's institutions and schools is not allowed. Openings of windows and balcony doors facing the horizon from 200 to 290° must be equipped with sun protection devices. Semi-open staircases and outdoor open staircases are allowed in these areas.

In modern multi-storey construction in hot, dry climates, the following types of houses are used: sectional towers, galleries and corridors. When designing and erecting them, they strive to take into account all the requirements for ensuring a favorable microclimate and creating maximum amenities: central interior halls; rooms of various heights; compact apartments; landscaped loggias, galleries, balconies; roof gardens; providing an independent ventilation line and insulation of kitchens and bathrooms; providing apartments with rooms on two levels.; construction of paired buildings connected by stairwells and buildings with rooms with a depth of the entire width of the building; the use of transformable enclosing structures and various sun protection devices.

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MUQOBIL ENERGIYA MANBALARIDAN FOYDALANISHNING IQTISODIY-GEOGRAFIK MASALALARI

***Annotatsiya:** Mazkur maqolada muqobil energiya manbalaridan foydalanishning iqtisodiy va geografik xususiyatlari, ularning hududiy joylashuvi, energetik infratuzilma bilan bog'liqligi, shuningdek, aholi va sanoat tarmoqlariga ta'siri keng qamrovda tahlil qilinadi.*

***Kalit so'zlar:** Muqobil energiya, qayta tiklanuvchi energiya manbalari, quyosh energiyasi, shamol energiyasi, gidroenergiya, suv energiyasi, geotermal energiya, biomassa energiyasi, dengiz to'liq energiyasi.*

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ECONOMIC-GEOGRAPHICAL ISSUES OF THE USE OF ALTERNATIVE ENERGY SOURCES

***Annotation:** This article comprehensively analyzes the economic and geographical features of the use of alternative energy sources, their territorial location, connection with energy infrastructure, as well as their impact on the population and industrial sectors.*

***Keywords:** Alternative energy, renewable energy sources, solar energy, wind energy, hydropower, water energy, geothermal energy, biomass energy, marine wave energy.*

Kirish. XXI asrda dunyo miqyosida energetika sohasida tub burilishlar ro'y bermoqda. An'anaviy energiya manbalari – neft, gaz va ko'mir zahiralarining kamayib borayotgani, ekologik muammolarning keskinlashuvi, aholi sonining ortishi va iqtisodiy faollikning oshishi muqobil energiya manbalariga bo'lgan ehtiyojni yanada kuchaytirmoqda. Shu nuqtayi nazardan, quyosh, shamol, geotermal, biomassa va gidroenergiya kabi qayta tiklanuvchi resurslar asosida energiya ishlab chiqarish masalasi global ahamiyat kasb etmoqda. O'zbekiston Respublikasi, xususan uning Janubiy hududlari – Qashqadaryo va Surxondaryo

viloyatlari tabiiy-geografik sharoiti va iqlimiy imkoniyatlari bilan muqobil energiya ishlab chiqarish uchun katta salohiyatga ega. Bu hududlarda quyosh nurlanishi darajasining yuqoriligi, shamol oqimlarining mavjudligi va ayrim joylarda geotermal manbalar borligi muqobil energiya tizimlarini joriy etish uchun muhim omillardan hisoblanadi.

Asosiy qism. O'zbekistonda muqobil energetika sohasidagi davlat siyosatida sohani rivojlantirish nazarda tutilgan va shu bilan birga rivojlanayotgan qator mamlakatlarning muqobil energiyadan foydalanishdagi rivojlanish tajribasi va ularning miqyosi hisobga olingan. Bu esa shuni ko'rsatdiki, muqobil energiya manbalaridan foydalanish sohasida aniq maqsad va vazifalarni belgilash hamda buning davlat tomonidan qo'llab - quvvatlanishi – qayta tiklanadigan energiyaning an'anaviy energiya ishlab chiqarish texnologiyasiga nisbatan raqobatbardosh bo'lishiga zamin bo'ladi. Muqobil energiya manbalari qurilmalaridan foydalanishga bir qadar salmoqli mablag' sarflansa-da, ular iqtisodiy jihatdan o'zini oqlaydi. An'anaviy yoqilg'i bilan ishlaydigan energetika tufayli havoga chiqayotgan oltingugurt, azot, uglerod oksidlari uzoq masofaga tarqaladi. Bundan tashqari, ular yomg'ir suvlari bilan qo'shib, kislota birikmalariga aylanadi hamda yomg'ir tarkibida yerga tushib, o'simliklarga, tuproqqa salbiy ta'sir ko'rsatadi. Atrof-muhitda bunday kislotalarning ko'payishi oqibatida, og'ir metallar oziq-ovqatlarga va shu mahsulotlar orqali inson organizmiga kelib tushadi. [4]. Demak, bunda bir zarar ikkinchisini ham o'ziga ergashtirib keladi.

Quyosh energiyasi. O'zbekistonda quyosh energiyasi imkoniyati hammasidan ko'ra ko'proq. Yalpi quyosh energiyasining imkoniyati o'rtacha 51 mlrd. t. n. e, texnik imkoniyati esa – 177 mln.t.n.e.. Bunda quyosh energiyasi butun mamlakat hududi bo'ylab barchaga baravar bo'lib, uni energetika balansiga jalb etish, aholini elektr va issiqlik energiyasi bilan ta'minlash masalasining, yechimini topish (ayniqsa, chekka joylarda) imkonini beradi.[8].

Shamol energiyasi. Bugungi kunda mazkur muqobil energiya quvvatini ishlab chiqarish G'arbiy Yevropada ancha ommalashgan. Sababi, buning uchun tabiiy shartsharoitlar mos bo'lishi barobarida ushbu turdagi energiyaga talab ham ortib bormoqda. Zamonaviy shamol elektrostansiya (ShES)lar 3–4 m/s dan 25m/s gacha bo'lgan tezlikdagi shamol muhiti relefiga nisbatan baland bo'lmagan joylarda optimal ishlaydi. Shunday hududiy imkoniyatlarga ega bo'lgan Germaniya hozirgi vaqtda shamol energiyasidan foydalanish bo'yicha jahonda yetakchilik qilmoqda. O'zbekistonda shamol energiyasidan foydalanish hududlariga Bekobod, Qo'qon, Jizzax, Ustyurtlarni kiritish mumkin. [2].

Suv energiyasi (gidroenergiya) – tog'larda yomg'ir yog'sa yoki muz va qor erisa, suvi pastga qarab buloq, jilg'a, suv o'zanlaridan oqadi, yuqoridan pastga daryo hosil qilib, dengiz va okeanga qo'shib ketadi yoki sahrolarda singib yo'qoladi. Odamlar oqar suv va tepadan tushayotgan suv energiyasini o'zlari uchun mexanik yoki elektr energiyasi sifatida ishlatganlar. Qadimda donni yanchish va un olish uchun yoki yerlarni sug'orish uchun odamlar suv tegirmon toshiga bog'langan yog'och g'ildiraklarni aylantirishdan foydalanganlar. [6]. Bugun suv energiyasi,

katta va kichik gidroelektrostansiya (GES) turbinalarini aylantirib, to'liq elektr energiyasi ishlab chiqarish uchun foydalanilmoqda.

Geotermal energiya – Yer yuzasi Quyosh singari issiqlik energiyasini nurlantiradi. Bu energiya geotermal energiya deb atalib, u odamlarni ehtiyojini issiqlik va elektr energiyasi bilan ta'minlashi mumkin. Uni ishlab chiqarish atrof-muhitni ifloslantirmaydi, ya'ni ekologik toza hisoblanadi. Yer ostidagi issiq suv, issiq havo yoki bug'larning geotermal energiyalaridan, hozirgi texnologiyalar asosida elektr energiyasi ishlab chiqarish va xonani isitish, qishloq xo'jalik mahsulotlarini yetishtirish (issiqxonalarda) maqsadida foydalanish mumkin. Geotermal energiya yerda yonuvchi gazlar va kosmik changlar aralashishi natijasida 4 milliard yil avval paydo bo'lgan. [4]. Yer yadrosinining 6,5 ming kilometr atrofidagi chuqurligida harorat 5000 gradusgacha ko'tarilishi mumkin.

Biomassa – chiqindini achitish va undan hosil bo'lgan gazni yoqish natijasida olinadigan energiyadir. Amalda esa biomassa bu – chiqindi. Qurigan daraxt yoki ularning shox-shabbasi, tomorqadan poliz o'simliklarining ildizpoyalari, yog'och qobig'i va qirindilari kabildir. Bunday chiqindilar tarkibi chorva fermalarida ozuqa va to'shama sifatida ishlatiladigan somon hamdir. Ko'proq miqdorda qishloq xo'jaligi ekinlari: don, paxta, makkajo'xori va boshqa ekinlar chiqindilari ham biomassa bo'lishi mumkin.[5].

Dengiz to'lqin energiyasi – dengiz va okean yuzasida esadigan shamol tufayli hosil bo'ladigan to'qindan paydo bo'ladi. Hisob-kitoblarga ko'ra, dunyodagi okeanlarning qirg'ogidagi to'lqinlar energiyasining jami 2 dan 3 milliongacha megavatt energiyani tashkil etadi. Bu to'lqin energiyasidan foydali ishlarda, jumladan, suvni chuchuklashtirish va rezervuarlarni suv bilan to'ldirishda foydalanish mumkin. [7]. To'lqin energiyasi qayta tiklanadigan energiya manbayidir. To'lqin energiyasidan elektr energiyasi olish hozirgi paytda ommalashmagan, chunki bu sohada faqat sinov izlanishlar olib borilmoqda.

Dengiz suvining ko'tarilish va qaytish energiyasi – dengiz suvining ko'tarilish va qaytishi Oy va Quyoshning gravitatsiyasi hamda Yerning aylanishi tufayli hosil bo'ladi. Qirg'oq atrofida to'lqin darajasi 12 metrgacha ko'tarilishi mumkin. Ko'tarilish va qaytish energiyasidan, elektr energiyasi ishlab chiqaradigan generator uchun foydalanilishi mumkin. Shu bilan birga bu qayta tiklanadigan muqobil energiya manbasi o'ziga xos sharoit talab etadi va hozircha keng masshtabda ommalashmagan. Bugungi kunda iqtisodiy foydali elektr energiya ishlab chiqaradigan 20 ga yaqin joylarda 3 metrdan kam bo'lmagan qulay va yaxshi darajadagi to'lqinlar mavjud. Hozir dengiz suvining ko'tarilish va qaytishini elektr energiyasiga aylantiruvchi texnologiyalar ishlab chiqilgan. [9].

Biogaz. Odamlar biogazdan XVIII asr oxirlaridan beri foydalanib kelmoqdalar. Elektr paydo bo'lgunga qadar Londonda yer ostidagi kanalizatsiya quvurlaridan olingan maxsus gaz lampalarda ko'chalarni yoritishda foydalanilgan. Biogaz, odatda, karbonat angidrid (CO_2) va (CN_4) metan gazlari aralashmasidir. U havo va kislorod kirishi mumkin bo'lmagan holatda (kislorod bo'lmasligi, «anaerob holati» deyiladi) turli biologik mikroorganizmlar parchalanishi natijasida hosil bo'ladi. Bundan tashqari, anaerob sharoitida yashash qobiliyati, metan hosil qilish

qobiliyatidagi mikroorganizmlarning boshqa xususiyatlariga ham ega. Ular yog‘ochning asosiy ingrediventi sellyulozani hazm qilishi mumkin. Bu bakteriyalarning yana bir xususiyati, harorat, kislotali, suv hajmi va boshqalarda yashash sharoitiga juda sezgir hisoblanadi. [5].

Xulosa. Muqobil energiya manbalaridan foydalanish bugungi kunda nafaqat ekologik, balki iqtisodiy va geografik jihatdan ham dolzarb masalalardan biri hisoblanadi. Janubiy O‘zbekiston hududlari – xususan Qashqadaryo va Surxondaryo viloyatlarining tabiiy-iqlimiy imkoniyatlari ushbu hududlarda quyosh va shamol energetikasini rivojlantirish uchun qulay sharoitlar yaratadi. Bu esa mintaqada energiya ta‘minotining barqarorligini ta‘minlash, ekologik muhitni sog‘lomlashtirish va mahalliy iqtisodiyotni rag‘batlantirishga xizmat qiladi. Maqolada ko‘rib chiqilganidek, muqobil energiya tizimlarini joriy etish uchun avvalo hududiy-geografik sharoitlarni chuqur o‘rganish, iqtisodiy tahlil asosida investitsion strategiyalarni ishlab chiqish va energetika infratuzilmasini modernizatsiya qilish lozim. Shu bilan birga, aholining ushbu sohadagi bilim va madaniyatini oshirish, kadrlar tayyorlash va ilg‘or texnologiyalarni jalb etish ham muhim vazifalardan biridir.

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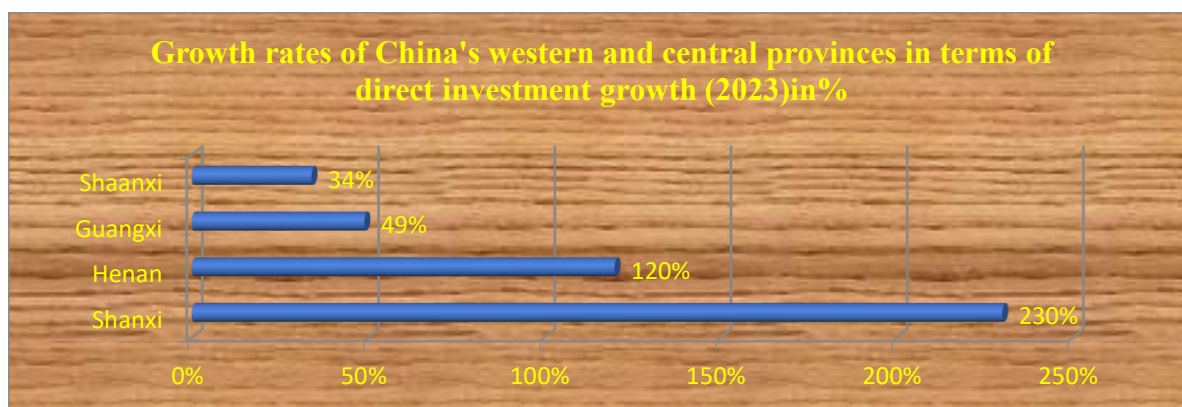
CURRENT TRENDS AND PROSPECTS OF CHINA'S INVESTMENT POLICY DEVELOPMENT

Abstract. *This article analyzes the current trends in the development of investment policy in the People's Republic of China, the reforms implemented by the government, and the strategies for attracting foreign investment. The article examines regional development trends, especially in the central and western regions, based on the growth rates of foreign direct investment. China's investment policy is an important factor in strengthening its competitiveness in the global economy.*

Keywords: *China, investment policy, foreign investment, direct investment (FDI), regional development, innovation, global economic integration.*

The experience of developed countries shows that there are different approaches to the territorial distribution of productive forces and the socio-economic development of regions. The investment policies pursued in countries are practically no different from each other. In studying the optimal mechanism for attracting direct foreign investment, it is worth considering the experience of developing countries and countries with economies in transition that have achieved significant results in economic development in a short period of time.

Based on advanced world experience, including the establishment of free economic zones in developed countries, let us dwell on the development of China's free economic zones and their stages of development. The deepening of the international division of labor and specialization under the influence of scientific and technological progress led to the acceleration of the processes of globalization and international integration in the development of the world economic system in the last quarter of the 20th century.



Shanxi (230%) – Although Shanxi is traditionally a coal-dependent province, in recent years there has been a strong focus on economic diversification. The main factors behind this are: the transition to green energy (solar, wind power), technological modernization in the mining industry, and the attention given to Shanxi by the Chinese government in the development strategy for Western provinces. **Henan (120%)** – A major market in the center. Henan is one of the most populous provinces in China and is becoming a manufacturing and logistics hub. The main factors for this are: a large domestic market - which is attractive to foreign investors, well-developed railway infrastructure (for example, a transit point for Eurasian freight), and large projects in the automotive, pharmaceutical and electronics sectors. **Guangxi (49%)** – Located in southern China, this region is characterized by its geographical proximity to ASEAN countries. The main factors are: the benefits of the China-ASEAN Free Trade Area, logistics opportunities through seaports, and infrastructure projects under the “One Belt, One Road” initiative. **Shaanxi (34%)** – Historically a hub for industry, defense, and aerospace, this region is central to China’s “New Silk Road” initiative, home to science, technology, and innovation hubs, and offers opportunities for foreign investors in the aerospace and defense industries. Central and Western China have long lagged behind the eastern region in terms of investment, but are now emerging as new centers of investment. Such high growth rates are due to the Chinese government's "regional parity" policy (i.e., economic stimulation of underdeveloped regions). International investors are also turning their attention to these regions due to cheaper labor, tax incentives, and improved infrastructure.

The following are some of the factors that attract investment to China.

1. Availability of capital, i.e.: China has a very high level of domestic savings, which allows it to channel large amounts of financial resources into the economy; Large investments are being made through state-owned banks and financial institutions for industrial, infrastructure and technological development; Capital markets are gradually opening up to international investors (e.g. through Stock Connect and Bond Connect programs).

2. Competitiveness: China is a global manufacturing hub. Its manufacturing chain, infrastructure, supply chain, and technological advancements make it an attractive country; Labor is still cheap and efficient in most industries; Competitive

export opportunities and technological potential (especially in AI, e-commerce, automation) serve as important factors for foreign companies.



3. Regulatory Environment: In recent years, China has been reforming its investment regulatory system — many restrictions have been eased or eliminated; Special Economic Zones (SEZs) and Free Trade Zones (FTZs) are creating incentives for foreign investors; However, stricter controls remain in place for some sectors (e.g., technology, information security).

4. Openness to regional and international trade: China is one of the world's largest exporters and an integral part of global trade chains; It is strengthening cooperation with many countries in the fields of trade, infrastructure and logistics through the "One Belt, One Road" initiative; It has active trade relations with ASEAN, the European Union, Africa and Latin America.

5. China's Domestic Market and Business Environment: The domestic market, with a population of over 1.4 billion, represents a large consumer segment; The middle class is expanding — driving domestic demand; There is an environment that supports innovation, with technology parks, incubators, and government grants.

6. Stability: A relatively stable political and economic system creates a climate of trust for long-term planning and investment; The government continues to attract investment through reforms, implementing long-term economic strategies (e.g., "Made in China 2025," "Dual Circulation" strategy).

The development of investment policy in China is of strategic importance in the modern economic environment and global competition. In recent years, the country has paid special attention to further liberalizing the investment environment, ensuring regional equality, increasing openness to foreign investors,

and developing high-tech industries. At the same time, through initiatives such as "Made in China 2025", "Dual Circulation" and "One Belt, One Road", the aim is to attract stable and long-term investment flows to the Chinese economy. The sharp increase in investment activity in the central and western regions, government-backed infrastructure projects and technological innovations will serve to strengthen China's position as one of the leaders in the global capital market in the future. In the near future, it is expected that the main directions of investment policy will remain stability, green economy, development of digital infrastructure and innovation ecosystems. This will keep China in the focus of investors not only for manufacturing, but also for high-value-added sectors.

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THE DEVELOPMENT AND INTERNATIONAL RECOGNITION OF UZBEK SPORTS DURING THE YEARS OF INDEPENDENCE

Annotation: *In this article that is examined Uzbekistan's remarkable progress in sports development since gaining independence, highlighting its world-class athletes, modern sports infrastructure, and successful youth development programs. In the article analyzes Uzbekistan's achievements in international competitions, including Olympic successes, while emphasizing the country's systematic approach to nurturing athletic talent through specialized training centers and nationwide sports initiatives. Particular attention is given to Uzbekistan's boxing dominance, football achievements, and the development of unique youth sports programs that have become models for other nations. The article also explores how Uzbekistan's sports policies have gained recognition from major international sports organizations.*

Key words: *Sports development, Uzbekistan athletes, Olympic achievements, sports infrastructure, youth sports programs, boxing champions, football development, sports policy, international recognition, athletic training.*

Over the years of independence, Uzbekistan has made significant progress in sports development. Our nation takes pride in world-class athletes who have glorified the country internationally, including:

Judo: Rishod Sobirov

Canoeing: Vadim Menkov

Wrestling: Artur Taymazov

Tennis: Denis Istomin and Nigina Abduraimova

Swimming: Sergey Pankov

Gymnastics: Ulyana Trofimova and Oksana Chusovitina

Athletics: Svetlana Radziwill

Football: Odil Ahmedov

Boxing: Elshod Rasulov

Taekwondo: Dmitriy Shokin

Refereeing: Ravshan Irmatov (FIFA)

The Ministry of Culture and Sports plays a key role in sports development. The National Olympic Committee of Uzbekistan, a member of the International Olympic Committee since 1993, ensures our athletes' participation in international competitions. The Uzbek State University of Physical Education trains about 2,000 physical education teachers and coaches annually.

Significant investments have been made in sports infrastructure:

- ✓ Olympic Reserve School for Rhythmic Gymnastics
- ✓ Central Asian Judo Center

- ✓ National Boxing Center
- ✓ Taekwondo Sports Complex

These facilities have hosted major international competitions in boxing, taekwondo, wrestling, and fencing.

The country has implemented unique youth sports programs:

- ✓ "Umid Nihollari" (Seeds of Hope)
- ✓ "Barkamol Avlod" (Harmonious Generation)
- ✓ "Universiada" (University Games)

The Children's Sports Development Fund, established in 2002, has built over 1,700 sports facilities. In 2014 alone, 9,500 sports events were held with 1.8 million young participants.

Notable achievements of young athletes:

- ✓ 2012: U-16 football team became Asian champions
- ✓ Synchronized swimming medals at Asian Championships
- ✓ 9-year-old Nodirbek Abdusattorov became world chess champion
- ✓ 2014 Youth Olympics: 4 gold medals
- ✓ At the 2016 Rio Olympics, Team Uzbekistan:
- ✓ Ranked 21st overall (13 medals)
- ✓ Topped the boxing medal table
- ✓ Placed 4th in Asia

The International Olympic Committee recognized Uzbekistan's sports development by awarding the nation's President. Today, sports have become extremely popular among youth, serving as an inspiration for future generations. Our athletes' achievements continue to write new pages in both national and world sports history.

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RELIGIOUS TOLERANCE AND GLOBAL COOPERATION: CURRENT TRENDS

Abstract: *Religious tolerance is vital in fostering international cooperation and ensuring global stability. In today's interconnected world, religious diversity can either lead to conflict or become the foundation for peaceful coexistence. This paper investigates the modern trends in religious tolerance and international collaboration, examining the role of religious institutions, governments, and interfaith dialogues in promoting global peace. It also highlights the major challenges and suggests strategies to enhance religious tolerance worldwide.*

Keywords: *religious tolerance, global cooperation, interfaith dialogue, peace, religious diplomacy, secularism, multiculturalism, human rights.*

Religious tolerance has been a key aspect of peaceful societies throughout history. In the age of globalization, where cultural and religious ideas are exchanged rapidly, promoting religious harmony is more essential than ever. This paper looks into the development of religious tolerance and its impact on international cooperation, particularly within the contexts of diplomacy, globalization, and global relations. Religious institutions have always played a pivotal role in fostering peace and mutual understanding. Today, many religious organizations contribute to interfaith harmony through education, humanitarian projects, and diplomatic efforts. Examples include:

- Initiatives by the Organization of Islamic Cooperation (OIC) to enhance religious understanding.
- The World Council of Churches' (WCC) initiatives to foster dialogue between Christians and Muslims.

Religious intolerance has led to numerous human rights violations, some of the most severe in history. These violations deepen historical mistrust and jeopardize both regional and global security. Recognizing the divisive nature of religious intolerance, the United Nations has focused on protecting freedom of thought, conscience, religion, and belief. Documents like the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, and the Declaration on the Elimination of All Forms of Intolerance and Discrimination Based on Religion or Belief address these issues. The World Conference on Human Rights presents an opportunity to evaluate our progress and the effectiveness of UN human rights instruments in protecting freedom of religion globally.

It's important to note that 1993 marks the 25th anniversary of the 1968 Conference on Human Rights in Tehran, as well as the 100th anniversary of the World's Parliament of Religions held in Chicago in 1893, which marked the beginning of greater cooperation among religious leaders. Additionally, religious

non-governmental organizations have collaborated with the United Nations Economic and Social Council to prepare for the 1995 celebration of the International Year of Tolerance. Those of us working with the Non-Governmental Organizations Committee on Freedom of Religion or Belief and attending the World Conference on Human Rights are firmly convinced that religion need not divide the world. On the contrary, we believe that religious teachings can help eliminate religious intolerance. All spiritual traditions share principles that promote peace, understanding, and reconciliation. We believe religious communities have a special responsibility, rooted in their teachings, to dissolve divisions, end conflicts, and establish trust and security.

Religions all promote love, and this principle is central to human well-being. Intolerance stands in opposition to this principle and harms the common good. Many governments and global organizations have adopted policies to promote religious tolerance and protect the rights of minorities. Key examples include:

- The United Nations' Universal Declaration of Human Rights (Article 18) on religious freedom.
- The European Union's approach to religious pluralism.
- The role of the U.S. State Department's Office of International Religious Freedom.
- These policies underscore the importance of legal protections for religious freedom and tolerance across nations.

Intolerance often arises from cultural and historical tensions tied to religious traditions. Since such antagonisms stem from ignorance and limited understanding, education can reveal the shared spiritual values among various beliefs, thereby fostering tolerance. The role of the individual in promoting religious tolerance is crucial. Legal mechanisms alone cannot eliminate intolerance if people view religious differences as grounds for discrimination. Therefore, education should focus not only on providing accurate information but on helping individuals appreciate diverse beliefs. School curricula should include the study of human rights declarations and the comparison of scriptures from different religions. This will uncover shared ethical values and help foster an appreciation for the importance of tolerance.

Nation-states also play a key role in promoting religious tolerance and cooperation. We urge those participating in the World Conference on Human Rights to recognize the urgent need to address conflicts, discrimination, and violence arising from religious intolerance. To be truly effective, the resources of the United Nations and non-governmental organizations must be combined with the political will of governments. Past negative experiences rooted in religious differences should be acknowledged, but efforts must be made to break the cycle of retribution to achieve lasting peace.

We recognize the important work done by the Human Rights Committee in drafting the General Comment on Article 18 of the International Covenant on Civil and Political Rights, and we urge all states to respond effectively to this initiative. The contributions of the UN Special Rapporteur on the Implementation of the

Declaration on the Elimination of All Forms of Intolerance Based on Religion or Belief are invaluable, and we call for the continuation and strengthening of this work. Despite progress, challenges remain in achieving full religious tolerance and cooperation. Key issues include:

- Religious extremism and radicalization.
- Discrimination against religious minorities.
- Political manipulation of religious sentiments.
- The impact of secularism on religious expression.

Addressing these challenges requires a multifaceted approach involving education, legal protections, and open dialogue. To enhance religious tolerance and global cooperation, the following strategies should be considered:

- “Education and Awareness”: Incorporating religious tolerance into school curricula to promote mutual understanding.
- “Legal Protections”: Strengthening legal frameworks at both national and international levels to protect religious freedoms.
- “Media Representation”: Promoting balanced and respectful depictions of religious communities in the media.
- “Diplomatic Efforts”: Strengthening intergovernmental cooperation to support religious harmony initiatives.

Conclusion

Religious tolerance remains a fundamental element of international cooperation and global peace. While challenges persist, modern trends indicate progress through interfaith dialogue, government initiatives, and grassroots movements. By fostering respect and understanding, societies can work toward building a more peaceful and inclusive world.

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MINTAQADA TURISTIK-REKREATIONSALOHIIYATNI OSHIRISH VA UNING MINTAQAVIY INFRATUZILMASINI TAKOMILLASHTIRISH CHORA TADBIRLARI

***Annotatsiya:** Ushbu maqolada hududning turistik resurslari va turizm infratuzilmasi rivojlanish darajasini aniqlashning geografik asoslari, ularni yaxshilash bo'yicha ilmiy va amaliy takliflar hamda tavsiyalar, turistik va rekreatsion resurslardan oqilona foydalanish, kelajakda turizmning turli yo'nalishlarini rivojlantirish va mavjud turizm infratuzilmasini takomillashtirish masalalari batafsil yoritilgan.*

***Kalit so'zlar:** turizm resurslari, turizm geografiyasi, arxitektura, tarixiy yodgorliklar, madaniy ob'ektlar.*

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MEASURES TO INCREASE TOURIST-RECREATIONAL CAPACITY IN THE REGION AND IMPROVE ITS REGIONAL INFRASTRUCTURE

***Annotation:** This article discusses in detail the geographical foundations for determining the level of development of the region's tourist resources and tourism infrastructure, scientific and practical proposals and recommendations for their improvement, the rational use of tourist and recreational resources, the development of various areas of tourism in the future and the improvement of the existing tourism infrastructure.*

***Keywords:** tourism resources, tourism geography, architecture, historical monuments, cultural objects.*

KIRISH So'nggi yillarda Qashqadaryo viloyatida sayyohlar oqimini ko'paytirish va turizm infratuzilmasini takomillashtirishga qaratilgan muhim islohotlar amalga oshirilib kelinmoqda. Mahalliy va xorijiy sayyohlarning

mintaqada yaratilgan sharoitlar haqidagi fikrlarini o'rganish, shuningdek, Qashqadaryo viloyatida turizmni rivojlantirishdagi muammolarni aniqlash maqsadida turistik oqimlarni o'rganish, hududlarda turistlarni sayyohlik obyektlariga tashrif buyurishini tadqiq va tahlil qilish hamda turizmni rivojlanishiga to'sqinlik qilayotgan kamchiliklarni aniqlash, tadqiqotning asosiy vazifalari sifatida belgilangan.

Sotsiologik so'rovlar orqali ayniqsa, aholining ijtimoiy demografik holatini o'rganishda ko'p qo'llaniladi. Anketa so'rovlari ma'lum maqsaddan kelib chiqib, keng qamrovli tuzilganligi tadqiqotni samarali o'tkazishda muhim ahamiyatga ega. Aholi turli qatlamlarining dam olishga munosabati, talab va ehtiyojlarini keng o'rganish imkonini beradi. Turistik xizmatlar turistlarning yashash tarzini, harakatlanishini ta'minlash, turistlarning turistik obyektlarga bimalol kirishlari, turistik faoliyat jarayonida turistlarning turar joyi, ovqatlanishi, madaniy, kommunal, aloqa va boshqa ehtiyojlarini qondirishi nazarda tutiladi. Turizm va rekreatsiyani rivojlanishida, hududning turistik-rekreations salohiyatini, infratuzilma tizimlarini shakllantirishda turlicha omillar va shart-sharoitlarning ta'siri muhim hisoblanadi. Ular orasida tabiiy geografik, ijtimoiy-iqtisodiy, demografik, tibbiy-biologik, etnik, ijtimoiy-psixologik va boshqa omillar alohida o'rin tutadi.

ADABIYOTLAR TAHLILI Tog' va cho'l landshaftlari bu, maksimal estetik-resurs salohiyatiga ega bo'lgan rekreatsion hudud hisoblandi. Hududning ekologik holati va qo'riqlanadigan hududlar, qo'riqxonalar va milliy bog'lar tabiatini bir butun holda majmuaviy o'rganish, biologik va geografik jihatdan o'xshash bo'lgan hududlarning tabiiy resurslari va tabiiy sharoitidan oqilona foydalanish turizm va rekreatsiyani rivojlantirishda muhim omildir. Hozirgi kunda milliy tabiat bog'lari muhofaza qilinadigan va turizm-rekreatsiya maqsadida tashkil etiladi.

Turizmni rivojlantirishda A.P.Durovich va boshqa olimlar tarixiy-madaniy omillarga - mintaqadagi turli xil tarixiy-me'moriy yodgorliklar, aholining milliy, madaniy, diniy tarkibining xilma-xilligi va boshqa an'analarni kiritadi. Yu.A. Vedenin tarixiy-madaniy obyektlariga – sanoat korxonalari, qishloq xo'jaligi, transport, teatrlar, o'quv muassasalari, sport inshootlari, botanika va hayvonot bog'lari, etnografiya va folklorlar, diqqatga sazovor joylar, hunarmandchilik san'at namunalari, xalq urf-odatlari, bayram marosimlari va boshqa obyektlarini kiritadi [30]. Demak bu yerdagi obyektlarda, turizm va dam olishning barcha turlarini rivojlantirish imkonini beradi.

Tadqiqotchi V.I.Krujaln fikriga ko'ra, turizmning rivojlanishiga ta'sir etuvchi ijtimoiy-iqtisodiy omillar quyidagilardan iborat: hududning iqtisodiy-geografik o'rni; qabul qiluvchi mamlakat va uning turistlarni asosiy yetkazib beruvchisi bo'lgan mamlakatlarning iqtisodiy rivojlanish darajasi; aholining ijtimoiy va kasbiy tarkibi; turistik infratuzilma va turar joy fondlari mavjudligi, ... Transport vositalarini takomillashtirish; ma'lum bir hududda, ...xizmatlar uchun narx darajasi, aholining real pul daromadlari, ta'tilning davomiyligi, rekreatsion zonalar va turistik yo'nalishlar to'g'risida reklama va ma'lumotlar ishlab chiqish. Yuqoridagi barcha omillar hududda turizm va rekreatsiya sohasini rivojlanish darajasini belgilab beradi.

METODOLOGIYA Mintaqada turizmni rivojlantirishda tabiiy, ijtimoiy-iqtisodiy, siyosiy, infratuzilma omillari muhim hisoblanadi. Ular sayyohlik markazlarining shakllanishiga bevosita ta'sir ko'rsatadi va ularni quyidagi 4 ta yirik guruhlariga ajratishimiz mumkin.

- tabiiy omillar - re'lef, iqlim, suv resurslari, mineral suvlar va shifobaxsh balchiqlar, o'simlik va hayvonot dunyosi, landshaftlar, ekologik holat, qo'riqlanadigan hududlar turistik mintaqalarning jozibadorligini oshiradi;

- ijtimoiy-iqtisodiy omillar - iqtisodiy-geografik o'rin, tarixiy-madaniy obyektlar, sug'urta va moliya, aholi daromadi, ta'lim, sosiologik, kriminogen, innovasiya, investisiya muhitini rivojlantiradi;

- infratuzilma omillari - mehmonxonalar va boshqa joylashtirish tizimi, ovqatlanish tizimi, transport xizmati, savdo shaxobchalari, ko'ngilochar shaxobchalari, madaniyat tashkilotlari, muhandislik-qurilish inshootlari infratuzilmaning rivojlanish darajasini belgilaydi;

- siyosiy omillar - geosiyosiy vaziyat, inqirozlar, siyosiy beqarorlik, iqtisodiyotni harbiylashtirish, chegaralarni ochish mamlakatlar bo'ylab sayyohlikni rag'batlantiradi yoki aksincha chegaralaydi.

Tabiiy omillar tarixan rekreatsiya va turizmni rivojlantirish uchun asos bo'lib kelgan. Tabiiy omillarga re'lef, iqlim, suv havzalari, o'simlik va hayvonot dunyosi, mineral suvlar va shifobaxsh balchiq kabilar muhim ahamiyat ega. Atmosfera umumiy sirkulyasiyasining namoyon bo'lishlaridan biri shamol bo'lib, u ayni paytda ob-havo sharoitlarining turizm va rekreatsiya uchun qulayligini belgilaydigan omillardan biri hisoblanadi. Rekreatsiyani tashkil etishda meteorologik elementlar, jumladan, qulay haroratni davomiyligi, quyosh nurlari davomiyligi, havoning nisbiy namligi va boshqalar insonlar salomatligi va uni tiklashda e'tiborga olinadi.

Suv havzalari turizm va rekreatsiyani rivojlantirishda alohida ahamiyatga ega bo'lib, yozda suv havzalari qirg'oqlarida dam olish turlarining qulaylik darajasiga qarab qulay, nisbatan qulay va noqulay darajalarga bo'linadi. Cho'milish mavsumi suv havzalarida suvni harorati 18°C ga yetganda boshlanadi (cho'milish uchun qulay harorat, suvning harorati 18 dan 24 °C. Bu suv havzalarini rekreatsion zonalarga aylantirishga yordam beradi, hamda ko'plab dam olish va ko'ngilochar obyektlar (sanatoriya-kurortlar, dam olish uylari, turbazalar va boshqalar) joylashishida muhim omil bo'lib xizmat qiladi.

Suv havzalarining geoekologik roli turli tuman bo'lib, tog' va tekislik daryolari, chuqurligi va sho'rliqi bilan ajralib turuvchi ko'llar xilma-xil turistik sayohatlari va sport tadbirlari: ekstremal rafting, akvalang bilan suv ostiga sho'ng'ish hamda yil bo'yi baliq ovini uyushtirishda muhim omil hisoblanadi. Demak, suv havzalarida rekreatsion faoliyat davolash-sog'lomlashtirish, sport va sayyohlik, baliq ovi va ovchilik faoliyatini o'z ichiga oladi.

O'simlik dunyosini turizm va rekreatsiyani rivojlantirishdagi ahamiyati juda katta bo'lib, o'simliklarning ionlashishi va fitonsid xususiyatlari tufayli landshaftning shifobaxsh ta'siri ular bilan bog'liq. O'rmonlar, jumladan, aralash va qarag'ay o'rmonlar eng yaxshi ionlashishga ega ekanligi aniqlangan. Dam olishda

asosiy vazifani bajaradigan o'rmonlar, ushbu hududning sanitariya-gigiyena sharoitlarini ham belgilaydi. O'rmonlar insonlarni to'g'ridan-to'g'ri quyosh nurlaridan himoya qiladi va yoz kunida havo haroratini 1-1,5 °C ga tushiradi, atmosfera namligini (30% gacha) oshiradi, atmosfera havosini sanoat ifloslanishidan ham tozalaydi. Turli xil daraxt turlarining chang o'tkazmaydigan xususiyatlari bir xil emas. Yil davomida 1 ga. O'rmon 50-70 tonnagacha changni filtrlay oladi. Masalan, archa barglari orqali har yili havodan 32 t/ga chang, qarag'ay - 36, eman - 56, olxo'ri - 68 t/ga gacha filtrlaydi, shovqinni va ifloslanishini kamaytiradi. Daraxt barglari sodir bo'lgan tovush energiyasining o'rtacha 25% ini o'zlashtiradi va bu energiyaning taxminan 75% aks ettiriladi va tarqatadi. Ignabargli o'simlik turlari eng yaxshi shovqin yutuvchi xususiyatlarga ega, bu esa rekreatsiyani rivojlantirishda muhim omil hisoblanadi.

Hayvonot dunyosi turizm uchun ikkita qarama-qarshi funksiyani bajaradi: bir tomondan, u tanishuv, baliq ovi va ovchilik turizmi uchun turistik-rekreatsion resurs bo'lib xizmat qiladi, ikkinchi tomondan, turizmni rivojlantirishda cheklovchi omil hisoblanadi. Tanishuv turizmida hayvonlar olami vakillarini, tabiiy yoki ular atrofiga yaqin bo'lgan turistik hududlarda sayyohlarga ko'rsatish yoki bevosita kuzatib borish imkoniyatiga ega. Turistik faoliyatda ovchilik va baliq ovi turizmi yovvoyi hayvonlar va baliqlarning turlari ko'p bo'lishiga ham bog'liq holda rivojlanadi.

Mineral suvlar va shifobaxsh balchiqlar tibbiy-davolanish, sog'lomlashtirish turizmni rivojlantirishda muhim omil hisoblanadi. Mineral suvlar harorati, kislotalilik, minerallashuvi va gazlari tarkibi bo'yicha tasniflanadi. Mineral suvlar va shifobaxsh balchiqlarning mavjudligi mintaqaning ko'plab hududlarida davolanish-sog'lomlashtirish turizmini rivojlantirishda va turizm infratuzilmasining joylashishini ham belgilaydi. Tabiiy omillarning har tomonlama tahlil qilinganda, insonlarning yashash va dam olish faoliyati uchun qulaylik sharoitni baholashda, hududlarning qulay va noqulaylik darajasini ham belgilab beradi.

MUHOKAMA VA NATIJALAR Bugungi kunda turizm va rekreatsiyani rivojlantirishning asosiy ijtimoiy-iqtisodiy omili sifatida innovasion faoliyatdan foydalaniladi. Innovasion omillar ilmiy-texnik taraqqiyotni va turizm sanoatini kompyuterlashtirishni aniqlaydigan asosiy sayyohlik turlari uchun zarur shart-sharoitlarni yaratadi.

Mintaqaning ijtimoiy-iqtisodiy infratuzilmasi, iqtisodiyotning transport va aloqa, qishloq xo'jaligi, qurilish, iste'mol tovarlari ishlab chiqarish va boshqa muhim sohalariga katta ta'sir ko'rsatadi hamda iqtisodiy rivojlanish uchun katalizator vazifasini bajaradi. Demak, mintaqa iqtisodiyotini rivojlanishi turizmni qay darajada rivojlanishini ham belgilaydi. Infratuzilma omillariga – mehmonxonalar va boshqa joylashtirish tizimi, ovqatlanish tizimi, transport xizmati, savdo shaxobchalari, ko'ngilochar shaxobchalari, madaniyat tashkilotlari, bank, muxandislik-qurilish obyektlari va boshqalar kiradi. Turizmning rivojlanishiga ta'sir qiluvchi asosiy omillardan biri mamlakatdagi siyosiy vaziyat, inqirozlar, siyosiy beqarorlik, iqtisodiyotni harbiylashtirish yoki chegaralarni

ochish siyosati, turizm sohasida ma'muriy nazoratni yengillashtirish bularning barchasi soliq va pul siyosatining birlashtirilishi mamlakat bo'ylab sayohat qilish imkoniyatlarini to'g'ridan-to'g'ri belgilaydi.

Markaziy Osiyo respublikalariga, jumladan, o'zbekistonga ham qo'shni Afg'onistondagi siyosiy vaziyat turizmning rivojlanishiga katta ta'sirini o'tkazib kelayapti va har bir mamalaktdagi siyosiy barqarorlik turizmni rivojlanishida muhim omil bo'ladi. Turizm sanoatining shiddat bilan rivojlanishi, jahon turizm bozorida raqobatning yuzaga kelishi, turizm infratuzilma faoliyatiga ta'sir ko'rsatdi va ularning keyingi ixtisoslashuvini aniqlab beradi, hamda sohani rivojlantirishda yetarli shart-sharoit mavjudligini hisobga olgan holda, turistik-rekreations resurslarining barcha turlarini yo'lga qo'yish orqali aholining iqtisodiy-ijtimoiy ahvolini yaxshilashga erishish mumkin.

XULOSA VA TAKLIFLAR Jahon iqtisodiyoti rivojlanishining hozirgi davriga kelib, turizm sohasi yetakchi o'rinlardan birini egallamoqda. Zero hududlarning tabiiy geografik, ijtimoiy-iqtisodiy va infratuzilma salohiyatidan sayyohlik maqsadlarida samarali foydalanish o'z navbatida aholining bandlik darajasini oshirishda, turmush sharoitlarini yuksaltirishda muhim omillardan biri bo'lib xizmat qiladi. Shu sababdan, zamonaviy iqtisodiy-ijtimoiy geografiyaning tez rivojlanayotgan yo'nalishlaridan biri bo'lgan turizm va rekreatsiyani ilmiy tadqiq qilish, hududlarning turistik-rekreatsiya salohiyatidan foydalanishning ilmiy-uslubiy masalalarini o'rganish muhim ilmiy-amaliy ahamiyat kasb etadi.

- Turizm va rekreatsiya geografiyasiga doir ilmiy tadqiqotlar dastavval g'arb (Yevropa) mamlakatlarida vujudga keldi. Bu davrda fanning ilmiy nazariy asoslari ishlab chiqildi, turistik resurslarning mazmun-mohiyati hamda ularning turizm va rekreatsiyani rivojlanishidagi roli ochib berildi.

- Hududlarning rekreations turistik salohiyatini tahlil va tashhis qilishda, ularni turizmni rivojlantirish nuqtai nazaridan baholashda turizm va rekreations geografik tadqiqotlar ahamiyati va roli asoslandi.

- Turizm va rekreatsiyani rivojlanishiga ta'sir qiluvchi tabiiy-iqlimiy, tarixiy-madaniy, ijtimoiy-iqtisodiy, infratuzilma, siyosiy va boshqa omillardan kompleks foydalanish, o'z navbatida sayohatning davomiyligini, turistik-ko'ngilochar tadbirlarni o'tkazish imkoniyatlarini aniqlaydi va sayyohlik oqimlarini ko'payishiga yordam beradi.

- o'zbekistonda turizm va rekreatsiyani rivojlanishi uch davrga bo'lib o'rganildi. Bu davrlarda turizm va rekreatsiya geografiyasining nazariy va amaliy rivojlanish jarayoni hamda turistik-rekreations faoliyatining me'yoriy-xuquqiy poydevori barpo etildi.

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BASIL PLANT AND ITS MEDICAL IMPORTANCE

Annotation: *There are few people in our country who do not like the smell and taste of basil. People love it and eat it since ancient times. Basil was added to food and tea, and was also used as a medicinal plant. They plant it in the yard and enjoy its smell.*

Women wear it in their ears. Of course, this is not in vain. In fact, it cleanses the air and the human body from germs and infections that are carriers of infectious diseases, and repels flies and mosquitoes from you. That is why raikhan is called the flower of paradise.

Key words: *Basil, basil, decoction, tincture, lemongrass, black basil, eczema, medicinal herbs, allergies.*

In our people, basil smells and tastes good. Blind people, the flaw organization will reach.

Old Arabic in the language basile means "body" or "Persian plant." language isled "Isfar" Isfaran, ich means "permanent" or "joy. The The basilt was was used bye from the sideside a very longime ago.

asil on work take Abu Ali ibn Sina, who went to crcrushoil ththe takee, ointment as hemorrhoids if applied bebenefit, "es it," says Ibn SiSina. Basilasays, om babasil iss productive if used, that is from babasil's eye fofor grease prepared, the eye slslowly benefitsenefits frfrom the pain toible, correct consumption if dodone, the heart power inincrease iss possible, water blood spitting to patients bebenefitswhat to do, chest milk increase, didiarrhea stopsrine divorce inincreasesbabasil ofe seed with difficulty while urinating bebenefitsto do saying past.

Basil O Oshraykhan'sname received typehealing in the chapter incomparable to the fefeatures. his type of peperson's appetitepens, eats vevvery well, igestion does, toand helps increasehe effect toof absorption for members. asil in the composition ether oils keeps ththis known to everyone. Therefore, it is chronic honey in ddiseases that preventsiinflammation from beingtreceived, nd ththis, wtogether with urine, is awway to treatdiseases twith recommendationsto be

done as possible in practice. From now on, outside basil whooping cough, measles complication to those who have relief. It is also in practice to give showing passed. Some in the nation use basil from the plant to prepare hot current tinctures for kidney, bladder, and urine road inflammation in diseases, high breath roads (that is, flu, angina, etc.), and yes, for malaria, forgiving and healing factors as usage is possible.

Basil again useful from the characteristics one, vinegar and less in quantity salt added mixture decoction of the tooth the pain leaving human mouth in the void some microbes to kill help gives. Basil of leaves juice ear suppuration treatment as application possible. Bulgarian in medicine treatment in practice basil tincture as expected Preparation: 2 teaspoons per glass chopped basil placed 100 or 200 ml of boiling water on top water is inserted and for a while This patient for daily norm is considered. eczema and wounds in correction recommendation is being done.

Uzbek in the kitchen basil soup and spice It is also valued as a spice. In particular, basil with meaty, fatty to the ingredients taste in giving, vegetables and berries in canning used. Raykhan's again one wonderful from the characteristics one fruit their tails harmful insects from the influence care is considered.

Basil is again useful from the characteristics of the mixture of vinegar and less salt in quantity in the decoction of the tooth, the pain leaving the human mouth in the void, and some microbes to kill help. Basil leaf juice is a possible ear suppuration treatment as an application. Bulgarian medicine treatment in practice: basil tincture as expected Preparation: 2 teaspoons of chopped basil per glass. 100 or 200 ml of boiling water is placed on top, water is inserted, and for a while, this patient is considered a daily norm. Eczema and wounds in correction recommendation are being done.

Uzbek in the kitchen: basil soup and spice It is also valued as a spice. In particular, basil with meaty, fatty ingredients tastes good with vegetables and berries in canning. Raykhan's again one wonderful from the characteristics one fruit their tails harmful insects from the influence care is considered.

Basil leaves dry for winter preservation for the same plant to bloom and flourish in front of upper leaves fluttering when purchased. Add to cart is laid out, then him/her shelter, but enough air was in places dried.

In our people, basil was of interest from time immemorial. to foods, healer green as and fragrance scattered for use Basil planted from the courtyards always The fragrance is spreading. Of course, this useless Not really. He is the one who cleans the human body of contagious diseases from microbes and infections. That's why for it too paradise The flower is basil; they are respected.

Basil is various in disease treatment, as all of us know.

Throat when in pain: 4 spoons of dried and chopped basil leaves in 250 ml of water boiled for 20 minutes and 4 layers of cold gauze taken through sail, 2-3 times a day during warm weather without throat rinsed.

Pumpkins for colds: 2 tablespoons dried and chopped basil and 500 ml boiled leaves are inserted into the water and cooled. 4 layers of gauze from the filter are transferred. On top of the ointment fabric, immersed pumpkins are placed.

For headaches: basil and lemon from the grass, equal in quantity Take 200 ml of boiling water (1 teaspoon in total). 20 minutes in water 4 floors, gauze through sail 1 teaspoon honey with mixed This is a drink. Juice to calm down also has the feature.



The benefits and harms of basil for human health.

The benefits and harms of basil for humans are assessed differently. In fact, it is a very useful herb, regardless of the type of basil. However, as with any food, the main thing is not to overdo it. If you eat basil in excess, you can aggravate existing health problems. Therefore, you should be more careful with it.

What are the benefits of basil for the human body?

Before we talk about the benefits and harms of basil for the body, it is worth talking about the difference between purple and green leaves. They differ in taste. The green variety has a slightly sweet and refreshing taste. That is why it has become a traditional ingredient in many European dishes. But purple basil is coarse. It has a sharp taste with bitterness, which is why it has become an integral part of Asian and Caucasian cuisines.

The chemical composition of the herb is almost identical. However, studies show that the purple one offers more benefits due to the plant's higher anthocyanin content. These elements protect the body from the effects of free radicals. It has also been found that people who have problems with their muscles, joints, stomach, and intestines should consume this basil.

About the health benefits of basil for women and men:

-Storehouse of antioxidants: One of the most dangerous conditions in the body is stress. It occurs due to the influence of an unhealthy lifestyle and bad ecology. As the condition progresses, it leads to accelerated aging and chronic inflammation. If you want to prevent stress, you should often consume foods with antioxidants, which are rich in basil.

- **Effect on the digestive process.** Basil contains a large amount of fiber and essential oils, which have a positive effect on digestion, form a healthy intestinal microflora, and promote the spread of beneficial bacteria.

- **The benefits of essential oils** in basil. They are found in large quantities in basil and are rich in antioxidants, which enhance the protection of DNA structure from the effects of free radicals. For example, the plant contains orientin, flavonoids, and vicenians. These organic elements protect white blood cells and strengthen the immune system. In addition, they are responsible for maintaining the integrity of cellular DNA.

-**Restore normal sugar levels.** If you regularly consume basil, it has a beneficial effect on improving carbohydrate metabolism in the body. This plant increases the production of insulin, which is necessary for the proper absorption of glucose. At the same time, the elements contained in basil participate in the formation of enzymes in the gastrointestinal tract that break down and absorb carbohydrates. As a result, the consumption of this plant is considered a good prevention of diabetes.

-Positive effect on the heart. Organic substances found in green and purple basil leaves have a positive effect on triglyceride and cholesterol levels. At the same time, the herb contains a large amount of magnesium, which improves blood flow.

-The benefits and harms of basil for humans are due to its high value among nutritionists. This herb can be added to absolutely any dish. It perfectly reduces the level of salt. In this regard, basil leaves are used in various diets, as they help to lose weight. However, one should not overdo it by including it in the menu.

- Basil brings great benefits only with a balanced diet. It has a very low calorie content, so it is added to all kinds of salads. By consuming basil in this form, you can get rid of excess weight without harming your health. The herb is a natural sorbent. Therefore, the body is cleansed as naturally as possible. In addition, basil stimulates the gastrointestinal tract and normalizes digestion.

- To lose weight with basil, you don't have to look for some unique recipes where it plays a significant role. It also doesn't make sense to consume it without any additives.

- It is best to supplement them with already familiar dietary foods that you eat every day.

Harms and contraindications of consuming basil

It has already been said that basil, like any other product, should not be overused.

Despite its proven benefits, it can cause serious harm to the body:

Basil in any form, including seeds, decoctions, and leaves, contains a large amount of vitamin K. This element affects blood clotting processes, stimulating blood flow.

Therefore, basil is not recommended for people suffering from blood clotting problems. In addition, it should be consumed with special care during pregnancy. It should also be remembered that various extracts of this plant should not be used by patients with low blood pressure, as basil only increases hypotension.

- One of the benefits of basil is that it lowers blood sugar levels. Therefore, even for people who do not have any health problems, it is important not to add the herb to dishes in large quantities. Otherwise, hypoglycemia may occur.

-Of course, people who have been diagnosed with allergies to organic substances in basil should consume basil with caution. This usually applies to essential oils.

Tips for preserving the benefits of greens for a long time

If you want to get all the benefits that basil contains, you need to follow simple rules:

Many people grow basil themselves. There is nothing complicated about it. Previously, to get greens, you had to use seedlings. Seedlings should be planted two months before the summer months. This is usually done in early to mid-spring.

The seedlings can be considered ready 30-60 days after the emergence of shoots. In addition, basil can be grown at home.

- Choose fresh basil sprigs for eating. Choose fragrant leaves that are a deep green or purple color. They should be free of any damage or blemishes.

- The best time to collect leaves is early in the morning, especially if you want to get a lot of grass. You should collect leaves regularly. This will help stimulate growth throughout the summer.

- Regularly remove branches that prevent new leaf growth. However, when harvesting greens, do not cut off the entire stem. Only remove the leaves.

- To store basil for a long time, simply blanch it in boiling water. Then, it can be packed in containers and placed in the refrigerator. There, it can be stored for up to three months.

- If you want dried leaves, spread the greens on paper and place them in the shade. The drying area should be ventilated. Usually a week is enough. Store dried basil in an airtight container at room temperature and in a dark place. In this state, the herb will retain all its beneficial properties for 5-6 months.

- Use whole basil leaves when cooking. Professional chefs believe that improperly chopped basil can significantly alter the flavor.

What foods does it go with?

Basil is particularly delicious and aromatic when combined with tomatoes, cheese, garlic, bell peppers, zucchini, and eggplant. It can also be used as an ingredient in fried eggs, omelets, and fish and lamb dishes.

- Harmonious combinations: obtained by combining basil with cream, nuts, citrus, cinnamon, honey, and vanilla. Often, dried or fresh herbs are even added to desserts. In general, everything depends on the personal taste of the cook. Do not give up experimenting.

Making basil tea.

Basil decoction helps in the fight against headaches, relieves fatigue, restores normal digestion, and relieves stomach upset. Also, the benefits and harms of basil for the female and male body are evaluated in the preparation of various diets. A decoction of this herb helps to suppress appetite and, as a result, lose extra pounds.

Both fresh and dried leaves are used to prepare the infusion. In the first case, about 50 grams of greens are enough. It is pre-washed and poured with one liter of boiling water. The tea is infused for about 20-25 minutes. It is not recommended to drink more than one cup of such tea per day.

Is it possible to recommend basil to children?

Yes, you can give your child basil. This spicy herb improves immunity and helps recover from injuries and operations, as it has an analgesic and sedative effect. However, for children under 7 years old, it is better not to give the herb in dishes with basil or add it in small portions.

What are the benefits of basil for women?

Basil leaves are low in calories. Greens are often considered indispensable when considering a low-calorie, versatile diet rich in healthy elements. In addition, basil is actively used in cosmetology. Essential oil from the leaves relieves inflammation and helps fight wrinkles.

The effect of basil on the male body.

Consuming basil helps increase blood circulation in the pelvic organs, which has a positive effect on strength and energy. In addition, consuming greens is recommended to improve sleep as well as help with nicotine withdrawal.

Delicious and healthy recipes with basil recipes that can be made with basil, which has medicinal properties .

Basil and tomato omelette

A simple and healthy breakfast that you can prepare every morning. You will need 5-6 basil leaves, garlic, green onions, 4 eggs, and 2 tomatoes.

First, the tomatoes are cut and fried. Then chopped garlic and chopped herbs are added to the pan. After a minute, you can pour a beaten egg mixed with a tablespoon of water into everything. Cook over low heat for 5-7 minutes until cooked.

basil and eggplant

Main ingredients: medium-sized eggplant, one bell pepper, 4 cloves of garlic, one onion, 100 grams of feta cheese, 500 grams of pasta, 100 grams of basil, tomato paste, and 2 tomatoes.

First, the eggplant is cut. Salt the cut parts so that the fruit does not become bitter, and leave them for 15-20 minutes. Fry the onion and garlic in a frying pan. When they become soft, add the eggplant and pepper. Add spices to taste and continue frying the mixture for another 5 minutes. After that, you can add tomato paste and chopped tomatoes.

All this is poured with a small amount of water and boiled. At the very end, basil is added.

The prepared pasta is mixed with the prepared vegetables and cheese. The dish can be considered ready to eat.

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WATER RESOURCES CONSERVATION: SCIENTIFIC, ECOLOGICAL, AND LEGAL FOUNDATIONS

Abstract: *This article thoroughly examines the scientific, ecological, and legal aspects of water resources conservation. It focuses on measures to prevent pollution, depletion, and degradation of water quality, as well as an analysis of Uzbekistan's legislative norms on water use. The ecological principles of sustainable water resource management, measures to preserve water quality and quantity, including the modernization of irrigation systems, reuse of drainage water, and industrial wastewater treatment methods, are discussed.*

Keywords: *water resources, water conservation, ecological principles, legal norms, pollution, irrigation systems, drainage water, Uzbekistan's legislation.*

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SUV RESURSLARINI MUHOFAZA QILISHNING ILMIY, EKOLOGIK VA HUQUQIY ASOSLARI

Annotatsiya: *Ushbu maqolada suv resurslarini muhofaza qilishning ilmiy, ekologik va huquqiy jihatlari chuqur tadqiq qilinadi. Asosan, suv resurslarining ifloslanishi, bulg'anishi va miqdorining kamayib ketishining oldini olish choralari, shuningdek, O'zbekiston qonunchiligida suvni muhofaza qilishga oid normalar tahlil etilgan. Maqolada suv resurslaridan oqilona foydalanishning ekologik tamoyillari, suvning sifat va miqdor jihatidan saqlanishi uchun zarur bo'lgan chora-tadbirlar, shu jumladan sug'orish tizimlarini takomillashtirish, qaytarma suvlardan foydalanish va sanoat chiqindilarini tozalash usullari ko'rib chiqilgan.*

Kalit so'zlar: *suv resurslari, suvni muhofaza qilish, ekologik tamoyillar, huquqiy normalar, ifloslanish, sug'orish tizimlari, qaytarma suvlar, O'zbekiston qonunchiligi.*

Suv resurslari hayot uchun asosiy resurs hisoblanib, u insoniyatning iqtisodiy, ijtimoiy va ekologik rivojlanishida hal qiluvchi rol o'ynaydi. Zamonaviy sharoitda suv resurslarining cheklanganligi va ularga bo'lgan talabning ortib borishi tufayli ularni ratsional boshqarish va samarali foydalanish muammolari dolzarb ahamiyat kasb etmoqda.

Suv resurslarini muhofaza qilishning ilmiy asoslari

1.1. Ekologik tamoyillar

Suv resurslarini muhofaza qilishning ekologik asosi, suvni ekologik tizimning ajralmas qismi ekanligiga asoslanadi. Akademik V.I. Vernadskiyning tadqiqotlariga ko'ra, tabiatdagi barcha suvlar (yer usti, yer osti va atmosfera yog'in suvlari) o'zaro bog'langan holda dinamik muvozanatda bo'ladi. Bu muvozanatni buzish suv resurslarining ifloslanishi, minerallasuvi va miqdorining kamayishiga olib keladi.

1.2. Suvning tabiiy aylanishi va uning ahamiyati

Suvning tabiiy aylanishi quyidagi bosqichlarni o'z ichiga oladi:

- ✓ Bug'lanish va atmosfera o'tish
- ✓ Yog'inlar shaklida yog'ishi
- ✓ Yer usti va yer osti oqimlari orqali suv manbalariga qaytishi

Bu jarayon suv resurslarining tabiiy yangilanishini ta'minlaydi. Biroq, atmosferaning ifloslanishi va tuproqning zaharlanishi tufayli suvning sifat keskin yomonlashmoqda.

2. Suv resurslarini muhofaza qilishning huquqiy asoslari

2.1. O'zbekiston qonunchiligidagi normalar

O'zbekiston Respublikasi Konstitutsiyasining 55-moddasiga ko'ra, suv resurslari davlat muhofazasida bo'lib, ulardan oqilona foydalanish talab etiladi. Quyidagi qonunlar suvni muhofaza qilishni tartibga soladi:

✓ "Suv va suvdan foydalanish to'g'risida"gi qonun (masalan, 73-74-moddalar og'ava suvlarni oqizishni tartibga soladi)

- ✓ "Tabiatni muhofaza qilish to'g'risida"gi qonun
- ✓ Suv monitoringi to'g'risidagi qoidalar (113-modda)

2.2. Suvni muhofaza qilish vazifalari

Qonunning 97-moddasiga ko'ra, suv resurslarini quyidagi holatlardan muhofaza qilish kerak:

- ✓ Aholi sog'lig'iga zarar yetkazishi
- ✓ Baliq zaxiralarining kamayishi
- ✓ Suvning fizikaviy, kimyoviy va biologik xususiyatlarining yomonlashishi

3. Suv resurslarini muhofaza qilishning amaliy choralari

3.1. Sug'orish tizimlarini takomillashtirish

O'zbekistonda suv resurslarining 90% dan ortig'i qishloq xo'jaligida ishlatiladi. Sug'orishda suvni tejash uchun quyidagi choralar ko'rilmoqda:

- ✓ Tomchilatib sug'orish usullarini joriy etish
- ✓ Kanal va kollektorlarni betonlash (suv yo'qotishlarni 30% ga kamaytirish)
- ✓ Lazerli tekislash texnologiyalari

3.2. Qaytarma suvlardan foydalanish

Qaytarma suvlar (sug'orishdan keyin qolgan suvlar) dan qayta foydalanish orqali suv resurslarini tejash mumkin. Masalan:

- ✓ Farg'ona vodiysida yiliga 9 km³ qaytarma suv hosil bo'ladi
- ✓ Mirzacho'lda bu ko'rsatkich 2,2 km³ ni tashkil etadi

3.3. Sanoat chiqindilarini tozalash

Sanoat korxonalarining chiqindilarini tozalash orqali suv resurslarini ifloslanishdan saqlash kerak. Buning uchun:

- ✓ Aylanma suv ta'minoti tizimlarini joriy etish
- ✓ Suvni qayta ishlash zavodlarini qurish
- ✓ Og'ava suvlarni qayta ishlab qishloq xo'jaligida ishlatish

4. Xulosa va takliflar

Suv resurslarini muhofaza qilish uchun quyidagi choralarni ko'rish tavsiya etiladi:

1. Suvni tejash texnologiyalarini keng joriy etish
2. Qonunchilikni takomillashtirish va uni qat'iy amalga oshirish
3. Xalqaro hamkorlikni kuchaytirish (masalan, transchegara suv manbalarini boshqarish)

Xulosa sifatida suv resurslarini muhofaza qilish nafaqat ekologik, balki iqtisodiy va ijtimoiy ahamiyatga ega. O'zbekiston bu sohada jiddiy islohotlarni amalga oshirmoqda, biroq global tajribalardan foydalangan holda yanada samarali choralarni ko'rish zarur.

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TECHNOLOGIES FOR USING VISUAL EDUCATIONAL TOOLS AND THEIR IMPORTANCE IN GEOGRAPHY LESSONS

Abstract: *This article examines the use of visual aids in geography lessons. The technologies used and their importance were studied. The article also analyzes the issues of classification of teaching aids.*

Keywords: *geography lessons, events and phenomena, educational tools, geology lessons, volumetric teaching, models of volcanoes, geysers, mountains, tsunamis, floods, tornadoes.*

The group of teaching aids that depict geographical events and phenomena is divided into two: volumetric teaching aids and depictions of geographical events and phenomena. These two groups depict geographical objects, events and phenomena.

Technology of working with volumetric teaching aids. Volumetric teaching aids are also used in geography lessons. They include models and models. Models are three-dimensional (volumetric) images of geographical events and phenomena and objects. They are reduced to a certain scale or depicted in their own size. However, errors are also allowed in volumetric models. According to their construction, models are divided into the following types: indivisible; divisible; sectional; open; statistical and active.

In geology lessons, the model of the globe is most often used. It is not appropriate to make models of all events and phenomena for educational purposes. For example, models of volcanoes, geysers, mountains, tsunamis, floods, tornadoes are not appropriate for their purpose. Because they can be freely used in natural processes, models of thermometers, barometers, weather vanes, compasses and other instruments can also be used in the lesson. With the help of models, students quickly learn their structure and functioning. With the help of models, the structure and functioning of canals, dams and reservoirs can also be shown.

Models are also widely used in geography education. Models are simplified copies of geographical objects, events and phenomena. They are divided into natural geographical and economic and social geographical models.

Natural geographical models include landscapes, relief, river valleys, mountains, gorges, caves, models.

Models of relief forms are of great importance in the study of the Earth's surface. It is very difficult for students to master knowledge about relief, because the relief is three-dimensional. Therefore, observations made in the field are of great importance in the study of relief. Not only can the formation of the relief be seen on site, but the object being studied is directly studied, its dimensions are determined, it is studied in all respects, and clear ideas are formed. One of the easiest ways to master knowledge about relief is to make models of their forms on the geography field.

When teaching a lesson using models, the teacher should show the model from all sides, only then will a complete and clear idea of the geographical object or events and phenomena depicted on this model be formed in the minds of students.

Therefore, models are considered an intermediate tool for depicting geographical events and phenomena in their natural state on maps.

Technology of working with voluminous teaching aids.

Pictures are widely used in geography education. Through them, they depict geographical events and phenomena, as well as reveal their specific features and aspects.

Pictures (pictures) have the following properties:

- pictures allow students to organize their cognitive activity. Using pictures, the teacher can talk about their content, have a conversation with students, or give students tasks for independent analysis of the picture. For example, if a picture depicting desert nature is being studied, the teacher can assign students to write a written work about the main relief forms of Kyzylkum, flora and fauna based on the analysis of the picture. When the picture is hung, it should be clearly visible from all parts of the classroom; - a well-made picture is of great importance in creating ideas about geographical objects, events and phenomena. Therefore, some of them can replace observation in nature. For example, students can get a complete idea of the relief forms of a desert or mountain by looking at them in a picture. Pictures are especially important in studying geographical events and phenomena that can be learned directly by seeing or studying. For example, the nature of Antarctica, Tornadoes, Tsunami, etc., so pictures allow you to imagine geographical events and phenomena;

- educational pictures (paintings) are a generalized depiction of specific geographical events and phenomena. Unlike artistic paintings or photographs, they emphasize certain features of events and phenomena. In this case, the most important aspects of geographical events are easily mastered, and on the other hand, this object makes it possible to separate the most important aspects of events from secondary aspects. In the process of forming knowledge, the study and analysis of pictures is carried out with the help of a teacher. In the process of checking and

evaluating knowledge, students independently study, analyze and draw conclusions from pictures. This approach to studying pictures allows solving two important educational problems: it introduces students to the methods of geographical knowledge; it allows students to develop logical thinking, the ability to work with abstract-theoretical structures. Such activity relies on the emotional perception of students.

The main requirements for using pictures are as follows:

- the picture must correspond to the content of the lesson topic;
- the drawing should depict the most important features of a geographical object, event and phenomenon;
- the drawing should be clear and legible.

For example, the paintings of the People's Artist of Uzbekistan Chingiz Akhmarov of natural landscapes can be widely used in studying the natural geography of Uzbekistan and Central Asia. Based on the analysis of these paintings, students can easily and quickly form general concepts using drawings. For example, flat and wavy plains, rolling, craggy and rocky mountains, tropical forests, Antarctic ice sheets, deserts, mountains, etc.

Use of natural resources. Effective teaching in geography lessons relies on students' direct perceptions of nature and the economy. Therefore, the use of natural resources is of great importance in mastering geographical knowledge.

Natural geographical tools are divided into two large groups:

- natural tools studied directly in natural conditions;
- natural tools studied in classroom conditions.

Natural tools studied directly in natural conditions include geological formations, landforms, soils, plants, streams, lakes, agricultural crops, and industrial enterprises. These natural tools are studied during educational trips. Direct study or observation of natural and industrial objects in natural conditions is the basis for studying other educational tools (samples, herbariums, etc.). Observation of natural conditions and processes is a complex process. During observation, teachers assign certain tasks and monitor their implementation, and the results of the observations are compared. Students should record the events and phenomena they observe.

The results of these observations can be used in the lesson. The skills of observing events and phenomena in nature are formed during the lesson on the basis of exercises and observation of pictures and statistical on-screen manuals. For example, while showing the slide "Images of Desert Nature", the teacher can ask his students the following question: "What is the reason for the formation of desert relief forms? What are the main features of desert relief forms?"

Observing geographical objects during educational trips is a very complex problem. Therefore, the teacher must first carry out organizational work. To do this, he explains the goals and objectives of the educational trip to the students, the class is divided into certain groups, and each group is given a task. For example, when going on an educational trip for the elementary (grade V) course of natural geography, the following tasks can be presented.

- cleaning geographical openings and carefully examining them;

- determining the number of layers in the opening. Measuring the thickness of the layers;
- study the state of strata and determine their causes;
- under what conditions did the formation of deposits occur;
- what external forces affect the change in relief. - what is the effect of external forces on the relief.

The implementation of this task requires students to be extremely observant. They must determine the boundaries of the layers, the specific features of the arrangement of the layers, the sizes of the rocks in their layers. As a result of the observations made, the group of students will be able to better master the knowledge of the formation of rocks, their accumulation and deposition.

Students' observation of natural objects is carried out under the direct supervision of teachers, in some cases, the teachers themselves participate in the observation work.

The following natural objects can be observed in the classroom:

- a) rock samples;
- b) soil samples and soil monoliths;
- c) herbariums;
- d) animal carcasses;
- d) samples of industrial and agricultural products.

Natural objects are an irreplaceable type of educational tools.

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AXBOROTLASHTIRILGAN TA'LIM MUHITIDA AQLIY BILISH DARAJASINI ANIQLASHDA DIDAKTIK O'YINLARDAN FOYDALANISH METODIKASINI TAKOMILLASHTIRISH USULLARI

***Annotatsiya.** Ushbu maqola zamonaviy ta'lim tizimida axborot texnologiyalari va raqamli resurslarning integratsiyasi kontekstida o'quvchilarning aqliy bilish darajasini aniqlash va rivojlantirish uchun didaktik o'yinlardan foydalanish metodikasini takomillashtirish masalalarini ilmiy-amaliy jurnalistik uslubda muhokama qiladi. Maqolada didaktik o'yinlarning ta'lim jarayonidagi o'rni, ularning afzalliklari va cheklovlari tahlil qilinadi hamda metodikani yaxshilash uchun strategiyalar taklif etiladi. Muhim tushunchalar sifatida moslashuvchan o'rganish texnologiyalari, ma'lumotlar tahlili, o'qituvchilar tayyorgarligi va etik masalalar ko'rib chiqiladi.*

***Kalit so'zlar:** Axborotlashtirilgan ta'lim muhiti, didaktik o'yinlar, aqliy bilish darajasi, moslashuvchan o'rganish, ma'lumotlar tahlili, o'qituvchilar tayyorgarligi, etik masalalar, baholash metodikasi*

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METHODS FOR IMPROVING THE METHODOLOGY OF USING DIDACTIC GAMES TO ASSESS COGNITIVE LEVELS IN AN INFORMATIZED EDUCATIONAL ENVIRONMENT

***Annotation.** This article discusses, in a scientific-practical journalistic style, the improvement of methodologies for using didactic games to assess and develop students' cognitive levels within the context of integrating information technologies and digital resources in modern education systems. The article analyzes the role of didactic games in the educational process, their advantages, and limitations, while proposing strategies to enhance the methodology. Key concepts such as adaptive learning technologies, data analysis, teachers' preparedness, and ethical considerations are explored.*

***Keywords:** Informatized educational environment, didactic games, cognitive level, adaptive learning, data analysis, teachers' preparedness, ethical issues, assessment methodology*

Kirish. Zamonaviy ta'lim tizimi axborot texnologiyalari va raqamli resurslarning integratsiyasi tufayli sezilarli o'zgarishlarga duch kelmoqda. Axborotlashtirilgan ta'lim muhiti deb ataladigan bu yangi sharoitda o'quvchilarning aqliy bilish darajasini aniqlash va rivojlantirish uchun an'anaviy usullar endi yetarli emas. Ushbu muhitda didaktik o'yinlar o'quv jarayonini interaktiv, qiziqarli va samarali qilishda muhim vosita sifatida ko'riladi. Didaktik o'yinlar nafaqat bilimlarni o'zlashtirishga yordam beradi, balki o'quvchilarning mantiqiy fikrlash, muammolarni hal qilish va ijodiy yondashuv kabi ko'nikmalarini rivojlantirishga xizmat qiladi. Shu sababli, ushbu maqola axborotlashtirilgan ta'lim muhitida didaktik o'yinlardan foydalanish metodikasini takomillashtirish yo'llarini ilmiy-amaliy nuqtai nazardan ko'rib chiqishga bag'ishlanadi.

Zamonaviy ta'limda axborot texnologiyalari o'quv jarayonini moslashuvchan va shaxsiylashtirilgan qilish imkonini beradi. Masalan, kompyuterlar, planshetlar va interaktiv doskalar kabi vositalar o'quvchilarning individual ehtiyojlariga mos ravishda ta'lim strategiyalarini shakllantirishga yordam beradi. Didaktik o'yinlar esa bu jarayonda o'quvchilarni faol ravishda jalb qilish, ularning motivatsiyasini oshirish va nazariy bilimlarni amaliy kontekstda qo'llash imkoniyatini taqdim etadi. Bu o'yinlar orqali o'quvchilar nafaqat bilim oladi, balki real hayotda duch kelishi mumkin bo'lgan muammolarni hal qilish ko'nikmalarini ham rivojlantiradi. Masalan, dasturlash yoki kiberxavfsizlik kabi sohalarida qo'llaniladigan didaktik o'yinlar o'quvchilarga XXI asr talablariga javob beradigan zamonaviy ko'nikmalarni egallashga yordam beradi.

Maqolaning asosiy maqsadi didaktik o'yinlarning ta'limdagi o'rnini tahlil qilish, ularning afzalliklari va cheklovlarini aniqlash, shuningdek, aqliy bilish darajasini baholashda samarali metodikani ishlab chiqishdir. Tadqiqot jarayonida mavjud metodikalarning kamchiliklari ko'rib chiqiladi va ulardan kelib chiqadigan muammolarni bartaraf etish uchun takliflar beriladi. Shu bilan birga, maqola zamonaviy ta'limdagi texnologik tendensiyalarni hisobga olgan holda didaktik o'yinlarni qo'llashning yangi yondashuvlarini taklif etadi. Tadqiqot metodologiyasi sifatida adabiyotlar tahlili, didaktik o'yinlarning amaliy qo'llanilishi va ularning natijalarini baholash usullari qo'llaniladi.

Adabiyotlar tahlili. Axborotlashtirilgan ta'lim muhiti zamonaviy texnologiyalar va raqamli resurslar ta'lim jarayoniga chuqur integratsiya qilingan muhit sifatida ta'riflanadi. Bu muhitda o'quvchilar kompyuterlar, planshetlar, interaktiv doskalar va boshqa vositalardan foydalanadilar, bu esa ta'lim jarayonini yanada moslashuvchan va samarali qiladi. Tadqiqotchilarning fikricha, bunday muhit o'quvchilarning individual ehtiyojlariga moslashish imkonini beradi [1]. Masalan, Siemens (2005) o'z ishida axborot texnologiyalari ta'limda moslashuvchanlik va dinamiklikni ta'minlashini ta'kidlaydi [2]. Ushbu muhit nafaqat o'quv materiallarini taqdim etishda, balki o'quvchilarning faoliyatini monitoring qilish va baholashda ham qo'llaniladi. Shu sababli, axborotlashtirilgan ta'lim muhiti didaktik o'yinlarning samaradorligini oshirish uchun muhim zamin yaratadi.

Didaktik o'yinlar maxsus maqsadlar uchun ishlab chiqilgan o'yinlar bo'lib, o'quvchilarga muayyan bilim yoki ko'nikmalarni o'rgatishga xizmat qiladi. Bunday o'yinlarga matematikani o'rgatuvchi o'yinlar, til o'rganishga yordam beruvchi platformalar yoki mantiqiy fikrlashni rivojlantiruvchi ilovalar misol bo'la oladi. Tadqiqotlar shuni ko'rsatadiki, didaktik o'yinlar o'quvchilarni faol ravishda jalb qilib, o'rganish jarayonini qiziqarli va samarali qiladi [3]. Jonassen (1999) o'z ishida o'yinlar orqali o'quvchilarning motivatsiyasi oshishi va bilimlarni amaliy kontekstda qo'llash qobiliyati rivojlanishini ta'kidlaydi [4]. Shu bilan birga, didaktik o'yinlar nafaqat o'qitish vositasi, balki o'quvchilarning aqliy qobiliyatlarini baholashda ham samarali usul sifatida qo'llanilishi mumkin.

Aqliy bilish darajasi o'quvchining bilimlarni qabul qilish, tahlil qilish, sintez qilish va qo'llash qobiliyatlarini ifodalaydi. Bu darajani aniq baholash ta'lim jarayonida muhim ahamiyatga ega, chunki u o'quvchining rivojlanish traektoriyasini aniqlash va shunga mos ta'lim strategiyalarini ishlab chiqish imkonini beradi. An'anaviy baholash usullari, masalan, testlar yoki yozma imtihonlar, ko'pincha o'quvchilarning haqiqiy qobiliyatlarini to'liq aks ettira olmaydi. Bloom (1956) o'zining mashhur taksonomiyasida aqliy bilish darajasini baholashda yuqori darajadagi ko'nikmalarni sinash zarurligini ta'kidlaydi [5]. Didaktik o'yinlar esa interaktiv va kontekstual baholash imkonini taqdim etadi, bu an'anaviy usullarning cheklovlarini bartaraf etishga yordam beradi.

Hozirgi kunda didaktik o'yinlardan foydalanish metodikalari asosan o'yinlarni o'qitish vositasi sifatida qo'llaydi, lekin ularning baholashdagi salohiyati to'liq ishlatilmaydi. Ko'pgina o'yinlar zamonaviy texnologiyalarning imkoniyatlaridan yetarlicha foydalanmaydi yoki aqliy bilishning faqat cheklangan jihatlarini (masalan, eslab qolish qobiliyatini) sinab ko'radi. Tahlil qilish, muammolarni hal qilish yoki ijodiy fikrlash kabi yuqori darajadagi ko'nikmalar esa e'tibordan chetda qolmoqda. Prensky (2001) o'z ishida zamonaviy ta'limda o'yinlarning interaktivlik va moslashuvchanlik darajasini oshirish zarurligini ta'kidlaydi [6].

Metodlar. Didaktik o'yinlar maxsus maqsadlar uchun ishlab chiqilgan bo'lib, o'quvchilarga muayyan bilim va ko'nikmalarni o'rgatishga xizmat qiladi. Quyida maqolada keltirilgan barcha didaktik o'yinlarning qo'llanilishi bosqichlari va ular haqida batafsil muhokama keltiriladi.

1. **"Kod yozish labirinti"** o'yini – algoritmik fikrlash va dasturlash asoslarini o'rgatish maqsadida tashkil qilinadi.

Qo'llanilish bosqichlari: o'qituvchi virtual labirintni taqdim etadi va o'quvchilarga maqsadni tushuntiradi (masalan, belgilangan nuqtaga yetib borish); ketma-ket buyruqlar berish tushunchasi o'rgatiladi (oldinga yur, o'ngga buril); o'quvchilar Scratch yoki Blockly kabi platformalarda buyruqlarni kiritadi; sikl va shartli operatorlar tushunchasi kiritiladi (masalan, "agar yo'l ochiq bo'lsa, yur"); o'quvchilarning tezligi, xatosizligi va muammoni hal qilish samaradorligi baholanadi.

Ushbu o'yin algoritmik fikrlashni rivojlantiradi, mantiqiy muammolarni yechish qobiliyatini oshiradi, o'quvchilarni dasturlashga qiziqtiradi, biroq unda ham

o'ziga xos kamchiliklari ham yo'q emas. Murakkab labirintlar boshlang'ich darajadagi o'quvchilar uchun qiyinchilik tug'dirishi mumkin; texnik resurslarga bog'liqlik talab qiladi.

“Kod yozish labirinti” didaktik o'yini o'quvchilarga muammoni bosqichma-bosqich hal qilishni o'rgatadi va dasturlashning asosiy tushunchalarini amaliy kontekstda mustahkamlaydi. Tadqiqotlar shuni ko'rsatadiki, bunday o'yinlar o'quvchilarning motivatsiyasini oshiradi [3]. Shu bilan birga, o'yin moslashuvchan algoritmlar bilan jihozlangan, har bir o'quvchining darajasiga mos qiyinlikni ta'minlashi mumkin.

2. **“Kiberxavfsizlik detektivi”** o'yini – kiberxavfsizlik qoidalarini o'rgatish va xavf-xatarlarni aniqlash ko'nikmalarini rivojlantirish maqsadida tashkil qilinadi.

Qo'llanilish bosqichlari: virtual xavfli vaziyat taqdim etiladi (masalan, fishing elektron xati); o'quvchilar xavfni aniqlashga harakat qiladi (masalan, soxta havolani topish); yechim taklif qilinadi (masalan, xatni o'chirish yoki parolni o'zgartirish); murakkabroq xavf kiritiladi (masalan, zararli dastur hujumi); tezlik, aniqlik va xavfni bartaraf etish samaradorligi baholanadi;

Ushbu o'yin real hayotdagi kiberxavfsizlik muammolarini hal qilishni o'rgatadi, amaliy ko'nikmalarni rivojlantiradi. Biroq, o'quvchilarning texnik bilim darajasi past bo'lsa, murakkab vaziyatlar o'quvchilarni chalkashliklarga olib kelishi mumkin.

Bu o'yin o'quvchilarni zamonaviy raqamli dunyoda xavfsiz bo'lishga tayyorlaydi. Interaktivligi tufayli an'anaviy darslardan ko'ra samaraliroq bo'lib, o'quvchilarning diqqatini uzoq muddat saqlaydi. Biroq, shaxsiy ma'lumotlar xavfsizligini ta'minlash uchun etik me'yorlarga rioya qilish zarur [8].

3. **“Ma'lumotlar tuzilishi pazzli”** o'yini – ma'lumotlar tuzilishi (massivlar, ro'yxatlar) haqida tushuncha berish maqsadida tashkil qilinadi.

Qo'llanilish bosqichlari: virtual kartalar taqdim etiladi (raqamlar yoki so'zlar); o'quvchilar kartalarni tartibga soladi (masalan, o'sish tartibida); qidiruv yoki saralash algoritmlari tushuntiriladi (masalan, Binary Search); murakkab tuzilmalar kiritiladi (masalan, daraxtlar); tartiblash samaradorligi va algoritmni tushunish darajasi baholanadi.

Ushbu o'yin esa, tahlil qilish va muammolarni hal qilish qobiliyatini oshiradi, nazariy bilimlarni amaliyotda qo'llashga yordam beradi. Ammo, yuqori darajadagi matematik bilimlarni talab qilganli bois boshlang'ich sinf o'quvchilari uchun qiyin bo'lishi mumkin.

“Ma'lumotlar tuzilishi pazzli” o'yini ma'lumotlar tuzilishi va algoritmlarni o'rganishda vizual va amaliy yondashuvni ta'minlaydi. O'quvchilar ijodiy yechimlar topishga undaladi, ammo o'yinni soddalashtirish orqali kengroq auditoriyaga moslashtirish mumkin.

4. **“Tarmoq simulyatori”** o'yini – kompyuter tarmoqlari va ularning ishlash prinsiplarini o'rgatish.

Qo'llanilish bosqichlari: virtual tarmoq sxemasi taqdim etiladi; o'quvchilar tarmoqni sozlaydi (IP-manzil kiritish, ulanishlarni tekshirish); ma'lumot uzatish

sinovdan o'tkaziladi; tarmoqdagi nosozlik aniqlanib, tuzatiladi; tarmoqni tushunish va muammolarni hal qilish qobiliyati baholanadi.

Bu o'yin tarmoq texnologiyalarini amaliy o'rganish imkonini beradi, jamoaviy ishlashni rivojlantiradi. Kamchiligi esa, murakkab tarmoq konfiguratsiyalari tajriba talab qiladi, resurslar cheklangan bo'lsa, qo'llanilishi qiyin kichadi.

Ushbu o'yin o'quvchilarga real hayotdagi tarmoq muammolarini simulyatsiya qilish orqali amaliy ko'nikmalar beradi. Jamoaviy ishlashga e'tibor qaratilishi uning qo'shimcha afzalligi hisoblanadi.

5. **"Dizayn va interfeys yaratish"** o'yini – foydalanuvchi interfeysi va grafik dizayn asoslarini o'rgatish.

Qo'llanilish bosqichlari: oddiy veb-sahifa yoki ilova interfeysi namunasi ko'rsatiladi; o'quvchilar Figma yoki Canva yordamida o'z dizaynini yaratadi; dizaynning qulayligi va funksionalligi muhokama qilinadi; dizayn foydalanuvchi uchun qulayroq qilinadi; estetik va amaliy jihatlar baholanadi.

Bu o'yinda o'quvchilar ijodiy ko'nikmalarni rivojlantiradi, tanqidiy fikrlash ko'nikmalarini rivojlantiradi. Ammo dizayn tajribasi bo'lmagan o'quvchilar uchun qiyin bo'lishi mumkin. Bunda subyektiv baholash xavfi mavjud.

Ushbu o'yin raqamli ijodkorlikni rivojlantiradi va o'quvchilarni zamonaviy dizayn tamoyillarini o'rganishga undaydi. O'yin estetik va funksional muvozanatni topishga yordam beradi.

Xulosa. Axborotlashtirilgan ta'lim muhitida didaktik o'yinlardan foydalanish metodikasini takomillashtirish o'quvchilarning aqliy bilish darajasini aniqlash va rivojlantirishda muhim imkoniyatlar yaratadi. Ushbu maqolada keltirilgan didaktik o'yinlar – "Kod yozish labirinti", "Kiberxavfsizlik detektivi", "Ma'lumotlar tuzilishi pazzli", "Tarmoq simulyatori" va "Dizayn va interfeys yaratish" – o'quvchilarga nafaqat texnik bilimlar, balki mantiqiy fikrlash, muammolarni hal qilish, ijodiy yondashuv va jamoaviy ishlash kabi ko'nikmalarni ham rivojlantirishga yordam beradi. Har bir o'yin o'ziga xos maqsadlarga xizmat qiladi va ta'lim jarayonida o'quvchilarni faol jalb qilish orqali an'anaviy usullarning cheklovlarini bartaraf etadi.

Didaktik o'yinlarning afzalliklari orasida o'quv jarayonini qiziqarli qilish, motivatsiyani oshirish va amaliy kontekstda bilimlarni qo'llash imkoniyati mavjud. Masalan, "Kod yozish labirinti" algoritmik fikrlashni rivojlantirsa, "Kiberxavfsizlik detektivi" zamonaviy raqamli xavf-xatarlarga qarshi kurashish ko'nikmalarini oshiradi. Shu bilan birga, bu o'yinlarning cheklovlari ham e'tiborga olinishi zarur. Masalan, texnik resurslarga bog'liqlik, o'qituvchilarning yetarli tayyorgarligi va o'yinlarning barcha o'quvchilar uchun teng imkoniyatlar yaratishi kabi masalalar hal qilinishi lozim. Etik jihatlar ham muhim: o'yinlar shaxsiy ma'lumotlarni himoya qilishi va madaniy yoki ijtimoiy noxolislikka yo'l qo'ymasligi kerak [8].

Kelajakda didaktik o'yinlarning samaradorligini oshirish uchun quyidagi tadqiqot yo'nalishlari tavsiya etiladi: **moslashuvchan texnologiyalar integratsiya qilish** o'yinlarning o'quvchilarning individual ehtiyojlariga moslashish qobiliyatini oshiradi; **ma'lumotlarni tahlil qilish** o'yin davomida yig'ilgan ma'lumotlarni

tahlil qilish orqali o'quvchilarning progressini aniqlay oladi; **o'qituvchilar tayyorgarligi oshirish orqali** didaktik o'yinlarni samarali qo'llash uchun maxsus treninglar tashkil etadilar.

Etik me'yorlarni joriy qilish orqali o'yinlarda adolat va xolislikni ta'minlash bo'yicha strategiyalar ishlab chiqiladi.

Maqolada keltirilgan misollarning natijalari shuni ko'rsatadiki, didaktik o'yinlar o'quvchilarning faolligini oshiradi va an'anaviy testlardan farqli o'laroq, yuqori darajadagi aqliy ko'nikmalarni (tahlil, sintez, ijodkorlik) baholash imkonini beradi. Ushbu yondashuv ta'lim jarayonini yanada samarali qilishga xizmat qiladi va kelajakda kengroq qo'llanilishi uchun tadqiqotlarni davom ettirish zarur.

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GEOGRAPHICAL ROOTS OF CUSTOMS AND TRADITIONS RELATED TO THE RATIONAL USE OF WATER RESOURCES (THE EXAMPLE OF THE FERGANA VALLEY)

***Annotation.** This article analyzes the influence of geomorphological, soil-climatic, hydrological and socio-geographical factors on the formation of irrigation and water use culture in the Fergana Valley through historical and geographical comparison, based on historical sources. Conclusions are drawn through historical and geographical comparison of traditional water use cultures formed in the Khorezm oasis and the Fergana Valley.*

As a rule, in the process of formation, each ethnic group adapts to the landscape of a certain area, to a certain extent changing this natural environment with its economic activities, creating cultural landscapes and methods of their production, depending on the natural and geographical characteristics of the country in which it lives. As a result, they use nature for their own needs, without disturbing its balance, using the most convenient methods. This process occurs spontaneously in a certain geographical environment where the ethnos (several generations) has lived for a long time. Over time, the "ethnos-landscape" ratio becomes optimal for both the ethnos and the landscape. [1; 2; 3]. This means that a sustainable landscape stabilizes the ethnos. Thus, if an ethnos lives in one area for a long time, it adapts to it and, as a rule, does not disturb the natural balance, but forms natural traditions and customs inherent only in this people. Traditions and customs reflect the culture of a people fully adapted to the "native landscape," which change as a result of the development of society, over time some of them disappear, new ones appear. Traditions and customs that have a strong geographical basis have been preserved for centuries and passed down from generation to generation [4].

In scientific literature, tradition is defined as "a means of transmitting the historically accumulated experience of ancestors to generations" [6; p. 32], "a cultural phenomenon that arises in the process of historical development based on natural and social needs and is inherited from ancestors to generations", "a set of accepted procedures and rules that have been ingrained in the minds of people" [7; p. 124]. Customs, on the other hand, are a broad concept and are noted as "procedures and patterns accepted by the whole nation as traditions" [5; p. 416], "behavior that has been embedded in people's lives and is repeated for a certain period of time, rules of behavior accepted by the majority" [5; p. 125]. The formation of the traditions and customs of peoples occurs as a result of the widespread influence of various geographical factors. Thus, the geographical factor affects not only the formation of the material, but also the spiritual culture of the

ethnic group, its psyche, which is manifested in its unique national characteristics, traditions, traditions and values. In ancient Eastern culture, including the Uzbek way of life, traditions and customs are valued as a means of educating young people and teaching the experience of the older generation, traditions and experience of ancestors are assessed as absolute truth and are highly valued at the level of the law. "The West is ruled by laws and the East by customs."

Historical experience shows that the violation of the environmental conditions of the ethnic group formed in a certain territory has a significant impact on the deterioration of environmental stability, ultimately on the survival or migration of one or another ethnic group to the Mother landscape. And migration, that is, resettlement from the historical homeland, can put an end to the language, territorial unity, culture and traditions of the ethnic group and, finally, lead to its degradation. " [8]. Suvdan foydalanish bo'yicha «ma'lum muddatda takrorlanib turuvchi», «ajdodlardan avlodlarga meros bo'lib o'tadigan», «umumxalq tomonidan qabul qilingan» xulq-atvor qoidalari, ta'qiq va normalarning vujudga kelishi esa muayyan hududning iqlimi, relyefi, gidrogeologik sharoitlari, suv bilan ta'minlanganlik darajasi, va umuman, tabiatdagi ritmiylik va davriylik qonuniyatlari bilan uzviy bog'liqdir. In the context of global climate change in Central Asia, studying the traditions and customs of local populations, including the Uzbek people, aimed at rational use and protection of water based on an ecological-geographic approach, and their creative use, without denying innovative development, can also yield important practical results. [4]. As S.A. Arutyunov wrote, "...traditions can exist without innovations, but not vice versa" [9; 221-b]. However, great caution is required in the implementation of traditions and innovations in practice, because "paying more attention to tradition can lead to fanaticism and stagnation, and giving in to innovations can lead to instability, unpredictability and weakening of management." [9; 2].

By geographical comparison of historical data, it is possible to see the magnitude of the influence of geomorphological, soil-climatic, hydrological and socio-geographical factors in the formation of Customs and traditions associated with the rational use of Water Resources. In this research work, the following conclusions were drawn by historical-geographical comparison of traditional water use cultures formed in the Khorezm Oasis and the Fergana Valley:

The Khorezm oasis occupies the lower left part of the Amu Darya, where a wavy alluvial plain has formed due to the accumulation of sediments from the old riverbeds over the years. The absolute height of the relief decreases from east to west from 240 m to 30 m. [10; 284-b] According to S.P. Tolstov and Ya. Gulyamov, in ancient Khorezm, "flood canals" were initially dug, which flowed only when the Amu Darya was flooded. Later, a system of channels "arna" was formed, elongated along the river and having several small initial parts. The head of small initial parts is usually built where water flows even during the period when the water level in the river is lowest, the distance between them is about 6 miles. Great attention has been paid to the slope of the route to allow more water to pass through the canal, to ensure that the water flows naturally in the "cover" that

distributes it below, that is, large ditches, and to deliver the cerumen in the water to the fields. To release excess water from the canal into the river, "badrov" canals were dug with special dams at the beginning and end. The Yops were divided into smaller canals – "badoq"s, and they were divided into "solma" s and "tortma"s. They used "doldarga" (sluice gates) to prevent the head of the canal from being washed away, and "to'kurtqa" (distributors) to collect water from the surface when the water was too muddy. The water was lifted up from the tortuous ditches by means of a ladder. At the end of the falls, small pools were dug to dispose of excess water.

While the people of Khorezm developed a pattern of using the waters of the Amudarya, the largest river in the region, in the Ferghana Valley, a unique traditional culture of using the conical extensions of many smaller rivers adapted to the natural conditions of the valley was formed. Irrigation systems are formed in the valley, starting from the ground where rivers flow from mountain gorges to the foothill plains, forming wide conical expanses. Depending on the absolute height and geomorphological structure of the Highland Plains, arcs were formed at different altitudes. For example, if the absolute height of the head of the isfarasoy spreading is 520 m, the Sukhsoy is 660 m, this figure is 920 m in Shahimardonsoy, 950 m in Guvasoy, 1000 m in Kohortsoy, 1100 m in Akburasoy [13]. The upper reaches of riverbeds and the beginnings of conical plateaus were not used for farming, but were used as sacred shrines and pilgrimage sites.

Artificial irrigation systems in the valley are called "ariq" by the common name, and large trunk canals are called "soy". Normally, the "ariq" and "soy"s are released from the riverbed, which is located high above the irrigated land. Water from the "soy"s first flows into the – "ena ariq" ("mother canals") and then into the "shoh ariq" ("big canals"). The "Ena ariq"s supplied water to several villages, and the "shoh ariq"s to some villages. Aryks reserved for mahallas are called "ears," and aryks divided into houses are called "dahana." [14; 50-b.]. When distributing water into ditches, "labgardon" was used, and partitions were used to protect hydraulic structures and land from floods, "osiyobon" (water mills) and structures characteristic of mountain rivers (objuvoz) were built in the ditches. While in ancient Khorezm, excess water from irrigation was drained into small lakes at the ends of the embankments, in the Fergana Valley almost all the water is ultimately used for irrigation. In some years when there was enough water, the excess water reached the Syrdarya River.

In conclusion, the natural geographical, in particular above-ground structure, climate, hydrography, soil and other features of the ancient lower Amudarya, Murghab, middle and lower Zarafshan, Surkhandarya and Fergana valleys in Central Asia led to the creation of irrigation and water use cultures characteristic of this place. Taking into account the type of saturation of the rivers and the amount of water, the length, width, and slope of the ditches and canals starting from them were calculated using simple leveling methods. Their length and width were controlled to prevent unnecessary evaporation and absorption of water from irrigation structures. In areas where coryces are used, water is released into the ground but only on irrigated flat land. Depending on the maturation of the soil, an

alternating watering procedure was developed. The creative use of such measures, developed in proportion to the natural geographical conditions of each area, makes it possible to avoid environmental problems that are now inextricably linked with each other, such as rapidly developing water shortages, soil erosion, rising water levels and secondary salinity.

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STUDY OF THE EFFECT OF TEMPERATURE AND HUMIDITY ON THE QUALITY OF WOOD MATERIALS

Abstract: *Important affecting the strength of wooden structures one of the factors is temperature and humidity. The results of the study conducted in the article the analyzed and relevant conclusions are summarized.*

Keywords: *Wood materials, strength, factors, type of wood, humidity, temperature, physical and mechanical properties, types of humidity.*

The expansion of the production volume and field of use of wooden constructions is one solving a number of important issues, including reducing material consumption, requires the improvement of constructive solutions.

The scientific research work carried out in recent years has brought the work in this area to a new level citing a number of important and pressing issues along with raising is releasing.

One of the relevant elements of the use of wooden materials is gluing constructions are considered. [1]

Assembling glued structures list of compositions participating entries:

- to the type of improvised materials;
- to the type and composition of glue;
- put in the moisture of rough materials;
- to the technology of production;
- to the conditions of exploitation, etc.

Physical and mechanical properties of coarse materials under the influence of variable temperature and humidity the study shows the dimensions of the cross surfaces of structures at a level close to the actual case allows you to identify. At the same time, the influence of their constructions during the period of exploitation daily and monthly exposure indicators that allow a more thorough analysis of this work taqaza makes. [2]

It is known that the coefficient of determination of the marginal strength of rough materials k_w depending on the amount of temperature and humidity from the specified size rough material tested standard copies were determined based on experimental testing.

The change of the K_w coefficient in accordance with the amount of temperature and moisture in Table 1 cited.

The coefficient of friction (K_w) is used as the ultimate strength of materials. The list of compositions includes entries.

Table 1.

Temperature, °C	The amount of the KW coefficient at the specified humidity			
	10	15	20	25
10	0,574	0,824	1,053	1,303
20	0,611	0,861	1,113	1,365
30	0,648	0,898	1,173	1,435
40	0,685	0,983	1,233	1,485

Based on a comparison of the results of the experiment presented in Table 1, we draw the following conclusions it became possible to determine.

At each indicated point, a 0.25 value change in humidity was observed for temperature changes of 10°C.

Based on the analysis of the test results, as a result of a temperature change of 10°C strength averaged 0.51 in bending, 0.52 in melting along the fibers, along the fibers and it was determined to change to 0.50 in compression.

The determined results increase the moisture content to certain percentage values shows a decrease. [3]

Taking moisture into account when determining the effect of moisture on strength the following formula was used to determine the value of the coefficient. [4]

$K = \sigma_{15} / \sigma_W$ - where σ_{15} is the change in humidity in the range of 0 -30% and σ_W is the strength at the tested humidity.

The data presented shows that it is necessary to conclude that wood materials are one of the important issues to consider during their exploitation.

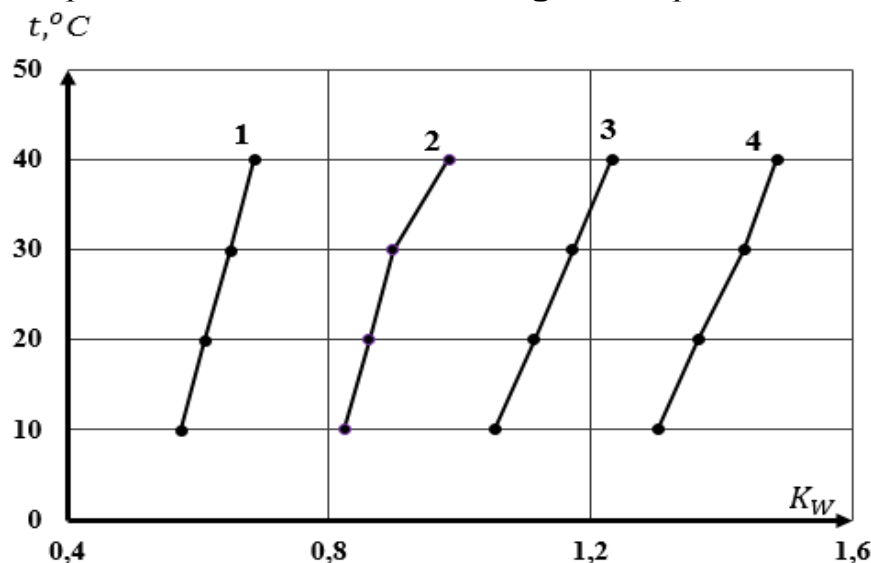


Figure 1. Graph of the change in the coefficient KW taking into account the effect of humidity at a given temperature.

1. When the moisture content of the material is 10%; 2,3,4-same humidity 15, 20, 25% respectively when.

2. Table 2 presents data on the change in the strength of wood materials as a result of increasing humidity at the same temperature.

Changes in consistency due to temperature and humidity.

Table 2

№	Indicator name	t =200C W=10%	=200C W=20%	t =200C W=30%
1	Bending strength, MPa	61,2	53,4	40,5
2	Modulus of elasticity, GPa	12,3	10,7	9,2

Analysis of the results showed that the strength of wood materials decreases with increasing humidity (Figure 2).

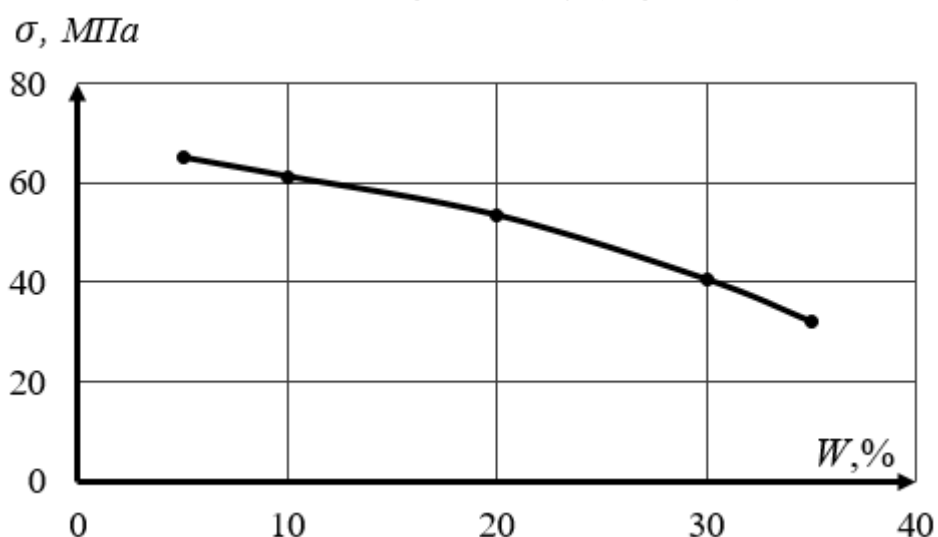


Figure 2. The graph of the change of strength under the influence of moisture.

These indicators depend on the stress-strain state of materials in bending. It was determined that it changes by 0.78 in the range of 10-20%, and by 12.0 MPa in the range of 20-30%. Same has seen that the elastic modulus also changed to values of 1.6 and 1.5 GPa, respectively possible.

It is known that the indicators of strength depend on the distribution of moisture in the trunk of trees. The percentage of moisture in the trunk, middle and top parts of different trees moisture meter was determined with the help of electric device EV-2M and the results are in 3 tables entered.

Analysis of the results presented in Table 3 shows the moisture content averaged between sections for pine the difference is 19%, and 21.1% for spruce, and the difference between pine and spruce is 8.8 was found to be equal to percent.

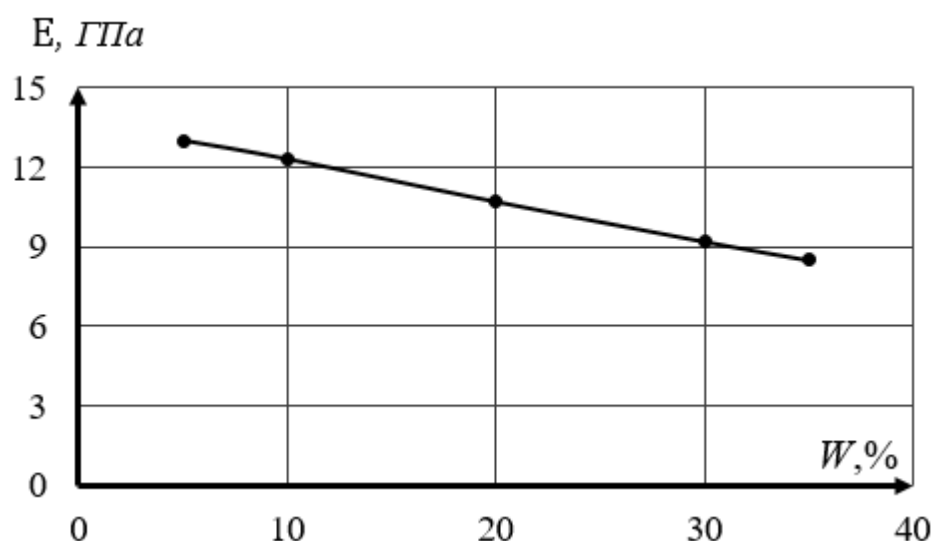


Figure 3. The graph of the change of the modulus of elasticity under the influence of moisture.

Distribution of moisture in the trunk of trees

Table 3.

№	Tree species	Moisture in the material		
		In the body part	In the middle	At the top
1	Pine	93,4	112,4	121,6
2	Tylogoch	102,2	123,3	131,2

At the same time, moisture content also varies along the cross-section of a tree. Analyses have shown that while the moisture content in the heartwood of freshly cut wood is on average 40-50%, in the bark layer this figure is around 120-130%.[5]

When processing wooden materials, take into account the strength indicators of the materials that the processing is effective in the case where the average humidity is in the range of 30-35% confirmed. [6]

Graphs of dependence obtained on the basis of the results determined above are in figures 1, 2 and 3 given.

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O'ZBEKISTONDAGI BANKLARINING CHAKANA KREDITLASH VA INVESTISIYA FAOLIYATINI BAHOLASH

Annotatsiya: Maqolada O'zbekistondagi banklarining chakana kreditlash va investisiya faoliyatini baholash masalalari, yangi ish o'rinlarini yaratish hisobiga bandlikni ta'minlash, insonlarning turmush farovonligini yuksalishiga xizmat qiluvchi omillar bilan bog'liq masalalar ko'rilgan.

Kalit so'zlar: kredit, tadbirkorlik, ekologiya, biznes, investisiya, tadbirkorlik faoliyati, xorijiy investitsiyalar, investisiya tizimi.

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ASSESSMENT OF RETAIL CREDIT AND INVESTMENT ACTIVITIES OF BANKS IN UZBEKISTAN

Abstract: The article examines issues related to the assessment of retail lending and investment activities of banks in Uzbekistan, ensuring employment of the population through the creation of new jobs, as well as factors that contribute to improving the well-being of the population.

Keywords: credit, entrepreneurship, ecology, business, investment, entrepreneurial activity, foreign investment, investment system.

Kirish.

Mamlakatimizdagi banklar faoliyatiga innovatsiyalarni joriy etish muammosi uzoq vaqtdan beri dolzarb bo'lib kelgan. Ko'pgina tadqiqotlar shuni ko'rsatadiki, olimlarning katta qismi ushbu muammoni ayrim turdagi innovatsiyalarni, ya'ni bank mahsulotlarini amalda joriy etish nuqtai nazaridan hal qilishga harakat qildi.

Shu bilan birga, banklarning mavjud kredit va investitsiya innovatsiyalarini baholash bilan bog'liq kam bo'lmagan dolzarb masalalar cheklangan doirada ko'rib chiqildi va muhokama qilindi[1].

Hozirgi kun talablaridan kelib chiqqan holda O'zbekistonda jismoniy shaxslarni plastik kartalar bo'yicha kreditlash amaliyoti, ya'ni overdraft krediti jismoniy shaxsning (mijozning) daromadlari to'g'risidagi ma'lumotlardan kelib chiqqan holda o'rtacha oylik ish haqining (pensiyaning) 3 barobarigacha bo'lgan miqdorda 12 oygacha bo'lgan muddatga qayta tiklanadigan (revolver) shaklda, overdraft shartnomasiga muvofiq bosqichma-bosqich qaytarish sharti bilan beriladi.

O'z navbatida kreditlashdagi risklarni boshqarish maqsadida mijoz tomonidan tijorat bankiga overdraft olishga buyurtmanoma bilan birga pasport nusxasi, daromadlari to'g'risidagi ma'lumotlar ko'rsatilgan hujjatni (olayotgan ish haqi, pensiya va boshqa daromadlari miqdori to'g'risidagi ma'lumotnomani), eng asosiysi kredit oluvchining o'rtacha oylik ish haqining (pensiyaning) 3 barobarigacha bo'lgan miqdordan ko'p bo'lmagan miqdorda taqdim etadi. Natijada, hududlarda aholining mobil-banking yoki bank kartalariga asoslangan to'lov amaliyoti oshishiga va to'lov tizimining tezlashishiga olib keladi.

Mavzuga oid adabiyotlar sharhi

Mahalliy iqtisodiy adabiyotlarda respublikamizda banklarning kredit-investitsiya innovatsiyalarini baholash jarayonini tavsiflovchi konseptual kategoriyalarning o'zaro bog'liqligini o'rganish va aniqlashga yetarlicha e'tibor berilmagan. Ko'rib chiqilayotgan ta'riflar "bankning kredit va investitsiya innovatsiyalarining samaradorligi" va "bankning innovatsion faoliyati". MDH olimlari Achapovskaya M., Batrakova A.G., Stolbova M.I., Brendeleva E.A., Markova V.D., Lapidus L.V., Dovbenko M.V., Osik Yu.I., Dubrovina, Tolkacheva S.A.ning ilmiy ishlari va boshqalar ilmiy izlanishlarda tahlil qilingan. Mamlakatimiz iqtisodchi olimlaridan Abdullaev O.M., Fattaxov A.A., Q.Ahmedov, Yo'ldoshev D.T. Ilmiy tadqiqotlar va boshqalar takror ishlab chiqarish jarayonida chakana kreditlarni taqsimlash jarayonini takomillashtirishda tadbirkorlik salohiyatidan samarali foydalanishning nazariy jihatlarini yoritadi.

Tahlil va natijalar.

Bunda bank kredit asosida innovatsion mexanizmni tanlaydi. Bu toifalar orasidagi munosabatlarni asosan xarakterlovchi bir qator shartlar bajarilgan taqdirda bank ushbu faoliyatda ma'lum darajadagi samaradorlikka erishishi mumkin.

Birinchi shart - tadqiqot tarkibiy qismi bo'lib, u bankning kredit va investitsiya innovatsiyalari samaradorligini shakllantirishning asosiy asoslari bilan bog'liq. Ikkinchi va juda muhim shart - bu innovatsion faoliyat samaradorligining mo'ljallangan darajasini shakllantirish uchun motivatsion asosdir.

Ikkinchi shartning dolzarbligi shundan iboratki, bank qaytarilish va samaradorlik tamoyillarini joriy etish asosida kredit berishga harakat qiladi. Bank innovatsion faoliyatining operativ va strategik tarkibiy qismlari ta'riflar o'rtasidagi munosabatlarning uchinchi shartidir. Aynan shu komponentlar innovatsion g'oyani amalga oshirish qobiliyatiga ega bo'lib, natijada iqtisodiy samaraga olib keladi, ya'ni samarali bosqich boshlanadi. Natijada, bankning kredit va investitsiya innovatsiyalarining samaradorligi darajasi uning paydo bo'lishida ishtirok etuvchi barcha tarkibiy qismlarning sifatiga bog'liq. Demak, ta'riflar o'rtasidagi munosabatlar shunday o'rnatiladiki, uning ishtirokisiz bankning kredit asosida innovatsion texnologiyalarni o'zlashtirishi mantiqiy emas[2].

Innovatsion bank faoliyatini bank faoliyatining umumiy natijasi va samaradorligiga qaratish muhimligi tadqiqot natijalarining tanqidiy tahlili bilan ham tasdiqlanadi. Metodologiya nuqtai nazaridan quyidagilar muhim ahamiyatga ega:

❖ kreditlash va investisiya faoliyatiga bank innovatsiyalarini joriy etish strategiyasiga asosiy yondashuvlarni belgilash;

❖ innovatsiyalar natijalarini tushuntirish va xodimlarning ish faoliyatini isbotlash;

❖ bank faoliyatiga innovatsion mahsulotlar va xizmatlarni ishlab chiqish va joriy etish.

Oldinga qo'yilgan vazifa bugungi kun uchun juda murakkab, ammo o'ta muhim masala bo'lib, uni hal qilish kerak, chunki moliyaviy inqirozlarning kuchli to'lqinlari banklar hali innovatsiyalar fenomenini etarli darajada tushunishga erishmaganligining isbotiga aylandi. ularni amalga oshirish mexanizmlarini moslashtirishda tizimli yondashuv.

Albatta, banklar o'zining intellektual salohiyati, muayyan rivojlanish maqsadlariga erishish uchun o'ziga xos tamoyillar va vositalar majmuasi bilan ajralib turadi. Bundan tashqari, har bir alohida bank uchun tashqi muhit va bozordagi raqobatbardosh pozitsiyalarni yanada mustahkamlash va kengaytirish uchun qo'shimcha imkoniyatlar har xil[3].

Shuningdek, Rossiya Federatsiyasi iqtisodiyotida ilm-fan taraqqiyotining tabiiy natijalarini hisobga olish kerak, buning natijasida kredit va investitsiyalarni amalga oshirish jarayonida bank mijozlariga xizmat ko'rsatishning interaktiv usuli jarayonlari rivojlanmoqda. Bank operatsiyalari. Bank va mijoz o'rtasidagi to'g'ridan-to'g'ri aloqani istisno qiladigan innovatsion texnologiyalar ko'plab yordamchi banklarni topdi.

Fikrimizcha bankdagi innovatsion jarayonlarning iqtisodiy samaradorligini o'lchash nuqtai nazaridan bank innovatsiyalarini, xususan, kreditlash va investisiya faoliyatidagi innovatsiyalarni joriy etish natijasida yuzaga keladigan qo'shimcha moliyaviy oqimlarni tahlil qilish muhim ahamiyatga ega. Yuqoridagi stsenariylardan biri va bankda amalga oshirishning tanlangan asosiy strategiyasi[4].

Kredit va investisiya innovatsiyalarini joriy etish natijasida hosil bo'lgan qo'shimcha moliyaviy oqimlar quyidagi jadvalda ko'rsatkichlar tizimi orqali mijozlarga xizmat ko'rsatishning masofaviy texnologiyalari misolida keltirilgan.

Tijorat banklarining qo'shimcha moliyaviy oqimlarini baholash algoritmi[3].

Indeks	Algoritm	Algoritm ta'rifi
Bankda innovatsiyalar kiritilgandan keyingi dastlabki moliyaviy oqim miqdori (IFP)	$IFP = AXO + RSK + PR + SSV$	AXO - ma'muriy xarajatlar RSK - mijozlar hisoblari bo'yicha xarajatlar PR - boshqa xarajatlar TCO - egalik qilishning umumiy qiymati
Umumiy egalik qiymati (TCO)	$SSV = YR + NR$	YR - aniq (to'g'ridan-to'g'ri) xarajatlar NR - yashirin (bilvosita) xarajatlar
Aniq (to'g'ridan-to'g'ri) xarajatlar (YAR)	$YR = L + B + OP + B + DO$	L - kredit va investitsiya operatsiyalarini amalga oshirish jarayonida mijozlarga masofaviy xizmat ko'rsatish texnologiyalari uchun dasturiy ta'minotdan foydalanish uchun litsenziyalar

		B - loyiha texnologiyasini amalga oshirish OP - kadrlar tayyorlash bo'yicha tadbirlarni amalga oshirish B - joriy etilgan texnologiyalarni saqlash DO - qo'shimcha uskunalar
Yashirin (bilvosita) xarajatlar (IO)	$NR = TI + ZPP + DV$	TI - texnologik o'zgarish ZPP - innovatsiyalarni amalga oshirishda ishtirok etadigan xodimlarning ish haqi DV - qo'shimcha to'lovlar (bonuslar) xodimlarga ish vaqtidan tashqari ishlar uchun
Bankda mijozlarga masofaviy xizmat ko'rsatishning yangi texnologiyalarini (DLT) joriy etish uchun kiritilgan moliyaviy oqim miqdori	$WFT = OD + DRR + DPR$	OD - operatsion daromad DRR - resurslarni taqsimlashdan olingan daromad DPR - resurslarni sotishdan olingan daromad

Tadqiqotlar shuni ko'rsatdiki, bank krediti va investitsiya innovatsiyalarini amalga oshirishdan foyda, birinchidan, yangi texnologiyalarni ta'minlaydigan xarajatlarni kamaytirish, ikkinchidan, bank daromadlarini oshirish orqali olish mumkin. Bank xarajatlarining qisqarishi ham vaqt birliklarida, ham moliyaviy ko'rsatkichlarda o'lchanadi va unumdorlikning oshishi va bank operatsiyalarini amalga oshirish uchun vaqtni tejash bilan bog'liq [5].

Innovatsiyalarni joriy etish siklini moliyalashtirish muammosiga e'tibor qaratish maqsadga muvofiqdir. Tadqiqotlar shuni ko'rsatadiki, bunda bir qator ijobiy jihatlar O'zmilliybank tomonidan innovatsion bank uchun berilishi mumkin bo'lgan investitsiya kreditiga ega. Bu kredit turi, bir tomondan, yetarli darajada sifatli kafolatlar paketiga ega bo'lsa, ikkinchi tomondan, undan foydalanish samaradorligini ta'minlash maqsadida tashqi nazoratni nazarda tutadi. Davlatning tijorat bankining innovatsion rivojlanishidagi ishtiroki mamlakatning butun moliya sektoriga ijobiy ta'sir ko'rsatadi.

Xulosa.

Xulosa qilib shuni aytish lozimki, mamlakatning iqtisodiy va ijtimoiy rivojlanishida banklarning kredit va investitsiya faoliyati quyidagilarga yordam beradi: yalpi ijtimoiy mahsulot va uning tarkibiy qismlari - yalpi o'sish sur'atlarini tezlashtirish. Kapital qo'yilmalar shaklida investitsiya jarayonini rag'batlantirish hisobiga korxonalarning asosiy fondlarini tezroq tiklash va modernizatsiya qilish, shu orqali xizmatlar sifati va raqobatbardoshligini oshirish; mahsuldorlikning o'sishi va boshqalar.

Uzoq muddatli kreditlar, shuningdek, turdosh tarmoqlarga samarali investitsiya talabining oshishiga olib keladi. Natijada yalpi ichki mahsulot va milliy daromadning o'sishining multiplikativ ta'siri mavjud. Milliy daromadning o'sishi byudjetga soliq tushumlarining o'zgarishiga va davlatning ijtimoiy-iqtisodiy siyosat

doirasida ko'zda tutilgan chora-tadbirlarni amalga oshirish qobiliyatining oshishiga olib keladi. Shunday qilib, kreditni kengaytirish siyosatini amalga oshirish pul massasiga ta'sir qilishdan tashqari, boshqa makroiqtisodiy ko'rsatkichlarga ham ta'sir qiladi.

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YO'L-TRANSPORT HODISALARIDA BIRINCHI YORDAM KO'RSATISH

Annotatsiya: Ushbu maqolada yo'l-transport hodisalarida birinchi yordam ko'rsatishning nazariy va amaliy jihatlari yoritilgan. Birinchi yordamning o'z vaqtida va to'g'ri ko'rsatilishi inson hayotini saqlab qolish, jarohatlarning og'irligini kamaytirish va professional tibbiy xizmat yetib kelguncha holatni barqarorlashtirishdagi ahamiyati tahlil qilinadi. Maqolada O'zbekistonda birinchi yordam ko'rsatish tizimi, mavjud qonunchilik asoslari, xalqaro tajriba va takomillashtirish yo'llari haqida ham fikr yuritiladi. Ayniqsa, haydovchilar va keng jamoatchilik orasida birinchi yordam bo'yicha bilim va ko'nikmalarni oshirish zarurligi ta'kidlanadi.

Kalit so'zlar: birinchi yordam, yo'l-transport hodisasi, favqulodda vaziyat, yurak massaji, qon ketishini to'xtatish, O'zbekiston, shoshilinch yordam, haydovchi tayyorgarligi, qonunchilik, xavfsizlik.

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PROVISION OF FIRST AID IN ROAD TRAFFIC ACCIDENTS

Annotation: This article explores the theoretical and practical aspects of providing first aid during road traffic accidents. It emphasizes the critical importance of immediate intervention in saving lives, preventing complications, and reducing the severity of injuries before professional medical help arrives. The article also reviews the current state of first aid training in Uzbekistan, examines international best practices, outlines the legal framework, and suggests measures for improving public awareness and preparedness. Special attention is given to common mistakes in first aid and the need for mass education, especially among drivers.

Keywords: first aid, road traffic accidents, emergency response, CPR, bleeding control, Uzbekistan, trauma care, public safety, driver training, legal framework.

Zamonaviy dunyoda transport vositalari inson hayotining ajralmas qismiga aylangan bo'lsa-da, ular bilan bog'liq hodisalar, ayniqsa yo'l-transport falokatlari, jiddiy xavf tug'dirmoqda. Har yili minglab insonlar aynan ushbu hodisalar oqibatida halok bo'ladi yoki og'ir jarohatlar oladi. Bu holatda birinchi yordam ko'rsatish — inson hayotini saqlab qolishdagi eng muhim omillardan biridir.

Jabrlanganga tibbiy xizmat yetib kelgunga qadar ko'rsatiladigan birinchi yordam hayotni saqlab qolishi, nogironlik darajasini kamaytirishi va asoratlarning oldini olishi mumkin. Bu yordam qon ketishni to'xtatish, nafas olishni tiklash, hushni saqlash va shok holatining oldini olish kabi choralarni o'z ichiga oladi.

Birinchi yordam ko'rsatishda xavfsizlikni ta'minlash birinchi o'rinda turadi. Hodisa joyida yana boshqa shikastlar bo'lishi mumkinligi hisobga olinadi. Jabrlanganning holatini baholab, aynan qaysi yordam zarurligini aniqlash muhim: yurak urmasligi, qon ketishi, suyak sinishi, hushni yo'qotish yoki nafas olishdagi uzilishlar — har biri alohida yondashuvni talab qiladi.

Nafas olishni tiklash uchun og'izdan og'izga sun'iy nafas, yurak urishi to'xtagan holatda esa yurakni tashqi massaji qo'llaniladi. Qon ketayotgan holatlarda bosuvchi bog'lov, bandaj yoki turniket ishlatiladi. Barcha holatlarda gigiena qoidalariga rioya qilinishi zarur.

O'zbekiston Respublikasi qonunchiligida birinchi yordam ko'rsatish bo'yicha talablar belgilangan. Transport vositalarida tibbiy vositalarning mavjudligi va haydovchilarning birinchi yordam bo'yicha tayyorgarligi talab qilinadi. Maktab, haydovchilik maktablari va favqulodda vaziyatlar bo'yicha markazlarda fuqarolarga maxsus o'quv mashg'ulotlari tashkil etiladi.

Germaniya, Yaponiya, AQSh kabi davlatlarda birinchi yordam ko'rsatish jamiyatning har bir a'zosiga yuklangan ijtimoiy majburiyat sifatida qaraladi. Aynan shu yondashuv orqali u yerda yo'l-transport hodisalarida o'lim darajasi past.

Ko'pgina fuqarolar birinchi yordam ko'rsatish usullaridan bexabar. Shu bois muntazam o'quvlar, axborot kampaniyalari, amaliy treninglar zarur. Har bir haydovchi birinchi yordam kurslarini majburiy tarzda o'tishi, barcha transport vositalarida favqulodda tibbiy to'plam bo'lishi kerak.

Yo'l-transport hodisalarida birinchi yordam ko'rsatish — bu nafaqat tibbiyot xodimlarining, balki har bir fuqaroning ijtimoiy burchidir. Hayotni saqlab qolish faqat tez yordam chaqirish emas, balki o'z vaqtida, to'g'ri va samarali choralarni qo'llash bilan chambarchas bog'liq. Bu borada bilimli va mas'uliyatli jamiyat shakllantirish — dolzarb vazifadir.

Yo'l-transport hodisalari — bu inson hayoti va salomatligiga jiddiy tahdid soluvchi hodisalardir. 2024 yilda O'zbekistonda jami 9,364 ta yo'l-transport hodisasi sodir bo'lib, 2,203 nafar fuqaro halok bo'lgan va 8,901 nafar fuqaro turli darajadagi jarohatlar olgan. Bunday vaziyatlarda birinchi yordam ko'rsatish ko'pincha jabrlanganlarning hayotini saqlab qolishda hal qiluvchi omil bo'ladi.

Yo'l-transport hodisalarida birinchi yordamning ahamiyati

Yo'l-transport hodisalari natijasida jabrlanganlarga birinchi yordam ko'rsatishning asosiy maqsadi — hayotni saqlab qolish, jarohatlarni yengillashtirish va kasalliklarning oldini olishdir. Samarali birinchi yordam ko'rsatish jabrlanganlarning holatini yengillashtiradi, og'riqlarni kamaytiradi va ularni kasalxonaga yetkazish uchun zarur tayyorgarlikni ta'minlaydi.

Yo'l-transport hodisalarida birinchi yordam ko'rsatishning asosiy qoidalari

Yo'l-transport hodisalarida birinchi yordam ko'rsatishda quyidagi asosiy qoidalariga amal qilish zarur:

• **Xavfsizlikni ta'minlash:** Hodisa joyida o'zingizning va boshqalarning xavfsizligini ta'minlang. Agar kerak bo'lsa, transport vositasini to'xtatib, xavfsiz joyga o'ting.

• **Jabrlanganlarni baholash:** Jabrlanganlarning holatini baholang. Ularning nafas olish, yurak urishi va hushini tekshiring.

• **Zarur yordam ko'rsatish:** Jabrlanganlarga kerakli birinchi yordamni ko'rsating. Bu nafas olishni tiklash, qon to'xtatish, yengil jarohatlarni davolash va boshqalarni o'z ichiga oladi.

• **Tezda tibbiy yordam chaqirish:** Tezda tibbiy yordam xizmatlarini chaqiring va hodisa joyini aniq va to'liq tasvirlab bering.

Yo'l-transport hodisalarida birinchi yordam ko'rsatishning amaliy jihatlari

Nafas olishni tiklash

Agar jabrlangan nafas olmayotgan bo'lsa, sun'iy nafas berish usulini qo'llang. Buning uchun jabrlanganning boshini orqaga egib, og'izdan og'izga usulda nafas bering.

Yurakni massaj qilish

Agar yurak urishi to'xtagan bo'lsa, to'g'ri joyda va to'g'ri kuch bilan yurakni massaj qilish zarur. Buning uchun qo'llarni sternumning o'rtasiga qo'yib, tez va chuqur bosishlar amalga oshiriladi.

Qon to'xtatish

Agar jabrlangan qon ketayotgan bo'lsa, to'g'ri bosim bilan yara ustiga bandaj qo'ying. Agar kerak bo'lsa, turniket yoki boshqa usullar yordamida qon ketishni to'xtating.

Yengil jarohatlar

Yengil jarohatlar uchun antiseptik vositalar yordamida yara tozalash va bandajlash zarur. Bu infektsiyaning oldini olishga yordam beradi.

O'zbekistonda yo'l-transport hodisalarida birinchi yordam ko'rsatish tizimi

O'zbekistonda yo'l-transport hodisalarida birinchi yordam ko'rsatish tizimi doimiy ravishda takomillashib bormoqda. Advantour kompaniyasining Toshkentdagi ofisi, O'zbekiston Qizil Yarim Oy Jamiyati bilan hamkorlikda, o'z gidlari va haydovchilari uchun birinchi yordam bo'yicha trening o'tkazdi. Ushbu treningda ishtirokchilar sun'iy nafas olish, yurakni massaj qilish, yara tozalash va boshqa hayotni saqlab qolish usullarini o'rgandilar.

Takomillashtirish yo'llari

Yo'l-transport hodisalarida birinchi yordam ko'rsatish tizimini takomillashtirish uchun quyidagi chora-tadbirlar zarur:

• **Haydovchilarni o'qitish:** Haydovchilarni birinchi yordam bo'yicha muntazam ravishda o'qitish, ularning bu sohadagi bilim va ko'nikmalarini oshirish.

• **Jamoatchilikni xabardor qilish:** Aholini birinchi yordam ko'rsatishning ahamiyati haqida xabardor qilish, maxsus treninglar va seminarlar o'tkazish.

• **Tibbiy yordam tizimini takomillashtirish:** Tibbiy yordam xizmatlarini tezkor va samarali qilish, ularning resurslarini oshirish.

• **Yo'l infratuzilmasini yaxshilash:** Yo'l infratuzilmasini xavfsiz qilish, yo'l belgilari va svetoforlarni to'g'ri joylashtirish.

Yo'l-transport hodisalarida birinchi yordam ko'rsatish — bu inson hayotini saqlab qolishning muhim vositasidir. O'zbekistonda bu sohada amalga oshirilayotgan ishlar ijobiy natijalar bermoqda. Biroq, tizimni yanada takomillashtirish, haydovchilar va jamoatchilikni muntazam ravishda o'qitish, tibbiy yordam xizmatlarini samarali tashkil etish zarur. Faqatgina bunday kompleks yondashuv orqali yo'l-transport hodisalarida jabrlanganlarning hayotini saqlab qolish mumkin.

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MODERN PEDAGOGICAL TECHNOLOGIES IN CONDUCTING CLASSES IN SOCIAL AND HUMANITARIAN SUBJECTS

Abstract: *The article deals with the problem of the development of computer and information technologies, wide access to the global information system of the Internet, training highly qualified specialists and programmers, the introduction of pedagogical technologies.*

Key words: *information technology, education, innovation, modeling, pedagogical technologies.*

Today, information technology is rapidly developing in Uzbekistan, and this is reflected in education. The problem of the development of computer and information technologies, wide access to the global Internet information system, and the training of highly qualified specialists and programmers has risen to the level of government policy. For a long time, it was believed that it was enough to find some techniques or methods, and the desired goal would be achieved. Gradually, pedagogical practice accumulated many tools, methods and forms of teaching and upbringing, but the results of their application were not always unambiguous.

Obviously, optimizing the pedagogical process by improving methods and tools is a necessary but not sufficient condition. The selection of methods, tools and forms should be combined with the realization of a specific goal and the development of a system for monitoring learning and upbringing indicators. This is what the technologization of the pedagogical process is designed to help.

Innovative educational processes are conditioned by the social need for complex processes of creation, implementation, dissemination of innovations and changes in the educational environment in which their life cycle is carried out.

As in other spheres of social life, innovation processes in the education system are not just the introduction of new things. They are implemented as purposeful changes in goals, conditions, content, means, methods, and forms of activity that are characterized by novelty, high potential for improving the

effectiveness of activities in general or in certain areas, the ability to provide long-term beneficial effects, and consistency with other innovations. Personality development at school takes place in the classroom, so the teacher's task is to ensure that each child is involved in different types of activities. A well-chosen goal determines the selection of methods and forms of organizing educational and cognitive activities of students.

Every teacher needs to be guided by a wide range of modern innovative technologies, school ideas, directions, and not waste time on discovering what is already known. Today, it is impossible to be a pedagogically competent specialist without studying the entire vast arsenal of educational technologies.

Therefore, the most important component of the pedagogical process should be the personality-oriented interaction of teachers with students, which would ensure a comfortable psychological well-being of teachers and students, a sharp reduction in conflict situations in the classroom and during educational activities, where favorable prerequisites for improving the level of general cultural training would be created; a favorable microclimate in the classroom and school would be created.

The introduction of pedagogical technologies comes with certain difficulties. The reasons are:

Firstly, there are difficulties in drawing up educational projects and the theoretical foundations of pedagogical technologies.

Secondly, scientists and teachers are not fully mastering the systemic (complex) theory.

Researchers attribute the massive introduction of pedagogical technologies into practice to the early 60s and associate it with the reform of American and then European schools. The most famous authors of modern pedagogical technologies abroad include J. Carroll, B. Bloom, G. Geis, P. Mitchell, V. Coscarelli, and others.

The Russian theory and practice of implementing technological approaches to learning is reflected in the scientific works of P. Ya. Galperin, N. F. Talzina, A. G. Rivin, L. N. Landa, Yu. K. Babansky, P. M. Erdniv, I. P. Rachenko, L. Ya. Zorina, V. P. Bepalko, M. V. Klarin, M. I. Makhmutov, T. I. Shamova et al.

Currently, pedagogical technologies in science are considered as one of the types of human sciences technologies and are based on the theories of psychodidactics, social psychology, cybernetics, management and management.

A number of reasons contributed to the emergence and practical application of pedagogical technologies. The most important of them is the need to introduce a system-activity approach into pedagogy, which makes it possible to implement the research results of many branches of knowledge in solving educational problems. The second reason is the need to motivate and activate the educational and cognitive activities of schoolchildren, to replace the ineffective and verbal method of knowledge transfer and education.

Modeling is a specific multifunctional technology, but its main task is to reproduce another substitute object (model) based on its similarity to the existing

one. Its goals, on the one hand, are to reflect the current state of the problem, identify the most acute contradictions, and, on the other, identify development trends and those factors that can correct undesirable development; to activate the activities of government, public and other organizations in search of optimal solutions to problems.

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CHANGES IN ELECTRICAL AND OPTICAL PROPERTIES OF SEMICONDUCTORS UNDER LASER RADIATION

Abstract: *This study investigates the changes in the electrical and optical properties of semiconductor materials under the influence of laser radiation. The statistics of electron-hole pair generation under laser exposure and their impact on the conductivity and optical characteristics of the material are analyzed through both theoretical and experimental approaches. The results are of significant importance for the application of laser technologies in the semiconductor industry.*

Keywords: *laser radiation, semiconductors, electrical conductivity, optical properties, electron-hole statistics, radiation effect.*

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LAZER NURI TA'SIRIDA YARIM O'TKAZGICHLARNING ELEKTR VA OPTIK XUSUSIYATLARI O'ZGARISHI

Annotatsiya: *Mazkur tadqiqotda lazer nuri ta'sirida yarim o'tkazgich materiallarining elektr va optik xususiyatlaridagi o'zgarishlar o'rganiladi. Lazer nurlanishi sharoitida hosil bo'ladigan elektron va bo'shliq juftliklarining statistikasi, materialning o'tkazuvchanligi va optik xususiyatlariga ta'siri nazariy va eksperimental yondashuvlar asosida tahlil qilinadi. Natijalar lazer texnologiyalarini yarim o'tkazgich sanoatida qo'llash uchun muhim ahamiyat kasb etadi.[1]*

Kalit so'zlar: *lazer nuri, yarim o'tkazgichlar, elektr o'tkazuvchanlik, optik xususiyatlar, elektron-bo'shliq statistikasi, nurlanish ta'siri.*

Kirish Yarim o'tkazgich materiallari zamonaviy elektronika va optoelektronika texnologiyalarining asosiy tarkibiy qismlaridan biridir. Lazer nurlanishi yordamida yarim o'tkazgichlarning xususiyatlarini o'zgartirish va ularni samarali boshqarish texnologik jarayonlarda katta ahamiyat kasb etadi. Yarim o'tkazgichlarda lazerning ta'siri fotogeneratsiya, termal effektlar va kvant effektlariga asoslanadi.[2] Ushbu tadqiqotning maqsadi lazer nuri ta'sirida yarim o'tkazgichlarning elektr va optik xususiyatlarida yuz beradigan o'zgarishlarni aniqlash va ularni modellashtirishdan iborat.

Metodlar

1. **Nazariy model:** Kvant mexanikasi va optoelektronika qonuniyatlariga asoslangan hisoblash modellaridan foydalanildi. Elektron va bo'shliq juftliklari hosil bo'lish jarayoni, ularning energiya darajalari va harakatchanligi tahlil qilindi. [3]Maxsus dasturiy ta'minot yordamida fotogeneratsiya va lazer intensivligi orasidagi bog'liqlik hisoblandi.

2. **Eksperimental usul:** Lazer nuri ta'siridagi yarim o'tkazgichlarning elektr o'tkazuvchanligi va optik spektrini o'lchash uchun yuqori aniqlikdagi spektroskopik usullardan foydalanildi.[4] O'lchovlar infratovush va ko'rinuvchi diapazonda amalga oshirildi.

3. **Materiallar:** Tadqiqot uchun Si va GaAs kabi keng tarqalgan yarim o'tkazgich materiallari tanlandi. Shu bilan birga, organik yarim o'tkazgichlar (P3HT) va nanoyorug'lik manbalarining ta'siri ham tahlil qilindi.

Natijalar

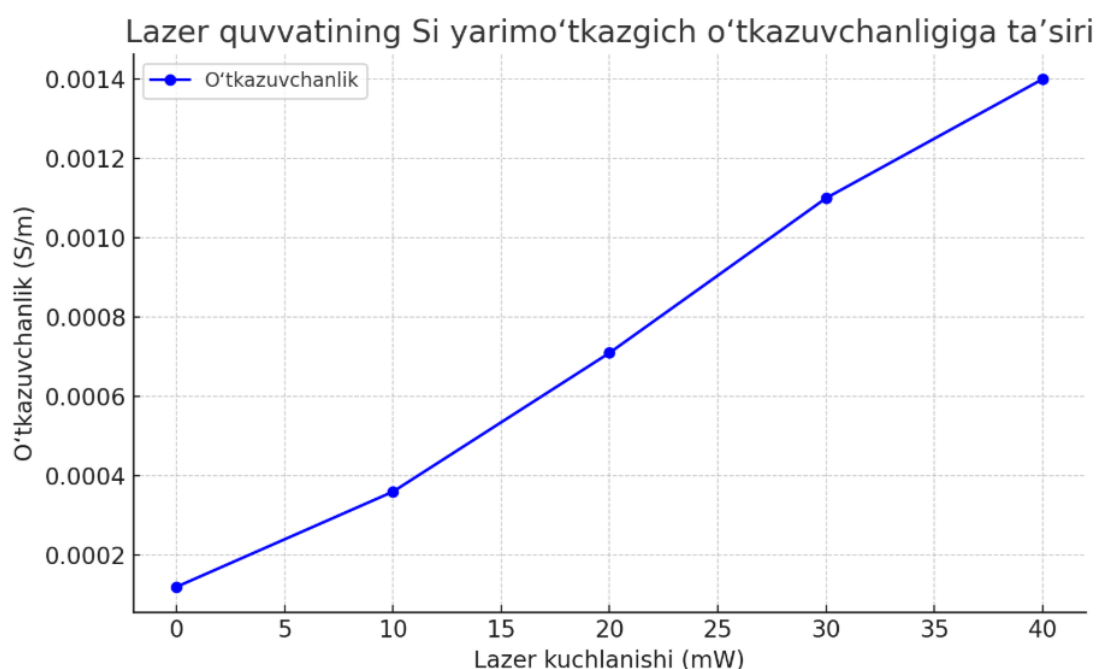
• **Elektr xususiyatlar:** Lazer nuri ta'sirida elektron va bo'shliq juftliklari hosil bo'lishining ortishi kuzatildi, bu esa materialning elektr o'tkazuvchanligini oshirdi. Energiya intensivligi oshgani sayin harakatchanlik va o'tkazuvchanlikning sezilarli darajada ortgani aniqlandi. Bundan tashqari, donor-akseptor mintaqalarida fotogeneratsiya jarayoni sezilarli darajada tezlashgani kuzatildi.[4,5]

• **Optik xususiyatlar:** Lazer nurlanishi materialning optik absorbsiyasi va refraksiya koeffitsiyentini o'zgartirdi. GaAs materialida fotoluminesans jarayonining intensivlashuvi qayd etildi. Organik yarim o'tkazgichlarda spektrning ultrabinafsha va ko'rinuvchi diapazonida so'rilishning kuchayishi kuzatildi.

1-jadval: Lazer nuri ta'sirida Si yarimo'tkazgichining elektr va optik xususiyatlaridagi o'zgarishlar

Lazer kuchlanishi (mW)	Harorat (°C)	O'tkazuvchanlik (S/m)	Luminestsensiya intensivligi (a.u.)	Egilish to'liq uzunligi (nm)
0	25	1.2×10^{-4}	0	—
10	28	3.6×10^{-4}	120	850
20	32	7.1×10^{-4}	260	860
30	35	1.1×10^{-3}	390	870
40	38	1.4×10^{-3}	510	880

• **Termal effektlar:** Lazer nuri ta'sirida yarim o'tkazgich materiallarning haroratining ortishi, bu esa atomlarning o'rtacha tebranish amplitudasini oshirishi aniqlangan.



1-grafik: Lazer quvvatining Si yarim o'tkazgich o'tkazuvchanligiga ta'siri

Muhokamalar Natijalar shuni ko'rsatadiki, lazer nurlanishi sharoitida hosil bo'ladigan elektron va bo'shliq statistikasi materialning asosiy elektr va optik xususiyatlariga sezilarli ta'sir ko'rsatadi. Bu holat nurlanish intensivligi va lazer impulsi davomiyligiga bog'liqdir. Fotogeneratsiya va qayta rekombinatsiya jarayonlari materialning fizik holati va tashqi muhit sharoitlariga sezgir bo'lib, bu jarayonlarni boshqarish mumkinligi ko'rsatildi.[6] Tadqiqotlar shuni ko'rsatadiki, lazer texnologiyalarini yarim o'tkazgichlarning xususiyatlarini moslashtirishda qo'llash mumkin.

Xulosa Lazer nuri ta'sirida yarim o'tkazgichlarning elektr va optik xususiyatlaridagi o'zgarishlar aniqlangan bo'lib, bu texnologik jarayonlarda ushbu materiallardan samarali foydalanish imkonini beradi. Yangi avlod elektron qurilmalari, jumladan, quyosh panellari, datchiklar va yuqori tezlikdagi tranzistorlar ishlab chiqarishda lazer nurlanishining boshqariluvchi effektlaridan foydalanish istiqbolidir.

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STANDARD OF LIVING OF HOUSEHOLDS IN FOREIGN COUNTRIES AND UZBEKISTAN: COMPARATIVE ANALYSIS

Abstract: *This article provides a comprehensive analysis of the standard of living of the population in Uzbekistan and foreign countries. In the course of the research, various international ratings, statistical indicators and scientific sources were studied, and the differences between Uzbekistan and developed countries, their causes and results were analyzed in depth. Based on the results, existing problems and promising directions for increasing the standard of living in Uzbekistan were identified. In particular, the development of the labor market, improvement of the education and medical system, modernization of social protection mechanisms, and support for small business and entrepreneurship were identified as the main priority tasks. The article also studied the advanced experience of the Scandinavian countries, Japan and South Korea, and developed recommendations for adapting their effective methods to the conditions of Uzbekistan.*

Keywords: *standard of living of the population, socio-economic development, population well-being, social security, quality of life, innovative approach, trend, world integration.*

Entrance. In the modern world, one of the main tasks of each country is to improve the living standards of its population. The processes of globalization, international cooperation, and the development of digital technologies make it possible to compare and study the well-being of the population in different countries. Since Uzbekistan gained independence, improving the well-being of the population has become one of the important directions of state policy[1].

Today, in the international arena, not only economic indicators, but also the standard of living and quality of life of the population plays an important role in assessing the development of a country. The UN Sustainable Development Goals set the elimination of poverty, ending hunger and ensuring a prosperous life as priority tasks. The main goal of the reforms being carried out in Uzbekistan is to increase the well-being of the population and create decent living conditions.

The standard of living is a broad concept that reflects the level of satisfaction of the material, social and spiritual needs of the population. This indicator is influenced by income, consumption levels, access to education and health services, housing conditions and environmental factors. Therefore, comparing the standard of living of the population in different countries is of great scientific and practical importance.

The main goal of this study is to conduct a comparative analysis of the living standards of the population of Uzbekistan and developed countries, identify existing

differences, and develop proposals for improving well-being in Uzbekistan. To achieve this goal, the following tasks have been set: to study the theoretical foundations of the concept of living standards, analyze advanced foreign experience, assess the current living standards of the population in Uzbekistan, identify existing problems, and develop practical proposals to eliminate them.

Literature review. The Development Strategy of the President of the Republic of Uzbekistan for 2022-2026[1] sets out the country's priority areas of development, including strategic objectives to improve the well-being of the population.

Abdullaev[2] studied the issues of income differentiation in Uzbekistan, conducted an analysis across regions, and proposed ways to reduce inequality.

A. Sen[3] proposed a comprehensive approach to assessing living standards, placing human freedoms and opportunities at the center. UNDP studies[4] have analyzed the Human Development Index across countries, which is widely used to assess living standards.

A World Bank reports[5] assessed the business environment and identified factors that affect the well-being of the population. Data from the State Statistics Committee of the Republic of Uzbekistan[6] provides an analysis of key socio-economic indicators by country.

Anderson[7] has provided an in-depth analysis of the social security model of the Scandinavian countries, which is an important source for studying the experience of developed countries.

Kim[8] studied the relationship between economic development and social progress in East Asian countries?

Rakhimov [9] conducted research on the problems and solutions of increasing the living standards of the population in Uzbekistan.

Tursunov [10] studied theoretical and practical issues of poverty reduction in Uzbekistan.

Petrov [11] conducted a comparative analysis of the living standards of the population of the CIS countries.

Wilson[12] conducted research on measuring living standards and identifying trends on a global scale.

Analysis of scientific literature shows that there are different methodological approaches to studying the standard of living of the population. Some researchers focus mainly on economic indicators, while others emphasize the importance of social factors. In modern research, a comprehensive, integrated approach prevails. Based on this approach, the standard of living of the population is studied not only in material terms, but also in terms of social, spiritual and environmental factors.

Research methodology. The research methodology is based on systematic and comparative analysis methods. Statistical data from international organizations, scientific studies, and official documents were studied.

Analysis and discussion of results. The standard of living of the population of the Republic of Uzbekistan has improved significantly in recent years. According to the State Statistics Committee, GDP per capita increased by 1.5 times in 2016-

2023[6]. The main components of population income are wages, income from entrepreneurial activities, and social transfers.

According to Abdullaev's research[2], there are regional disparities in the income of the population in Uzbekistan. While the income of the population in Tashkent city, Navoiy and Tashkent regions is higher than the national average, it is relatively lower in the Republic of Karakalpakstan, Surkhandarya and Jizzakh regions. In order to reduce these disparities, comprehensive measures are being implemented to develop the regional industry and services sector and attract investments[1].

International comparisons show that Uzbekistan is in the middle group of countries according to the UN Human Development Index[4]. According to this indicator, Uzbekistan occupies an average position among the CIS countries[11]. A significant gap remains when compared with developed countries.

The Scandinavian countries (Norway, Sweden, Denmark) occupy leading positions in the world in terms of the standard of living of the population. As Anderson[7] noted, these countries have a developed social protection system, high level of education and health services. Social spending accounts for 25-30 percent of GDP.

The tax system effectively redistributes income. The experience of Japan and South Korea can serve as a model for developing countries. As Kim [8] has shown, these countries have achieved a significant increase in the standard of living of their population in a short period of time. This was achieved through the development of the education system, support for innovation, and export-oriented industrial policies. Wilson [12] analyzes global trends and notes that the gap between developed and developing countries is narrowing. However, this process is very slow, and the COVID-19 pandemic and global economic instability have slowed this process.

To improve the living standards of the population in Uzbekistan, it is necessary to focus on the following areas:

First, it is necessary to create jobs and increase labor productivity. As Tursunov [10] noted, the most effective way to reduce poverty is to create decent jobs. To this end, the development of small businesses and private entrepreneurship, as well as the improvement of vocational education are important.

Secondly, it is necessary to modernize the education and health care systems. According to Johnson and Smith [14], investment in human capital is one of the most important factors in improving the standard of living of the population. Reforms to improve the quality of education and health care services are ongoing in Uzbekistan.

Third, it is necessary to improve the social protection system. As Alimova [13] noted, it is necessary to further improve the mechanisms for providing targeted social assistance and supporting segments of the population in need of social protection.

Fourth, the development of small businesses and entrepreneurship is important. As Mahmudov [15] has shown, supporting entrepreneurial activity can increase incomes and create new jobs.

The reforms being carried out in Uzbekistan to improve the living standards of the population are of a comprehensive nature, and in addition to ensuring economic growth, special attention is being paid to the development of the social sphere, improving the education and healthcare systems, and strengthening social protection of the population.

One of the important indicators of the standard of living of the population is the dynamics of GDP per capita. The table below reflects the changes in recent years:

1- table

Dynamics of GDP per capital in Uzbekistan (2018-2023)

Year	GDP (USD)	Growth rate (%)
2018	1,532	3.5
2019	1,784	4.2
2020	1,685	-5.5
2021	1,983	17.7
2022	2,234	12.7
2023	2,485	11.2

Source: State Statistics Committee of the Republic of Uzbekistan [6]

As can be seen from the table, although there was a decline during the COVID-19 pandemic (2020), a steady growth trend has been observed in recent years. This positive trend is contributing to the improvement of the living standards of the population.

Various indices are used to compare the standard of living of the population internationally. The table below presents the main indicators of Uzbekistan and some countries:

2- table

Socio-economic indicators of different countries (2023 y)

Country	Development Index	GDP (thousands of US dollars)	Eduction Index	Life Expectancy
Norway	0.957	67.2	0.919	82.4
Japan	0.919	34.8	0.851	84.6
Russia	0.824	12.2	0.832	72.7

Kazakhstan	0.811	10.0	0.817	73.6
Uzbekistan	0.727	2.5	0.718	71.7

Source: UNDP data [4]

The table above compares the Human Development Index (HDI), Gross Domestic Product (GDP), Education Index, and Life Expectancy of five countries. These indicators are important in assessing the level of economic and social development of each country.

The HDI is based on three key measures of human development: life expectancy, education level, and income level.

Norway has the highest ITI index (0.957), which is associated with the country's high economic level, advanced education system and quality medical services. **Japan** also has a high ITI index (0.919), which is mainly explained by the long life expectancy of the population and high level of education. Russia and Kazakhstan have ITI indices of 0.824 and 0.811, respectively, which place them among developing countries. Uzbekistan's ITI index of 0.727 is much lower than other countries, which indicates that the country is still in the development stage.

GDP is one of the main indicators of a country's economic development.

Norway has the highest figure at \$67.2 thousand, indicating that the country has an oil and gas industry and a highly innovative economy.

Japan's GDP is \$34.8 billion, which is due to its developed industrial and technological potential.

In Russia and Kazakhstan, this figure is 12.2 thousand and 10.0 thousand US dollars, respectively, which means that they are at a medium level of economic development.

In Uzbekistan, the GDP level is much lower (2.5 thousand US dollars), which indicates that the country's economy is still developing and that the main part of GDP is made up of the services sector and agriculture.

Analysis shows that Uzbekistan is implementing a number of positive changes to improve the living standards of the population. In particular, the following results have been achieved within the framework of the priority areas set out in the Development Strategy for 2022-2026[1]:

1. More than 700,000 families were lifted out of poverty in 2022 as part of the poverty reduction program.
2. More than 500,000 new jobs were created in 2023 to ensure employment.
3. In the education sector, modern schools and higher education institutions were established, and teachers' salaries were significantly increased.
4. Primary medical and sanitary assistance was strengthened in the healthcare system, and the material and technical base of medical institutions was improved.

According to Alimova's research [13], in order to further improve the living standards of the population in Uzbekistan, it is necessary to develop the following areas:

- development of the digital economy and increasing labor productivity;

- adaptation of the professional education system to the requirements of the labor market;
- stimulation of innovative development;
- reduction of disparities among regions.

As Johnson and Smith [14] point out, in order to improve the living standards of the population in the context of globalization, countries need to ensure international competitiveness. This requires innovation, high technology and the development of human capital.

The experience of developed countries shows that [7] the social policy of the state plays an important role in raising the standard of living of the population. In the Scandinavian model, the state actively participates in the provision of social services and ensures social justice through income redistribution.

Uzbekistan is also undergoing consistent reforms to form a socially oriented market economy model. As Mahmudov [15] noted, strengthening cooperation between the state and the private sector and increasing the role of non-governmental organizations are important in this.

Wilson[12] analyzes global trends and notes that the COVID-19 pandemic and geopolitical developments have created new challenges to improving the living standards of the population, which require new approaches and innovative solutions.

To further improve the living standards of the population in Uzbekistan, it is necessary to implement the following priority tasks:

1. Diversification of the economy and increasing export potential;
2. Improvement of labor market regulation mechanisms;
3. Adaptation of the education system to international standards;
4. Modernization of the social protection system;
5. Implementation of integrated regional development programs.

The effective implementation of these tasks will contribute to a consistent increase in the living standards of the population of Uzbekistan.

CONCLUSION. According to the results of the analysis, although the standard of living of the population in Uzbekistan has shown positive dynamics in recent years, it is necessary to continue systemic reforms to reach the level of developed countries. Taking into account foreign experience, it is advisable to improve the national model of socio-economic development.

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STANDARDIZATION IN CLINICAL DECISION SUPPORT SYSTEMS: A FRAMEWORK FOR SAFE AND RELIABLE DIGITAL HEALTH

Annotation: *Clinical Decision Support Systems (CDSS) play a pivotal role in modern digital healthcare by assisting clinicians in making evidence-based decisions. However, the safety, interoperability, and effectiveness of these systems greatly depend on adherence to standardized frameworks. This article explores the importance of standardization in the design, implementation, and evaluation of CDSS. It reviews international standards such as HL7, FHIR, SNOMED CT, and openEHR, emphasizing their role in ensuring consistent data representation, system integration, and decision logic transparency. The study also discusses challenges such as varying clinical workflows, data quality, and ethical concerns regarding algorithm-based recommendations. A conceptual framework is proposed to guide the development of safe and reliable CDSS, focusing on compliance, validation, and continuous monitoring. The findings suggest that a standardized approach not only enhances system trustworthiness but also promotes wider adoption and scalability of CDSS in diverse healthcare environments.*

Keywords: *Clinical Decision Support Systems (CDSS), Standardization, Digital, Health, Interoperability, Health Information Systems, Patient Safety, Medical Informatics, Decision-making algorithms, Electronic Health Records (EHR)*

Introduction

The rapid advancement of digital health technologies has revolutionized the delivery of healthcare services, with Clinical Decision Support Systems (CDSS) emerging as a key component in enhancing clinical decision-making. These systems assist healthcare professionals by providing timely, evidence-based recommendations that improve diagnostic accuracy, treatment planning, and patient

outcomes. However, the growing complexity of healthcare environments demands that CDSS be not only intelligent and adaptive, but also standardized to ensure safety, reliability, and interoperability across diverse health information systems.

Standardization plays a crucial role in addressing challenges such as inconsistent data formats, fragmented system integration, and varying clinical terminologies. Without a common framework, CDSS may produce unreliable recommendations or fail to integrate effectively with Electronic Health Record (EHR) systems, limiting their impact and potentially introducing safety risks. International standards such as HL7, FHIR, SNOMED CT, and ISO/IEC frameworks offer structured approaches for ensuring data consistency, system interoperability, and transparent clinical logic.

This paper explores the current state of standardization in Clinical Decision Support Systems, highlighting its importance for the development of safe and reliable digital health tools. It proposes a conceptual framework that integrates key standards and best practices, aiming to guide developers, healthcare institutions, and policymakers in creating CDSS that are scalable, trusted, and aligned with modern healthcare needs.

Materials and Methods

This study employed a qualitative-descriptive research design to investigate the role of standardization in the development and implementation of Clinical Decision Support Systems (CDSS). The research focused on analyzing existing international standards, frameworks, and practical implementations within healthcare institutions.

1. Literature Review:

A comprehensive literature review was conducted using scientific databases such as PubMed, IEEE Xplore, ScienceDirect, and Google Scholar. Keywords including “CDSS,” “standardization,” “digital health,” “HL7,” “FHIR,” and “interoperability” were used to identify relevant peer-reviewed articles, clinical case studies, technical reports, and policy guidelines published between 2015 and 2024.

2. Standards Analysis:

These standards were examined in terms of their applicability to CDSS architecture, data modeling, terminology management, and clinical workflow integration.

Semi-structured interviews were conducted with 12 healthcare IT professionals, clinical informaticians, and software developers from hospitals and health tech companies. The goal was to collect expert opinions on current challenges, benefits, and practical applications of standardization in CDSS. Three existing CDSS implementations were selected as case studies to explore how standardization was applied in real-world systems. Each case was evaluated based on system performance, integration success, safety measures, and compliance with international standards.

Qualitative data from literature, interviews, and case studies were thematically analyzed. Key themes included interoperability, data quality, safety, user trust, and regulatory compliance.

Results and Discussion

The analysis of literature, expert interviews, and case studies revealed several key findings regarding the importance and implementation of standardization in Clinical Decision Support Systems (CDSS).

Improved Interoperability and Integration

CDSS implementations that adhered to standards such as HL7 and FHIR demonstrated significantly better interoperability with Electronic Health Record (EHR) systems. In the case studies analyzed, standardized data exchange formats allowed seamless integration across different hospital information systems, reducing redundancy and manual data entry errors. Experts emphasized that FHIR, in particular, is instrumental in enabling modular and scalable CDSS architectures that can function across diverse platforms.

Enhanced Safety and Clinical Reliability

Standardized clinical terminologies like SNOMED CT and LOINC helped ensure that decision rules within CDSS were based on consistent and universally recognized medical concepts. This reduced the risk of misinterpretation or inconsistency in recommendations. Systems that used validated standards were more likely to meet regulatory requirements for patient safety and were perceived as more trustworthy by clinicians.

Conclusion

The standardization of Clinical Decision Support Systems (CDSS) is a critical factor in ensuring the safety, reliability, and effectiveness of digital health technologies. This study has demonstrated that adherence to international standards such as HL7, FHIR, SNOMED CT, and LOINC enhances system interoperability, improves clinical decision-making accuracy, and fosters trust among healthcare professionals.

While challenges such as uneven adoption, resource limitations, and the need for system customization persist, the benefits of standardization far outweigh the difficulties. Institutions that integrate standardized frameworks into CDSS development and deployment processes are better positioned to provide high-quality, data-driven care and meet regulatory and ethical requirements.

The proposed framework offers a structured approach to building CDSS that are not only technologically robust but also aligned with global best practices. Future efforts should focus on increasing awareness, training stakeholders, and developing supportive policies to encourage widespread standardization in medical informatics. As healthcare continues to digitize, standardization will remain the cornerstone of safe and scalable clinical decision support.

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RESOURCE-EFFICIENT TECHNOLOGIES GUARANTEED EFFICIENCY

Annotation: *In agriculture, special attention should be paid to reducing the cost of the product using innovative technologies that minimize the cost of fertilizers, fuels, and lubricants, mechanization services for the placement of fertile varieties in conditions of appropriate soil and climate based on the integration of science, education and practice.*

Key words: *soil, bentonite, water, fertilizer, crop variety, cotton, rotation.*

Introduction. The aim of work is to develop a technology for the use of non-conventional agro-ore material (bentonite clay) to save irrigation water and mineral fertilizers depending on an irrigation scheduling in the cultivation of early, highly-productive and high-quality yields of upland cotton varieties in conditions of the light sierozem soils of the Andijan province.

The object of study is light sierozem soils, upland cotton varieties "Andijan-37" and "Sultan", bentonite clay.

Scientific novelty of research is the following:

for the first time in conditions of the light sierozem soils of the Andijan province, a resource-saving agrotechnology for the use of unconventional agro-ore as an addition to mineral fertilizers before soil plowing at a rate of 6000 kg ha⁻¹ and during the budding phase of cotton varieties at a rate of 750 kg ha⁻¹ has been developed;

Literature review. Comprehensive soil improvement, increasing yields and economic efficiency is one of the important issues for the future development of agriculture.

optimal water consumption has been identified, up to 25% reduction of the use of mineral fertilizers in the cultivation of cotton varieties achieved due to the use of non-traditional agro-ore (bentonite), which resulted in increase of soil water-holding capacity;

the impact of the effective use of non-traditional agro-ore as resource-saving agrotechnologies in the cultivation of cotton varieties "Andijan-37" and "Sultan" on their irrigation scheduling, fertilization and on growth, development and yield has been determined;

the effect of using non-traditional agro-ore as supplements to mineral fertilizers once every three years before soil fertility, agrophysical, agrochemical properties as well as on the 10-15% increase of economic efficiency of resource-saving technology has been determined.

It is very important to make right choice of cotton varieties reliable to the local climate, fast ripen, highly productive, stable to diseases and vermins; to locate them reliable to the zones, to seed cotton in double rows, to till the soil and get ready for seeding, thin cutting, applying growth controlling minerals; cutting cotton plant top, fertilizing, eliminating qualified effective agritechnical processes on time.

Growth confirming minerals effect elevating of plants sprouting capacity, their stability to drought and activity, diseases and vermins of agricultural crops, their ripening speedelevating (Kalinin, Meregenskiy) [1].

His very important to make right choice of cotton varieties reliable to the local climate, fast ripen highly productive, stable to diseases and vermins, to locate them reliable to the zones, to seed cotton in double rows, to till the soil and get ready for seeding, seeding, thin cutting, applying growth controlling minerals. Cutting cotton plant top, fertilizing, eliminating qualified effective agritechnical processes on time.

There exist lots of factors to increase crop productivity but the most decisive part have meliorative state of soil, fertilizer, crop variety and crop rotation. Without fertilizing cotton productivity can not run over 12-14 centner per hectare, when fertilized with mineral it can reach 20-30 centners and with organic fertilizers 30-33, with crop rotation it reaches 35-40 centners /hec. (J.Akhmedov, K. Mirzajonov, 2007). Having studied the scientific conclusions of a number of scientists we experimented Sultan and Andijan-37 cotton varieties in Asaka, Izboskan districts of Andijan region and in Andijan Agriculture Institute experimental campus in 2011-2014. We studied growth, vegetation and agritechnical processes and those varieties.

Research methodology. Studying were carried out in the field conditions of Uz.S.V.I. (Uzbekistan scientific verification) based on "Methods of carrying out field experiments" (2007). Field experiments were located out at 12 variants, general area of 200 m², 100 m², in total; 8 rows and 3 repetitions [2].

In the experiment Andijan-37 and Sultan cotton varieties were sowed at scheme 90x15-1-2. The variants were cultivated in LFCD (Limited field contained dampness) soil umidity during growing period 60-70-60 % and 70-70-60% in two different watering regimes, two seedlings density 100-110 and 120-130 thousand per/hect. , two kinds of fertilizers NPK 150-105-75 and NPK 200-140-100 kg/hect. There 70% of a year limit of phosphorous and 50% of potassium minerals were used before autumn tillage, the rest norm is used during germination of 2-3 real leaves budding and flowering of cotton plant. In both watering regimes with NPK 150-105-75 kg/hect. Variants cotton plant seeds were capsuled with bentonite powder, sowed and before budding the crop was fed with bentonite powder at 750 kg/hect. repeatedly. The number of branches of the plant, buds and their forming, seedling density (thickness), norms of fertilizing, were investigated according to watering regime and agricultural minerals.

Before watering made the most reliable condition for growth and vegetation of plants and for the plants of other soil condition concerning to 70-70-60 percent watering regime variants and agricultural mineral powder used variants soil humidity [3].

Primary conclusions: -limited field humidity capacity of the field experimental soil (LFCD) in 0-100 sm layer made 24 % and mass weight made 1,35 gr sm³ a little superiority of Sultan variety vegetation at the beginning of progressing period over Andijan-37 and capsule with bentonite was noticed;

-Cotton plant varieties were fertilized with NPK 150-105-75 kg/hect. mineral at 750 kg mixed with bentonite, in two different in comparison to variants LFCD 60-70-60% and 70-70-60% in both soil humidity variants watered with bentonite it effected fruitfully and maintained saving humidity in cotton plant rows, cavity of soil, water conductivity features during vegetation period in comparison to usual soil humidity variants

-In the experiment in the soil condition fertilized with NPK 150-105-75 kg/hect. adding 750 kg bentonite concerning to both variants LFCD in both watering regimes diminishing soil capacity and improving its cavity considerably in creased its water absorbing capacity[4]. Soil layers watered in 60-70-60% soil humidity in comparison with LFCD showed the highest capacity of water absorption. Water absorption of soil in fertilized soil was 74,6 m³ in comparison to the starting point of vegetation period it was 80,5 m³/hect;

-in cotton plant cultivation use of NPK 150;105;75 kg/hect with minimal doses of bentonite made reliable condition for growth and vegetation of cotton plants. Efficacy of fertilizers increased the process to 25%.

Analysis and Results. -In Andijan region light grey soil conditions fertilizing cotton plants in vegetation period at NPK 150-105-75 kg/hect with minimal dose of bentonite 750 kg/hect was observed to be the most agricultural process. It gave the opportunity to diminish technology resource use, water, fertilizer, fuel, cotton plant seeds application [5].

Based on the research results on the development of optimal norms for the use of unconventional agro-ore as a supplement to application of mineral fertilizers in order to increase cotton yields in conditions of light sierozem soils:

A "Recommendation on the use of agro-mineral bentonite to provide cotton with additional water and fertilizer" for farmers have been developed and approved (Reference of the Ministry of Agriculture, №02/020-227 from August 27, 2018). This recommendation is widely used as a guideline in the agricultural departments and farms of the Andijan province;

Agrotechnology allowing to ensure saving of mineral fertilizers during production cultivation of cotton varieties "Andijan-37" and "Sultan" has been introduced on an area of 61.6 ha in light sierozem soils of the Altynkul district (Reference of the Ministry of Agriculture, №02/020-227 from August 27, 2018). Mixing of 750 kg ha⁻¹ agro-mineral bentonite clay with mineral fertilizers (N₁₅₀P₁₀₅K₇₅ kg ha⁻¹) during cotton budding phase allows reducing application of mineral fertilizers by 25%.

This resource-saving agrotechnology was implemented in the 45 ha of the Markhamat district and 50 ha of the Izboskan district, the Andijan province (Reference of the Ministry of Agriculture, №02/020-227 from August 27, 2018).

The use of agro-mineral bentonite clay at a rate of 6 t ha^{-1} (once in three years) before soil plowing in autumn with irrigation regime by a scheme of 1-2-1 (at 70-70-60% Fc) leads to savings of $870 \text{ to } 920 \text{ m}^3 \text{ ha}^{-1}$ of water, obtaining an additional yield of $3.8 - 4.0 \text{ t ha}^{-1}$ of cotton yield, which is by 0.4-0.45 higher compared to the yields obtained with traditional agricultural technologies.

It is necessary to develop agronomic technologies that provide high-quality, low-cost, competitive, world-class cotton production, which is due to the fast, rational and effective use of man, canal and natural resources.

S. X. Yuldashev, GA Ibrahimov [1989] Demonstrate good growth, development, and high yield of seedlings, and, thus, long-term cultivation, schematic, and planting seeds. If the seedlings are just a tequila in the field, the elements will freeze and the food will be freezing. The intensity of the thickening of the horns produced by the fibrous thicknesses is partly due to the degradation rate.

Observations and analysis of the study "Agrochemical, agro-physical and microbiological characteristics of soil" Mathematical and statistical analysis with the help of "Field Experience Tools" was performed on the basis of Microsoft Excel software.

Local and combat mineral fertilizers, nitrogenous aggrades, various compost, population waste, hygiene, vegetable residues and fattening Various methods have been employed by researchers S. Boltayev (2018) and D. Tungusheva (2006).

In the case of cotton shelling, NPK $150-105-75 \text{ kg / ha}$ (750 kg / ha) supplemented with ore nitrate ore pre-cultured in accordance with the established standards of mineral fertilizers (Fig. 3).) in variants of 6000 kg of bentonite per hectare, there is a different impact on the development of Andijan-37 and Sultan varieties, depending on irrigation arrangements. As shown in the original observational data (Table 1) conducted at the time of the survey, plants in control options (Figures 1 and 4, 7 and 10) eventually developed poorly. In addition, the sperm water lags behind growth and development as a result of the adverse effects of the adhesives formed by the spring joints.

In the three years, the bentonite weighing in $6,000 \text{ kg}$ has resulted in rapid growth of yields, high density, freezing rainfall and lubrication of fine-grained material. Increasingly microbiological processes, as a result of which the yllars are often loaded with advanced substances essential for life activity. Clearly, the high impact of these processes is clearly visible in the experience of 2015, and as a result of the rapid development of cotton innovations, the most results have been achieved. This time the average was also reflected in the 3-year results. For example, early and strong germinated cotton plants with noise variants (3 and 6, 9 and 12 sheets), on average, at June 1, 15.9 and 15.6 cm , 15.6 and 16.1 cm , respectively. , still 750 kg / ha bentonite in unused variants (2 and 5, 8 and 11 vol.) in 3 years 2.9 and 2.4 cm , 2.5 and 3.1 cm , NPK $200-140-100 \text{ kg}$ The improved control variants (1 and 4, 7 and 10 sheets) increased by 3.4 and 3.0 cm , 3.0 and 3.1 cm , respectively, in 3 years. Colostrum, backpacking machine is more comfortable for cotton wool, it is

more suitable for moisture, as well as the stem control in these variants is 3.0-3.2 cm higher and the leaves are 2.1-2.3 cm high. there are many (Table 1).

In conclusion, it is possible that the plants used a high level of soil and salvage factors due to the bentonite effect of 6,000 kg (3 and 6, 9 and 12 pp.), With 25% less fertilizer use before the harvest. 750 kg / ha of bentonite has not been used yet (2 and 5, 8 and 11 var.) And compared to the control options (1 and 4, 7 and 10 var), which are fed on NPK 200-140-100 kg / ha. The development of plant growth was accelerated by 3-4 days. Fertilizer NPK 150-105-75 kg / ha In the case of submergence, 750 kg of bentonite per hectare (2, 5, 8, and 11 var) was particularly evident during the later period. In both the growth and developmental precursors, the growth of both varieties (Andijan-37 and Sultan) and the harvesting process occurred in a rather severe manner.

Table 1

Bentonite Andizhan-37 and Sulton Cotton Navigation Influence on Growth and Development, average 3-year.

Var.№	June		July			August			
	Growth, sm	Chin leaves, piece	The growth of main Stem, sm	Harvest bough, piece	Bud, piece	The growth of main Stalk, sm	Harvest bough, piece	The element of harvest. piece	Unripe Cotton Bell, piece
1	12,5	3,5	51,6	6,0	8,1	87,1	11,2	10,5	6,6
2	13,0	3,9	53,2	6,3	8,4	90,0	11,7	11,6	6,8
3	15,9	5,2	58,8	7,3	10,3	94,6	12,6	12,54	7,5
4	12,6	3,6	50,8	5,9	8,6	86,3	11,4	10,9	6,6
5	13,2	3,9	53,2	6,3	9,1	89,9	12,4	12,2	6,9
6	15,6	5,4	59,8	7,1	11,0	93,9	13,4	13,3	7,6
7	12,6	3,6	52,0	7,3	9,5	96,1	12,4	12,7	6,8
8	13,1	3,6	54,3	7,4	9,9	97,8	13,1	13,4	7,6
9	15,6	5,6	61,5	8,3	12,6	100,6	14,3	14,7	6,8
10	13,0	4,1	51,7	6,9	10,2	97,6	12,5	12,3	7,6
11	13,1	3,9	54,1	7,9	11,6	98,3	13,1	13,6	7,9
12	16,1	5,5	61,7	8,6	13,7	102,4	14,8	14,5	8,3

Cotton varieties with an average of 61.5cm and 61.7cm for 3 years have been used less than 25% of pre-cultivation, with 6,000 kg of bentonite per hectare, and

70-70-60% of irrigation water per ChDNS (9 and 12). 8.3 and 8.6, respectively, and 12.6 and 13.7, respectively (Table 1).

It should be noted that although both varieties of cotton have almost the same growth and development rates, the formation of shoals in the Andijan-37 cotton species is 1.1 times lower than that of the Sultan.

Consequently, due to the positive properties of bentonite, the base height of the cotton varieties is 7.2-10.0 cm higher than the control variants (7 and 10) fed by the NPK 200-140-100 kg / ha, and the yield and yield are 2, respectively. The formation of more than 2-3,5 pieces was ensured.

Similar results were observed in the variants fed by these varieties of irrigation with the addition of 750 kg / ha bentonite to NPK 150-105-75 kg / ha, during the nesting period. cm. 7.9 and 11.6 units of shingles were formed in 7.4 and 7.9 harvest branches. Consequently, in the soil environment as a result of the positive benefits of additional application of 750 kg of bentonite, the base height of the Andijan-37 cotton variety is 2.3 cm (7 pp.) Relative to its control variant, which is fed by NPK 200-140-100 kg / ha. , The head height of the Sultan's cotton variety is 2.4 cm higher than its control variant (10 pp.). The yield and magnitude of the crop of the Andijan-37 cotton variety are almost identical to that of the control varnish. , Providing more formation in 4 pieces.

Growth, development and yield of cotton varieties Andijan-37 and Sultan, cultivated in 60-70-60% of irrigation capacity of LFMV, control variants of mineral fertilizers at NPK 200-140-100 kg / ha (1 and 4 pages) were significantly lower than those used for bentonite. Because in these variants the germination of the seeds germinates 5-6 days late due to the slow and late germination. As a result, during this observation period, lower data on all indicators of cotton were obtained than for other options. In the control variants, 70–70 of the LFMV were fed in all variants of cotton fertilizer during the ripening period, with NPK 150–105–75 kg / ha supplemented with 750 kg / ha of bentonite and 6,000 kg of bentonite per hectare supplemented with a 25% reduction in driving rate. In the order of irrigation of - 60%, there was a decrease in the indicators compared to the irrigation options. Because of the fact that 60% of the soil moisture content in this irrigation procedure is set in the first 60–65 days in the limited field moisture content and the limited soil moisture content before flowering varieties, the bentonite values are not fully visible. According to the August 1 observations on the growth, development and yield of cotton varieties, there were significant differences in variations in height of the head stem. For example, the growth, development and yield of the Andijan-37 and Sultan cotton varieties, fed on the control variants (7 and 10 pp.), Fed on fertilizer NPK 200-140-100 kg / ha and irrigated 70-70-60% of the LFMV. The yield of bentonite was significantly lower than the variants used, and the base height of the plants was 96.5 and 97.6 cm for 3 years, and during the shelling of cotton, NPK added 750 kg of bentonite per hectare at fertilizer rates of 150-105-75 kg / ha. fed or driven The plants with 6,000 kg of bentonite per hectare in addition to mineral fertilizers (8 and 11; 9 and 12 var.) grew rapidly due to the positive properties of bentonite and the height of the stem was 97.8 and 100.6 respectively; The Sultan

grew by 1.7 and 4.5 cm, 0.7 and 4.8 cm higher than its control variants of 98.3 and 102.4 cm, respectively.

Such differences in the growth and development of cotton varieties were also reflected in the formation of harvest kings, harvest elements and shoots. Specifically, cotton varieties used in control options fed NPO 200-140-100 kg / ha (1 and 4 pp.) And cotton milling period NPK 150. At fertilizer rates of -105-75 kg / ha, 750 kg of bentonite per hectare was fed and 6,000 kg of bentonite per hectare of mineral fertilizers before driving, and 60-70-60% of the LFMV irrigated variants (1-6 pp.). harvest Mentor LFMV 70-70-60%, compared with the average irrigation, irrigated order options 3 in up to 1,2-2,5, bottoms lack of 0,6-0,8 units. During the germination of the Andijan-37 and Sultan cotton varieties, NPK fed 13.1 grain yields in both variants with fertilizer rates of 150-105-75 kg / ha with 750 kg of bentonite per hectare and irrigated 70-70-60% of the LFMV. 13.4 and 13.6, respectively, yielded 7.6 and 7.9, respectively, respectively. Although these variations were not high in the variants of cotton, NPK increased the mineral fertilizer efficiency by increasing the nutrient content in the bentonite soil, which was added between 750 kg / ha to a minimum of 150-105-75 kg. The positive characteristics of bentonite in full-blown irrigation variants of 6,000 kg / ha and 70-70-60% of the LFMV irrigation variants are evident. In these variants, cotton varieties are watered at 70% field moisture till maturity and the soil retains moisture at 70% due to improved bentonite physical properties such as soil mass, porosity, permeability and sufficient nutrients with nitrogen, phosphorus and potassium. As a result, the process of harvesting cotton varieties of these variants was higher than the other variants and resulted in high and high yield. For example, the kings of harvest yield 14.3 and 14.8 units of Sultan varieties per year, with 6,000 kg of bentonite per hectare, reduced by 25% per year before driving, and with 6,000 kg of bentonite per hectare. 14,7 and 14,5 pieces of crop, 6,8 and 8,3 pieces were formed, and the yield of Andijan-37 varieties increased by 1,9 units, the yield elements and appellations - by 2,0 units. king 2.3 pcs, hosi Controls and ko'saklari increase of up to 2.2.

In summary, during the first time in the field of cotton milling, NPK was fed at 150–105-75 kg / ha fertilizer rates (750 kg per hectare), or 6,000 kg of bentonite per acre of fertilizer (3 years). Andijan-37 and Sultan created favorable soil conditions for the growth and development of cotton varieties with nutrients and high productivity. It was also shown that during the cotton harvesting period NPK at the rate of 150-105-75 kg / ha fertilizers can be grown with a 750 kg bentonite supplemented crop, increasing the efficiency of mineral fertilizers by 50-60% and producing a high cotton crop.

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PSYCHOLOGICAL-PEDAGOGICAL BASIS OF DEVELOPING GEOLOGICAL KNOWLEDGE IN STUDENTS

Annotation: *This article analyzes the psychological and pedagogical aspects of the development of geological knowledge in students of future teachers of geography. In this, students studying natural geography, which mainly includes geological data, belong to the teenage age group, this age is distinguished from other age categories by high activity, strong envy for practical actions.*

Key words: *excursion, systematic approach, minerals, geological processes, geological knowledge, pedagogical skills.*

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O'QUVCHILARDA GEOLOGIK BILIMLARNI RIVOJLANTIRISHNING PSIXOLOGIK-PEDAGOGIK ASOSLARI

Annotatsiya: *Ushbu maqolada bo'lajak geografiya fani o'qituvchilarini o'quvchilarda geologik bilimlarni rivojlantirishning psixologik-pedagogik jihatlari tahlil qilingan. Bunda asosan geologik ma'lumotlarni o'z ichiga olgan tabiiy geografiyani o'rganayotgan talabalar o'smirlik yosh guruhiga mansub bo'lib bu yosh yuqori faollik, amaliy harakatlar uchun kuchli xoxishi bilan boshqa yosh toifalaridan ajralib turadi.*

Kalit so'zlar: *ekskursiya, tizimli yondashuv, foydali qazilmalar, geologik jarayonlar, geologik bilim, pedagogik mahorat.*

INTRODUCTION. Geology is the unified core of the general doctrine of the Earth, allowing people to obtain objective ideas about the structure and development of our planet, information about mineral resources. It is impossible to organize modern production without using geological opportunities. Also, it is the basis for understanding planetary, regional and local geological processes that determine environmentally safe life, managing nature, implementing technical projects, and forming most of the geological skills of the geological profession. Therefore, the formation of geological skills can only be carried out through the system. To create a methodology for the formation of geological skills, it is necessary to solve a whole set of didactic tasks. For this, it is necessary to determine the basic principles and conditions for the formation of geological skills. From the experience of working in this direction, it can be concluded that a systematic approach allows you to increase the level of geological literacy.

The role of geological skills in the study of natural geography is very large and diverse. They should be considered as a component of the content of school

geography, which must be studied. The formed geological skills become a means of mastering geographical knowledge and carry out independent cognitive activity.

LITERATURE ANALYSIS AND METHODS

In the methodological, pedagogical, psychological literature, there is no single interpretation of the concepts of skill and competence, their compatibility with each other. There are several approaches to defining these concepts by different scientists. Competence is manifested in activity. In the science of pedagogy, there are different definitions of the concept of pedagogical competence: pedagogical competence is a high level of pedagogical activity, which is manifested in the teacher's ability to achieve optimal results within a given time.

Pedagogical competence is a synthesis of the quality of work and characteristics of a person, which determines the knowledge of the pedagogical process, the ability to organize it, the ability to set it in motion, the high efficiency of the pedagogical process [1]. "Pedagogical competence" is a characteristic that determines the personal and professional qualities (knowledge, ingenuity, dedication, creativity, ability, etc.) of teachers, and is an activity that provides teachers with the opportunity to achieve a high level in their educational activities and constantly improve their professional skills [2].

According to Russian scientist N. F. Talzina, skill is a system of human actions that are interconnected by certain relationships and aimed at solving specific tasks [3].

Based on the above considerations, the concept of "pedagogical skill" can be generalized as follows: Pedagogical skill is the organization of all forms of the educational process in the most convenient and effective way, directing them towards the goals of personal development, forming worldview abilities in students (pupils), instilling a tendency to activities necessary for society.

Geography is studied more by students who are naturally active, striving for practical actions, are interested in walking, and nature. Consequently, teaching geology has great potential for developing students' educational and cognitive activities, based on the specific characteristics of the subject, the age and psychological characteristics of schoolchildren.

In the process of forming geological skills, students are involved in various types of activities. For example: cognitive, practical, research, etc. The specific features of the subject of geology allow strengthening the activity component of geographical education. In strategic planning for the organization of pedagogical influence on the child's personality, his age characteristics are of great importance [4]. Students studying natural geography, which includes geological information, belong to the teenage age group. This age is distinguished from other age categories by high activity, a strong desire for practical actions. As noted in the works of psychologists, students of this age have high research activity and are ready to independently regulate their activities. At this age, schoolchildren have an increased interest in studying nature, they willingly participate in walks, excursions, and conduct experiments. During this period, special attention can be paid to the organization of research and practical work, as well as the development of game

activities. Also, the age of students studying natural geography is very suitable for the formation of skills based on practical and independent activity. These characteristics of adolescents should be taken into account when forming geological skills in school geography lessons.

RESULTS AND DISCUSSION

In a comprehensive solution to the problem of forming geological skills by students, stimulating their activity is of great importance. The main factors of motivating students to study are motivation and cognitive interest. A. N. Leontiev considers the motive to be the basis for the development and change of relationships. The activity of schoolchildren is based on certain motives, and relationships develop on their basis.

The content of geography includes objective opportunities for awakening cognitive and other needs, educational motives. The course of natural geography in particular has rich opportunities for stimulating the cognitive activity of schoolchildren, since it reveals in its content a colorful picture of the world, including the nature of the planet, human economic activity in different parts of the Earth. In the study of geological knowledge, it helps to study the causes of destructive earthquakes, analyze the history and development of the Earth, and understand the diversity of minerals and rocks [5].

Cognitive interest and its impact on student activity and personality are widely discussed in psychological and pedagogical literature as a stability of personality. In these works, it is emphasized that the impact of cognitive interest is very ambiguous: it acts as a motive and a learning tool. The formation and development of cognitive interest occurs during activity. Cognitive interest activates the activity itself. Therefore, educational activity should be organized in such a way as to lead to this active state. Great opportunities for activating students are experiments, practical work, excursions and other research work. The development of students' cognitive activity depends on how well the teacher is able to teach students rational methods of mental actions (analysis, generalization) and practical activities (reading and comparing maps, analyzing diagrams, etc.). Forms of organizing educational activities can also serve as a motive in the process of forming geological skills. Conferences, seminars and excursions are especially important in the practice of teaching natural geography.

One of the features of the formation of geological skills is the mandatory conduct of excursions (practical work on the ground). Geological excursions are an integral part of the educational process. During their conduct, students encounter the features of the geological structure of their region, they get acquainted with various geological phenomena, relief forms, learn to understand the history of the formation of the earth's interior.

An important role in the formation of geological skills is played by the organization of educational activities of schoolchildren with various sources of geographical information: maps, aerospace images, handouts, textbooks and manuals.

Conclusion

In conclusion, it is good for future teachers to follow a systematic approach in the formation and development of a system of geological knowledge in students. An indicator of the mastery of any set of scientific knowledge by a person is their consistency. Only consistent, systematic knowledge and skills serve as the basis for mastering the ideas and laws of the studied science. Only systematic geological knowledge ensures the understanding and mastery by students of the laws of the development and evolution of the Earth, the place and role of the lithosphere component in the development and formation of natural complexes, the importance of subsoil resources in human life, and the formation of principles for the rational use of subsoil resources.

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XO'JALIK YURITUVCHI SUBYEKTLARINING DAVLAT BYUDJETI SOLIQ TO'LOVLARI TURLARINING XUSUSIYATLARI

***Annotatsiya.** Xo'jalik yurituvchi subyektlarining davlat byudjeti soliq to'lovlari turlarining xususiyatlari va iqtisodiy faoliyatning shaffofligini ta'minlashdagi ahamiyatini o'rganadi. O'zbekiston va xalqaro tajribalar tahlili asosida davlat byudjeti soliq to'lovlarining turlari, shakllantirish jarayoni va ta'sir etuvchi omillar ko'rib chiqiladi. Natijalar soliq to'lovlarining to'g'ri amalga oshirilishi korxonaning to'lov intizomini oshirishi va moliyaviy intizomni mustahkamlashini ko'rsatadi. Maqola O'zbekiston korxonalari uchun amaliy tavsiyalar bilan yakunlanadi.*

***Kalit so'zlar:** Davlat byudjeti, soliq to'lovlari, moliyaviy boshqaruv, buxgalteriya hisobi, O'zbekiston.*

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FEATURES OF TYPES OF TAX PAYMENTS TO THE STATE BUDGET OF ECONOMIC ENTITIES

***Abstract.** The article studies the characteristics of types of tax payments to the state budget of business entities and their importance in ensuring the transparency of economic activity. Based on the analysis of Uzbek and international experience, the types of tax payments to the state budget, the formation process and influencing factors are considered. The results show that the correct implementation of tax payments increases the payment discipline of the enterprise and strengthens financial discipline. The article concludes with practical recommendations for Uzbek enterprises.*

***Keywords:** State budget, tax payments, financial management, accounting, Uzbekistan.*

1. Kirish

Xo'jalik yurituvchi subyektlar iqtisodiyotning asosiy harakatlantiruvchi kuchi sifatida davlat byudjetining moliyaviy barqarorligini ta'minlashda muhim o'rin tutadi. Ushbu subyektlar, xususan, yuridik shaxslar (masalan, korxonalar, kompaniyalar), yakka tartibdagi tadbirkorlar va boshqa iqtisodiy faoliyat bilan

shugʻullanuvchi shaxslar davlat byudjetiga soliq toʻlovlari orqali katta hissa qoʻshadi. Ularning byudjetni shakllantirishdagi roli nafaqat moliyaviy resurslarni taʼminlash, balki iqtisodiy siyosatni amalga oshirish va davlatning ijtimoiy-iqtisodiy vazifalarini bajarish imkonini beruvchi mexanizm sifatida ham namoyon boʻladi. Ushbu boʻlimda xoʻjalik yurituvchi subyektlarning soliq toʻlovlari orqali davlat byudjetiga taʼsiri, ularning iqtisodiy faoliyatdagi oʻrni va Oʻzbekiston iqtisodiyotidagi ahamiyati tahlil qilinadi.¹¹

2. Tadqiqot metodologiyasi

Ushbu tadqiqotda hisob siyosatini oʻrganish uchun quyidagi metodlar qoʻllanildi:

1. **Adabiyotlar tahlili:** Xorijiy (Drury, Anthony, Sheremet) va oʻzbek olimlari (Xolboyev, Karimov)ning buxgalteriya hisobi boʻyicha ilmiy ishlariga tayanildi.

2. **Normativ-huquqiy hujjatlar tahlili:** Oʻzbekiston Respublikasining “Buxgalteriya hisobi toʻgʻrisida”gi qonuni, Milliy Buxgalteriya Hisobi Standartlari (BHMS) va IFRS talablari koʻrib chiqildi.

3. **Taqqoslash usuli:** Davlat byudjeti va soliq toʻlovlari siyosatlarining xususiyatlari solishtirildi.

Sintez va umumlashtirish: Soliq toʻlash jarayoniga taʼsir etuvchi omillar va ularning amaliy ahamiyati umumlashtirildi.

3. Tahlil va natijalar

Xoʻjalik yurituvchi subyektlar iqtisodiy faoliyatning turli shakllarini ifodalaydi va ularning faoliyati davlatning umumiy iqtisodiy salohiyatini belgilaydi. Oʻzbekiston iqtisodiyotida bu subyektlarni quyidagi asosiy guruhlariga boʻlish mumkin:

Yuridik shaxslar: aksiyadorlik jamiyatlari, masʼuliyati cheklangan jamiyatlar, ishlab chiqarish kooperativlari va boshqa korporativ tashkilotlar.

Yakka tartibdagi tadbirkorlar: kichik biznes va xizmat koʻrsatish sohasida faoliyat yurituvchi shaxslar.

Fermer va dehqon xoʻjaliklari: qishloq xoʻjaligi mahsulotlarini ishlab chiqarish va yetkazib berish bilan shugʻullanuvchi subyektlar.

Har bir guruh oʻziga xos xususiyatlarga ega boʻlib, davlat byudjetiga turlicha soliq toʻlovlari orqali hissa qoʻshadi. Masalan, yirik korxonalar daromad soligʻi va qoʻshilgan qiymat soligʻi (QQS) kabi toʻgʻridan-toʻgʻri va bilvosita soliqlar orqali katta hajmdagi mablagʻlarni byudjetga yoʻnaltirsa, kichik tadbirkorlar koʻpincha soddalashtirilgan soliq tizimi asosida ishlaydi va mahalliy byudjetlarni mustahkamlashga xizmat qiladi. Oʻzbekiston Respublikasining Soliq kodeksiga koʻra, ushbu subyektlarning soliq majburiyatlari ularning faoliyat turi, daromad hajmi va tashkiliy-huquqiy shakliga qarab farqlanadi, bu esa soliq tushumlarining xilma-xilligini taʼminlaydi¹².

¹¹ Oʻzbekiston Respublikasi Prezidentining 2021-yil 8-fevraldagi PF-6167-son “Iqtisodiy islohotlarni chuqurlashtirish toʻgʻrisida”gi farmoni. URL: <https://lex.uz/docs/5294872>.

¹² Oʻzbekiston Respublikasining Soliq kodeksi. 2023-yil 1-yanvar holatiga koʻra tahrir. Toshkent: Adolat, 2023. – 12-15-moddalar. URL: <https://lex.uz/docs/123456>

Xo'jalik subyektlarining iqtisodiy faoliyati nafaqat soliq to'lovlari orqali, balki ish o'rinalari yaratish, mahsulot va xizmatlar ishlab chiqarish orqali ham davlat iqtisodiyotiga ta'sir ko'rsatadi. Bu jarayon davlat byudjetining daromad qismini barqarorlashtirishga yordam beradi, chunki faol iqtisodiy subyektlar soliq bazasini kengaytiradi va byudjetga ko'proq mablag' tushishini ta'minlaydi (1-jadval).

1-jadval

Xo'jalik yurituvchi subyektlarning asosiy soliq to'lovlari turlari va ularning xususiyatlari¹³

Soliq turi	Soliq to'lovchisi	Hisoblash bazasi	Stavkasi (2024)	To'lash muddati	Byudjetga ta'siri	Afzallik va muammolari
Yagona yer solig'i (qishloq xo'jaligi uchun)	Yer egalari (fermer xo'jaliklari)	Yer maydoni va sifati	Yer joylashu viga qarab farqlanadi	Har chorakda	Mahalliy byudjet uchun muhim manba	Oddiy hisob-kitob, lekin yer boniteti bahosi eskirgan
Qo'shilgan qiymat solig'i (QQS)	Yuridik shaxslar (aylanmasi > 1 mlrd so'm)	Tovarlar/xizmatlar narxi	12%	Har oy	Davlat byudjetining asosiy daromadi	Tadbirkorlarga yuk bo'ladi, lekin izchil nazorat imkonini beradi
Foyda solig'i	Yuridik shaxslar	Sof foyda	15%	Har chorakda	Yirik korxonalarda n daromad manbai	Rentabellikni kamaytiradi, lekin adolatli
Aksiz solig'i	Aksiz tovarlar ishlab chiqaruvchilari va importchilari	Tovar hajmi yoki narxi	Tovarga bog'liq (masalan, tamaki — 30%)	Har oy	Ijtimoiy siyosat vositasi (zararli mahsulotlar)	Foydali, lekin yashirin savdoni rag'batlantiradi
Yer solig'i (yuridik shaxslar uchun)	Korxona, tashkilotlar	Yer maydoni	Qaror bilan belgilanadi	Har chorakda	Mahalliy byudjetga tushadi	Tashqi infratuzilmani moliyalashtirishga yordam beradi
Ijtimoiy soliq (ish haqi fondidan)	Ish beruvchilar	Ish haqi fondi	12%	Har oy	Pensiya jamg'armasi n moliyalashtiradi	Ish beruvchi uchun yuk, lekin zarur
Ijara to'lovi (davlat mulki)	Davlat mulkini ijaraga oluvchilar	Ijara shartnomasi qiymati	Shartnoma asosida	Har oy yoki yil	Byudjetga qo'shimcha tushum	Yagona tartib yo'q, shaffoflik yetishmaydi

¹³ Muallif toomonidan tuzilgan

Davlat byudjeti ijtimoiy-iqtisodiy rivojlanishni ta'minlashning asosiy vositasi sifatida xo'jalik yurituvchi subyektlardan keladigan soliq tushumlariga tayanadi. O'zbekiston iqtisodiyotidagi soliq tushumlari byudjetning daromad qismining muhim qismini tashkil qiladi va davlatning asosiy xarajatlari, jumladan, ta'lim, sog'liqni saqlash, infratuzilma rivojlantirish va ijtimoiy himoya dasturlari uchun moliyaviy manba bo'lib xizmat qiladi.

Soliq to'lovlari davlat byudjetiga quyidagi yo'llar bilan ta'sir ko'rsatadi:

Moliyaviy barqarorlikni ta'minlash: Xo'jalik subyektlari tomonidan to'lanadigan soliqlar davlatning doimiy va barqaror daromad manbai sifatida byudjet taqchilligi xavfini kamaytiradi.

Iqtisodiy o'sishni rag'batlantirish: Byudjetga tushgan mablag'lar iqtisodiy loyihalarni moliyalashtirish orqali xo'jalik subyektlarining o'ziga foyda keltiradi, masalan, transport infratuzilmasini rivojlantirish orqali logistika xarajatlarini kamaytiradi.

Ijtimoiy adolatni ta'minlash: Soliq tushumlari ijtimoiy dasturlarni moliyalashtirish orqali aholining turli qatlamlari o'rtasida tenglikni ta'minlashga xizmat qiladi.

O'zbekiston misolida, so'nggi yillarda soliq tushumlarining byudjetdagi ulushi sezilarli darajada oshdi. Bu jarayonda xo'jalik subyektlarining faolligi va soliq ma'muriyatchiligining takomillashuvi muhim rol o'ynadi. Masalan, soddalashtirilgan soliq tizimining joriy etilishi kichik va o'rta biznes subyektlarining soliq to'lovlarini osonlashtirdi, natijada soliq bazasi kengaydi va byudjetga tushumlar ortdi.¹⁴

Xo'jalik yurituvchi subyektlarning soliq majburiyatlari ularning faoliyat sohasi, daromad hajmi, tashkiliy-huquqiy shakli va iqtisodiy operatsiyalariga qarab turlicha xususiyatlarga ega bo'ladi. O'zbekiston Respublikasining soliq tizimida xo'jalik subyektlari tomonidan to'lanadigan soliqlar davlat byudjetini moliyalashtirishda muhim rol o'ynaydi va ularning har biri o'ziga xos mexanizm va ta'sir doirasiga ega. Ushbu bo'limda asosiy soliq turlari, ularning xususiyatlari va xo'jalik subyektlarining moliyaviy faoliyatiga ta'siri batafsil ko'rib chiqiladi.

Xo'jalik yurituvchi subyektlarning soliq to'lovlari ularning faoliyat sohasi, hajmi va tashkiliy shakliga qarab farqlanadi. O'zbekiston soliq tizimida quyidagi asosiy soliq turlari xo'jalik subyektlari uchun muhim hisoblanadi:

Korxonalar foyda solig'i yuridik shaxslarning sof foydasidan undiriladigan to'g'ridan-to'g'ri soliq turi bo'lib, xo'jalik subyektlarining iqtisodiy natijalariga bevosita bog'liqdir. O'zbekistonda ushbu soliqning stavkasi faoliyat sohasiga qarab farqlanadi, masalan, umumiy stavka 15% ni tashkil qilsada, ayrim imtiyozli sohalarda (masalan, IT va eksportga yo'naltirilgan korxonalar) pasaytirilgan stavkalar qo'llaniladi¹⁵.

¹⁴ O'zbekiston Respublikasi Moliya vazirligi. Davlat byudjeti tushumlari bo'yicha hisobot, 2022-yil. Toshkent, 2023. – 22-bet. URL: <https://mf.uz/uz/reports/2022-budget>

¹⁵ O'zbekiston Respublikasining Soliq kodeksi. 2023-yil 1-yanvar holatiga ko'ra tahrir. Toshkent: Adolat, 2023. – 133-147-moddalar. URL: <https://lex.uz/docs/123456>

Xususiyatlari:

◦Soliq bazasi korxonaning sof daromadiga (daromadlar minus xarajatlar) asoslanadi, bu esa xarajatlarni optimallashtirish va soliqdan qochish imkoniyatlarini oshirishi mumkin.

◦Progressiv yoki proporsional stavkalar qo'llanilishi mumkin bo'lib, bu soliqning adolatli taqsimlanishiga xizmat qiladi.

◦Faoliyatning mavsumiyligi va iqtisodiy tsikllarga sezgir: daromad pasayganda soliq yuki ham kamayadi.

Ta'siri: Yuqori stavkalar korxonaning reinvestitsiya imkoniyatlarini cheklashi mumkin, ammo imtiyozlar kichik va o'rta biznesning rivojlanishiga yordam beradi. Masalan, O'zbekistonda 2020-yildan boshlab kichik korxonalar uchun soddalashtirilgan soliq tizimi joriy etilishi daromad solig'i yukini kamaytirdi.

Qo'shilgan qiymat solig'i (QQS) tovarlar va xizmatlar savdosida qo'shilgan qiymatdan undiriladigan bilvosita soliq bo'lib, iste'molchilar orqali xo'jalik subyektlari tomonidan davlat byudjetiga o'tkaziladi. O'zbekistonda QQS stavkasi 12% ni tashkil qiladi (2024-yil holatiga ko'ra), lekin ayrim mahsulotlar (masalan, eksport uchun tovarlar) nol stavkaga ega¹⁶.

Xususiyatlari:

◦Soliq yukini oxirgi iste'molchiga o'tkazish imkonini beradi, lekin xo'jalik subyektlari uni hisobga olish va to'lash jarayonida vositachi sifatida ishtirok etadi.

◦Ishlab chiqarish zanjirining har bir bosqichida qo'llaniladi, bu esa soliqning keng qamrovli tabiatini ta'minlaydi.

◦Qaytarib berish mexanizmi mavjud: eksport bilan shug'ullanuvchi korxonalar to'lagan QQSni qaytarib olish huquqiga ega.

Ta'siri: QQS narxlarni oshirishi mumkin, bu esa iste'mol talabiga salbiy ta'sir ko'rsatadi. Shu bilan birga, ushbu soliq davlat byudjetiga barqaror daromad keltiradi va xo'jalik subyektlarining savdo faolligini rag'batlantiradi.

O'zbekiston misoli: 2020-yilda kichik korxonalar uchun soddalashtirilgan soliq tizimining kengaytirilishi daromad solig'i yukini kamaytirdi, natijada kichik biznes subyektlarining soni oshdi. Ijtimoiy soliq ish haqi jamg'armasidan undirilib, xodimlarning ijtimoiy kafolatlarini ta'minlashga xizmat qiladi. O'zbekistonda stavka yuridik shaxslar uchun 12%, kichik biznes uchun esa pasaytirilgan darajada belgilanadi.

Ijobiy ta'sir: Xodimlar uchun pensiya va boshqa ijtimoiy imtiyozlarni ta'minlaydi, bu esa korxonaning ijtimoiy mas'uliyatini oshiradi va ishchi kuchining sifatini saqlashga yordam beradi.

Salbiy ta'sir: Yuqori stavkalar ish haqi xarajatlarini oshiradi, bu esa norasmiy to'lovlar (masalan, "konvertdagi maosh") yoki xodimlar sonini qisqartirishga olib kelishi mumkin.

Bilvosita soliqlar, masalan, QQS va aktsiz solig'i, xo'jalik subyektlarining savdo faoliyati va narx siyosatiga ta'sir qiladi. Qo'shilgan qiymat solig'i (QQS):

¹⁶ Saidov, A. O'zbekiston soliq tizimida QQSning o'rni va ahamiyati. Iqtisodiyot va moliya jurnali, 2023. – №3. – 15-20-betlar. URL: <https://journal.uz/2023/03/qqs-analysis>

QQS xo‘jalik subyektlari tomonidan tovar va xizmatlar savdosida qo‘shilgan qiymatdan undirilib, iste‘molchilarga o‘tkaziladi. O‘zbekistonda stavka 12% bo‘lib, eksportchilar uchun qaytarib berish mexanizmi mavjud.

Ijobiy ta‘sir: Eksport bilan shug‘ullanuvchi subyektlar uchun QQS qaytarilishi tashqi bozorlarda raqobatbardoshlikni oshiradi. Soliqning keng qamrovliligi byudjetga barqaror daromad keltiradi, bu esa davlat xizmatlarini moliyalashtirish orqali biznes muhitini yaxshilaydi. QQS narxlarni oshirishi iste‘mol talabini pasaytiradi, ayniqsa, ichki bozorda faoliyat yurituvchi kichik korxonalar uchun bu qiyinchilik tug‘diradi. 2023-yilda QQS stavkasining 15% dan 12% ga tushirilishi mahsulot narxlarini pasaytirishga va iste‘mol faolligini oshirishga yordam berdi, ammo kichik biznes hali ham QQS hisobini yuritishda ma‘muriy qiyinchiliklarga duch kelmoqda. Aktsiz solig‘i maxsus tovarlar (tamaki, alkohol, yoqilg‘i) ishlab chiqaruvchi yoki sotuvchi subyektlardan undiriladi. Ijobiy ta‘sir: Yuqori daromad keltiradi va ijtimoiy salbiy oqibatlarni (masalan, chekishni) kamaytirishga xizmat qiladi, bu esa sog‘liqni saqlash xarajatlarini optimallashtiradi. Salbiy ta‘sir: Aktsiz solig‘i mahsulot narxlarini sezilarli darajada oshiradi, bu esa noqonuniy savdo yoki kontrabanda xavfini oshirishi mumkin. Ishlab chiqaruvchilar uchun qo‘shimcha xarajatlarga olib keladi.

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TADBIRKORLIK SUBYEKTLARINING DAVLAT BYUDJETIGA TO'LANADIGAN TO'G'RI SOLIQLARINING BUXGALTERIYA HISOB

Annotatsiya. Tadbirkorlik subyektlarining davlat byudjetiga to'lanadigan to'g'ri soliqlarining buxgalteriya xisobi. va iqtisodiy faoliyatning shaffofligini ta'minlashdagi ahamiyatini o'rganadi. O'zbekiston va xalqaro tajribalar tahlili asosida davlat byudjetiga to'lanadigan to'g'ri soliqlarining buxgalteriya xisobining turlari, shakllantirish jarayoni va ta'sir etuvchi omillar ko'rib chiqiladi. Natijalar to'g'ri soliqlarining buxgalteriya xisobida to'g'ri amalga oshirilishi korxonaning to'lov intizomini oshirishi va moliyaviy intizomni mustahkamlashini ko'rsatadi. Maqola O'zbekiston korxonalari uchun amaliy tavsiyalar bilan yakunlanadi.

Kalit so'zlar: Davlat byudjeti, to'g'ri soliqlar, foyda solig'i, mol-mulk solig'i buxgalteriya hisobi, O'zbekiston.

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ACCOUNTING FOR THE CORRECTNESS OF TAXES PAID BY BUSINESS ENTITIES TO THE STATE BUDGET

Abstract. The article studies accounting of correct taxes paid by business entities to the state budget. and its importance in ensuring the transparency of economic activity are studied. Based on the analysis of Uzbek and international experience, the types of accounting of correct taxes paid to the state budget, the formation process and influencing factors are considered. The results show that the correct implementation of correct taxes in accounting increases the payment discipline of the enterprise and strengthens financial discipline. The article concludes with practical recommendations for Uzbek enterprises

Keywords: State budget, correct taxes, Profit tax, property tax, accounting, Uzbekistan.

1.Kirish

Iqtisodiy mohiyatiga qarab soliqlar egri va to'g'ri soliqlarga yoki bevosita va bilvosita soliqlarga bo'linadi. To'g'ri soliqlarni to'g'ri ridan to'g'ri soliq to'lovchilar ning o'zi to'laydi, ya'ni soliqni huquqiy to'lovchisi ham, haqiqiy to'lovchisi ham bitta shaxs bo'ladi. To'g'ri, soliq yukini boshqalar zimmasiga yuklatish holati bu yerda bo'lmaydi. Bu soliqlar tarkibiga barcha daromadlardan to'lanadigan soliqlar va

mol-mulk (resurs) soliqlari kiradi.¹⁷

To'g'ri soliklardan to'g'ridan to'g'ri daromaddan soliq to'langanligi uchun soliklar stavkasining kamaytirilishi korxonalar daromadining ko'p qismini ularga qoldirib, investitsiya faoliyatini kengaytirish imkonini yaratib, bozor iqtisodiyotini rivojlantiradi. Bu soliklarning stavkalari oshirilsa, korxonalarning moliyaviy imkoniyatlari kamaya boradi va oxir-oqibatda mamlakat iqtisodiy rivojlanishiga salbiy ta'sir ko'rsatadi. Demak, bu guruh tarkibiga kiruvchi soliklarning stavkalari to'g'ridan to'g'ri iqtisodiy rivojlanish bilan bevosita bog'liqdir.

2. Tahlil va natijalar

Egri soliklarni huquqiy to'lovchilari mahsulot (ish, xizmatni) yuklab yuboruvchilar hisoblanadi. Lekin soliq og'irligini haqiqatan ham budjetga to'lovchilari tovar (ish, xizmat)ni iste'mol qiluvchilardir, ya'ni egri soliklarning barchasi bevosita iste'molchilar zimmasiga tushadi. Bu soliklar tovar (ish, xizmat) qiymati ustiga qo'shim charavishda qo'yiladi. Egri soliklarning ijobiy tomoni shundaki, ular respublikada ishlab chiqarilgan tovarlarni respublikadan tashqariga chiqib ketishini chegaralaydi, mamlakat ichida tovarlarning serob bo'lishiga yordam beradi hamda inflyatsiya darajasini (muomaladagi ortiqcha pul massasini) me'yorida jilovlab turadi¹⁸. Egri soliklar stavkasining asosli ravishda oshirilishi korxonalar faoliyatining moliyaviy yakuniga to'g'ridan to'g'ri ta'sir etmaydi, ya'ni investitsion faoliyati ni qisqartirmaydi. Ammo soliq stavkasi ilmiy asoslanmas dan oshirib yuborilsa, bunday holatda korxonalar o'z tovarlarini sotish qiyinchiligiga duch kelishlari mumkin. Jahon soliq amaliyotida Davlat budjeti daromadlari tarkibida to'g'ri va egri soliklarning nisbatiga qarab u yoki bu mamlakat iqtisodiyotining rivojlanganlik darajasiga baho berish mumkin. Masalan, AQSHda budjet daromadlari tarkibida to'g'ri soliklar salmog'ining 90 foizga yaqin bo'lishi bu mamlakat iqtisodiyotining yuqori darajada rivojlanganligidan darak beradi¹⁹.

To'g'ri soliklar soliq to'lovchining daromadi, mol-mulki yoki boshqa shaxsiy resurslariga bevosita qo'llaniladigan soliklar sifatida ta'riflanadi. Ular bilvosita soliklardan farqli o'laroq, soliq yukini boshqa shaxsga o'tkazish imkoniyatiga ega emas va soliq to'lovchining moliyaviy holatiga to'g'ridan-to'g'ri ta'sir ko'rsatadi. To'g'ri soliklar davlat byudjetini shakllantirishda muhim o'rin tutib, tadbirkorlik subyektlarining faoliyatini tartibga solishda asosiy vositalardan biridir. O'zbekiston Respublikasida to'g'ri soliklar tizimi Soliq kodeksiga asoslanadi va korxonalar tomonidan to'lanadigan foyda solig'i, mol-mulk solig'i, yer solig'i kabi soliq turlarini o'z ichiga oladi²⁰. Ushbu bo'limda to'g'ri soliklarning nazariy asoslari, tasnifi, O'zbekistonda tadbirkorlik subyektlari to'laydigan asosiy soliq turlari va ularni tartibga soluvchi qonunchilik me'yorlari atroflicha o'rganildi.

¹⁷ Musgrave, R. A., & Musgrave, P. B. (2019). *Public Finance in Theory and Practice*. McGraw-Hill

¹⁸ "Fiscal Monitor: Tax Policy for Inclusive Growth" IMF (2023), (pp. 67–70).

<https://www.imf.org/en/Publications/FM/Issues/2023/10/11/fiscal-monitor-october-2023>

¹⁹ "Tax Policy Reforms 2023: OECD and Selected Partner Economies" (pp. 45–50). <https://www.oecd.org/tax/tax-policy-reforms-26173433.htm>

²⁰ O'zbekiston Respublikasi Soliq kodeksi, 2023-yil 1-yanvar holatiga ko'ra, 13–18-boblar.

[:https://lex.uz/docs/4674902#4674968](https://lex.uz/docs/4674902#4674968)

To'g'ri soliqlar soliq to'lovchining moliyaviy natijalari yoki mulkiy holatiga qarab hisoblanadi. Ularning asosiy xususiyati soliq to'lovchining to'g'ridan-to'g'ri javobgarligidadir, ya'ni soliq yuki iste'molchiga yoki uchinchi shaxsga o'tkazilmaydi²¹. Masalan, foyda solig'i korxonaning sof daromadiga, mol-mulk solig'i esa uning ko'chmas mulkiga qo'llaniladi. Nazariy jihatdan, to'g'ri soliqlar iqtisodiy adolat tamoyiliga asoslanadi, chunki ular soliq to'lovchining to'lash qobiliyatiga bog'liq ravishda hisoblanadi.

To'g'ri soliqlar bilvosita soliqlardan bir nechta jihatlari bilan farqlanadi. Bilvosita soliqlar (masalan, qo'shilgan qiymat solig'i) tovar va xizmatlar narxiga qo'shiladi va yakuniy iste'molchi tomonidan to'lanadi, to'g'ri soliqlar esa korxonaning o'z mablag'laridan to'lanadi. Bu farq to'g'ri soliqlarning buxgalteriya xisobida alohida yondashuv talab qilishiga sabab bo'ladi. O'zbekiston iqtisodiyotidagi to'g'ri soliqlar davlat byudjetining taxminan 30-40% ini tashkil qiladi²², bu ularning makroiqtisodiy ahamiyatini ko'rsatadi (1-jadval).

1-jadval

Foyda solig'i buxgalteriya jarayonining bosqichlari²³

Bosqich	Operatsiya nomi	Amal (hisoblash yoki hujjatlashtirish)	Izoh
1	Yalpi daromadni e'tirof etish	Sotilgan mahsulotlar va xizmatlar daromadi ko'rsatiladi	Daromad hisobga olinadi
2	Xarajatlarni e'tirof etish	Sotilgan mahsulotlar va xizmatlar xarajatlari ko'rsatiladi	Xarajatlar hisobga olinadi
3	Sof foydani hisoblash	Yalpi daromad – Xarajatlar	Hisob-kitob amali, provodkasi yo'q
4	Foyda solig'ini hisoblash	Sof foyda × 15%	Soliq majburiyati aniqlanadi
5	Avans to'lovlar (agar mavjud)	Avans tarzida soliq to'lanadi	Oldindan qisman to'lovlar bo'lishi mumkin
6	Soliqni to'lash	Hisoblangan foyda solig'i to'lanadi	Bank orqali pul o'tkaziladi
7	Avans va yakuniy soliq farqini aniqlash	To'langan va hisoblangan soliq farqlari aniqlanadi	Tekislanadi
8	Yil yakunida foyda taqsimoti	Soliq xarajatlari va foyda yopiladi	Yil yakunida moliyaviy natija shakllanadi

To'g'ri soliqlarning tasnifi

To'g'ri soliqlar bir nechta mezonlar bo'yicha tasniflanadi:

²¹ O'zbekiston Respublikasi Davlat soliq qo'mitasi (2023). "To'g'ri soliqlar bo'yicha qo'llanma".

<https://soliq.uz/uz/menu/tugri-soliqlar>

²² O'zbekiston Respublikasi Davlat soliq qo'mitasi (2023). "Soliq tushumlari bo'yicha tahlil, 2023".

<https://soliq.uz/uz/statistics/soliq-tushumlari-2023>

²³ O'zbekiston Respublikasining "Buxgalteriya xisobi to'g'risida"gi qonuni, 2021-yil tahriri. Asosida muallif ishlanmasi

1. Soliq ob'ekti bo'yicha:

- Daromad soliqlari (foyda solig'i, shaxsiy daromad solig'i).
- Mulkiy soliqlar (mol-mulk solig'i, yer solig'i).

2. Soliq to'lovchi turiga qarab:

- Yuridik shaxslar uchun soliqlar (masalan, foyda solig'i).
- Jismoniy shaxslar uchun soliqlar (masalan, shaxsiy daromad solig'i).

3. Byudjet darajasiga ko'ra:

- Umumdavlat soliqlari (foyda solig'i).
- Mahalliy soliqlar (mol-mulk solig'i, yer solig'i).

O'zbekistonda to'g'ri soliqlar Soliq kodeksining 13-18-boblari asosida tartibga solinadi. Tadbirkorlik subyektlari uchun eng muhimlari foyda solig'i, mol-mulk solig'i va yer solig'idir, chunki ular korxonaning moliyaviy faoliyatiga bevosita ta'sir ko'rsatadi.

O'zbekiston Respublikasida tadbirkorlik subyektlari to'laydigan to'g'ri soliqlar quyidagilarni o'z ichiga oladi:

Foyda solig'i - yuridik shaxslarning soliqqa tortiladigan foydasiga qo'llaniladi. Soliq ob'ekti korxonaning yalpi daromadidan qonuniy imtiyozlar va chegirmalar chiqarilgandan so'ng qolgan foyda hisoblanadi. 2024-yil holatiga ko'ra, umumiy soliq stavkasi 15% ni tashkil qiladi²⁴, lekin ayrim tarmoqlar (masalan, qishloq xo'jaligi yoki IT sohasi) uchun imtiyozli stavkalar qo'llanilishi mumkin²⁵.

Amaliy misol: "Nurafshon MChJ" 2024-yilda 1,000,000,000 so'm yalpi daromad oldi. Qonuniy chegirmalar (xarajatlar, imtiyozlar) 700,000,000 so'mni tashkil qildi. Soliqqa tortiladigan foyda: $1,000,000,000 - 700,000,000 = 300,000,000$ so'm. Foyda solig'i: $300,000,000 \times 15\% = 45,000,000$ so'm. Ushbu summa buxgalteriya xisobida quyidagicha aks etadi:

Soliq majburiyati hisoblanishi: Dt 6410 (Soliq xarajatlari) 45,000,000 / Kt 3310 (Soliq bo'yicha kreditorlik) 45,000,000.

Soliq to'lanishi: Dt 3310 (Soliq bo'yicha kreditorlik) 75,000,000 / Kt 5110 (Bank hisob raqami) 75,000,000. Ushbu yozuvlar korxonaning moliyaviy hisobotlarida foyda solig'ining xarajat sifatida aks etishini va byudjetga to'lov amalga oshirilganligini tasdiqlaydi.

Mol-mulk solig'i- tadbirkorlik subyektlarining ko'chmas mulkiga (binolar, inshootlar) nisbatan hisoblanadi. Soliq bazasi mulkning balans qiymati bo'lib, umumiy stavka 1.5% ni tashkil qiladi²⁶.

Amaliy misol: "Temiryo'l Servis" MChJ balansida qiymati 2,000,000,000 so'm bo'lgan ishlab chiqarish binosi mavjud. Mol-mulk solig'i: $2,000,000,000 \times 1.5\% = 30,000,000$ so'm. Buxgalteriya yozuvi:

Soliq majburiyati hisoblanishi: Dt 6410 (Soliq xarajatlari) 30,000,000 / Kt 3310 (Soliq bo'yicha kreditorlik) 30,000,000.

²⁴ O'zbekiston Respublikasi Soliq kodeksi, 297–330-moddalar, 2023. <https://lex.uz/docs/4674902#4675100>

²⁵ O'zbekiston Respublikasi Prezidentining 2023-yil 15-martdagi PQ-103-son qarori. <https://lex.uz/docs/6423879>

²⁶ O'zbekiston Respublikasi Soliq kodeksi, 403–412-moddalar, 2023. <https://lex.uz/docs/4674902#4675400>

Soliq to'lanishi: Dt 3310 (Soliq bo'yicha kreditorlik) 30,000,000 / Kt 5110 (Bank hisob raqami) 30,000,000.

Ushbu jarayon mol-mulk solig'ining korxona xarajatlariga ta'sirini va byudjetga to'lovni aniq aks ettiradi.

Yer solig'i - korxonalar tomonidan foydalaniladigan yer uchastkalariga nisbatan to'lanadi. Soliq summasi yerning normativ qiymati va qonunchilikda belgilangan stavkalarga bog'liq²⁷.

Amaliy misol: "Agro Invest" MChJ 10 gektar yer uchastkasidan foydalanadi, uning normativ qiymati 1 gektar uchun 50,000,000 so'm. Umumiy qiymat: $10 \times 50,000,000 = 500,000,000$ so'm. Agar soliq stavkasi 0.2% bo'lsa, yer solig'i: $500,000,000 \times 0.2\% = 1,000,000$ so'm. Buxgalteriya yozuvi:

Soliq majburiyati hisoblanishi: Dt 6410 (Soliq xarajatlari) 600,000 / Kt 3310 (Soliq bo'yicha kreditorlik) 600,000.

Soliq to'lanishi: Dt 3310 (Soliq bo'yicha kreditorlik) 600,000 / Kt 5110 (Bank hisob raqami) 600,000.

Yer solig'ining buxgalteriya xisobida ro'yxatga olinishi korxonaning yer resurslaridan foydalanish xarajatlarini aniqlashtiradi

Yuqoridagi soliqlar tadbirkorlik subyektlarining moliyaviy faoliyatida muhim o'rin tutadi va ularning buxgalteriya xisobida to'g'ri aks ettirilishi korxonaning qonunchilik talablariga rioya qilishini ta'minlaydi.

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NEFROGEN ANEMIYANI ERTA TASHXISLASH VA DAVOLASHGA KOMPLEKS YONDASHUV

Annotatsiya. Nefrogen anemiya surunkali buyrak kasalligini asorati bo'lib, qonda hemoglobin, eritrositlar va gematokrit ko'rsatkichlarini pasayishi bilan namoyon bo'ladi. Bu turdagi anemiyani kelib chiqishiga asosiy sabab- qon hosil bo'lishini rag'batlantiruvchi gormon eritropoetinni sintezini buzilishidir. Nefrogen anemiya gemogemoliz bilan davolanayotgan bemorlarning 90% zida aniqlanadi. Ushbu muammo surunkali buyrak yetishmovchiligining yomon oqibati xavfi ortishi bilan bog'liq. Shuning uchun zamonaviy nefrologiya va gematologiyada uni hal qilish yo'llarini topishga e'tibor kuchaymoqda.

Kalit so'zlar: surunkali buyrak kasalligi, temir, eritropoetin, ferritin, gemodializ.

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EARLY DIAGNOSIS OF NEPHROGENIC ANEMIA AND A COMPREHENSIVE APPROACH TO THE TREATMENT

Abstract. Nephrogenic anemia is a complication of chronic kidney disease, manifested by a decrease in hemoglobin, erythrocytes and hematocrit in the blood. The main cause of this type of anemia is a violation of the synthesis of the hormone erythropoietin, which stimulates blood formation. Nephrogenic anemia is detected in 90% of patients treated with hemodialysis. This problem is associated with an increased risk of adverse outcomes of chronic renal failure. Therefore, modern nephrology and hematology are increasingly paying attention to finding ways to solve it.

Keywords: chronic kidney disease, iron, erythropoietin, ferritin, hemodialysis.

Kirish. Anemiya surunkali buyrak kasalligini tez uchraydigan asorati bo'lib, uning darajasi buyraklar disgunksiyasining zo'rayishi bilan bog'liq. Eritropoetin amaliyotga kirib kelgunga qadar, dializdagi bemorlarda anemiyani davolash qiyinchiliklar tug'dirgan va asosan gemotransfusiya yo'li orqali davolangan. Biroq rekombinant inson eritropoetini klinik amaliyotga kirib kelishi bilanoq nefrogen anemiyalarni davolashda inqilobiy natijalarga erishildi.

Anemiyani davolashdan asosiy maqsad ushbu kasallikni keltirib chiqaruvchi asosiy omillarni va o'ziga xos davolash usullarini tuzatishdan iboratdir.

Kasallikning terminal bosqichi rivojlanishidan oldin SBK bilan og'rigan bemorlarda anemiyani davolashni erta boshlash yurak-qon tomir kasalliklari xavfini kamaytirishga, kasalxonaga yotqizish va davolanish narxini va o'lim xavfini kamaytirishga olib keladi.

Davolashning asosiy maqsadi gemoglobin darajasini davolash bo'yicha tavsiyalarda ko'rsatilgan diapazonda oshirish va Hb kontsentratsiyasini shu darajada ushlab turishdir. Ushbu ko'rsatkich bo'yicha Evropa amaliy qo'llanmalari (EBPG, 2004) va kasalliklarni to'g'ri davolash bo'yicha tashabbus guruhlar tavsiyalari Milliy Buyrak tadqiqotlari jamg'armasi (KDOQI, 2006) ko'rsatmalari bilan mos: Hb 110 g / L dan yuqori darajada saqlanishi kerak. Ammo og'ir patologiyasi bo'lgan bemorlarda maqsadli Hb kontsentratsiyasi farq qilishi mumkin, bunday bemorlar uchun optimal maqsadli Hb darajasini diqqat bilan tahlil qilish tavsiya etiladi [10, 12, 13].

Nefrogen anemiyani davolashning asosiy komponentlari: eritropoezni rag'batlantiruvchi dorilarni qo'llash, temir preparatlarini qo'llash, adekvat dializ, gemotransfuziya.

Eritropoezni rag'batlantiruvchi dorilarning tasnifi [1, 11]:

I. Oqsillar asosidagi eritropoezni rag'batlantiruvchi dorilar:

- Eritropoetinlar (alfa, beta, delta, omega), Biologik jihatdan o'xshash eritropoetinlar, Darbopoetin alfa, C.E.R.A., Sintetik eritropoetik oqsil (SEP), Rekombinant sintezlangan oqsil eritropoetinlar, EPO-EPO, GM-CSF-EPO, Fc-EPO, EP-mimetik ta'sirga ega STNO 528 sintetik oqsil

II. Past molekulyar og'irlikdagi eritropoezni rag'batlantiruvchi moddalar:

- peptid asosidagi (gematid), peptid bo'lmagan (EPO mimetikasi)

III. Eritropoezni rag'batlantirishning boshqa variantlari:

- Prolil idroksilaza ingibitorlari (gipoksiyadan kelib chiqqan HIF transkripsiya omilining stabilizatorlari), GATA ingibitorlari (transkriptaza ingibitorlari oilasi), hujayrali gematopoetik fosfatazlar (HPC) ingibitorlari, Eritropoetin gen terapiyasi.

Dializ bilan og'rigan bemorlarda kamqonlikni davolash algoritmi [1]:

- adekvat dializni ta'minlash;
- bemorni tekshirish (Hb, ferritin, % transferrin saturatsiyasi, CRP);
- anemiya mavjud bo'lganda, har oyda bir marta laboratoriya ko'rsatkichlari monitoringi bilan temir preparatlari va eritropoezni rag'batlantiruvchi dorilar kursini buyurish;

- peritoneal dializ bilan og'rigan bemorlar temir preparatlarini og'iz orqali qabul qilishi mumkin, agar samarasizligi bo'lsa - parenteral temir preparatlariga o'tiladi;

- agar gemoglobin etarli bo'lmasa (Hb o'sishi < 10 g / l / oy) yoki juda tez (Hb ortishi > 20 g / l) bo'lsa - eritropoezni stimulyatsiya qiluvchi dorilarning dozasini o'zgartirish;

- agar temir zahiralari etarli bo'lmasa, tomir ichiga temir preparatining dozasini oshiring;

- temir zahirasi ortiqcha bo'lsa va anemiya korreksiya qilingan bo'lsa - temir preparatlarini to'xtatish;

-korreksiya qilinmagan anemiya va funktsional temir tanqisligi holatida - temir preparatlari bilan davolashni davom ettirish;

- terapiyaga rezistentlik bo'lsa - sabablarni izlash va korreksiya qilish (dializ dozasi, yashirin qon yo'qotish, temir, folat, B12 vitamini yerishmovchiligi, yallig'lanish, giperparatiroidizm, gemoliz).

Buyrak anemiyasini eritropoezni rag'batlantirish vositalaridan foydalangan holda davolash. Bu usul klinik amaliyotda keng qo'llanib kelmoqda. Buning uchun eng keng tarqalgan rekombinant eritropoetin (rhEPO) preparatlari qo'llaniladi. Eritropoezni rag'batlantiruvchi vositalar (ERV) anemiya alomatlarini samarali ravishda yengillashtiradi, uning asoratlarini kamaytiradi va bemorlarning hayot sifatini yaxshilaydi [2]. ERV dan foydalanish anemiya sindromini yo'q qilishga va dializdan oldingi bosqichda ham, dializda bo'lgan bemorlarda ham qon quyish ehtiyojini kamaytirishga imkon beradi [1].

ERV yordamida anemiyaning oldini olish va korreksiya qilish chap miyokard qorincha gipertrofiyasini oldini oladi va / yoki rag'batlantiradi, shuningdek, anemiya tufayli keskin ortgan yurak qon otib berishini kamaytiradi [1, 2, 4].

O'tkazilgan tadqiqotlar asosida mavjud ko'rsatmalarga ko'ra, davolashning maqsadli Hb darajasini $> 110 \text{ g / l}$ dan oshirishdir va bu surunkali buyrak kasalligining dializdan oldingi bosqichidagi bemorlarga, shuningdek, dializda bo'lgan va buyrakni allotransplantatsiya qilingan bemorlarga ham tegishlidir [1, 4, 6, 10, 13]. Maqsadli gemoglobin darajasining pastki chegarasiga erishish davolash boshlanganidan keyin 4 oydan oshmasligi kerak.

Gemoglobinning yuqori chegarasi keksalar, diabetga chalingan va yurak-qon tomir kasalliklari xavfi yuqori bo'lgan bemorlar uchun belgilanadi [1, 4]. Dializ paytida ultrafiltratsiya tufayli dializdan keyingi gemokonsentratsiya xavfi bo'lganligi sababli gemodializ bilan davolanayotgan bemorlarga dializdan oldingi Hb darajasi $> 140 \text{ g / L}$ dan oshmasligi tavsiya etiladi [1, 4].

Anemiyani davolash odatda ikki bosqichda amalga oshiriladi: korreksiya bosqichi, bu davrda maqsadli gemoglobin darajasining pastki chegarasiga 4 oydan ko'p bo'lmagan muddatga erishish kerak bo'ladi va ushlab turuvchi terapiya bosqichi.

Korreksiya bosqichida rHuEPO ning boshlang'ich dozalari qo'llaniladi, ular odatda ushlab turuvchi dozadan 30% (20-50%) yuqori. Mamlakatimizda teri ostiga yuborilganda boshlang'ich dozalar diapazoni odatda haftasiga 50-100 birlik / kg vazn yoki har bir bemorga o'rtacha 6000 birlik / haftasiga tashkil qiladi. Gemodializdan o'tayotgan bemorlarga tomir ichiga yuborish uchun epoetin alfa yoki epoetin beta haftasiga 3 marta chastotada ham korreksiya bosqichida, ham ushlab turuvchi terapiya paytida buyuriladi. Biroq, teri ostiga yuborilganda, epoetin alfa yoki epoetin beta ni qabul qilish chastotasi haftasiga 1 yoki 2 marta kamayishi mumkin. Bemorlarning ERV ta'siriga individual sezgirligini hisobga olgan holda,

ayniqsa, korreksiya bosqichida Hb darajasini diqqat bilan kuzatib borish kerak. ERV dozasini gemoglobin darajasiga qarab titrlash kerak. Terapiyaning dastlabki bosqichida Hb darajasini nazorat qilish har 2 haftada, parvarishlash bosqichida esa oyiga bir marta amalga oshirilishi kerak. Terapiyaning dastlabki bosqichida Hb kontsentratsiyasining o'sish tezligi oyiga 1-2 g / dL bo'lishi kerak. Hb darajasining 1 g / dL dan kam yoki 2 g / l dan ortiq o'zgarishi ERV dozasini 25% yuqoriga yoki pastga haftalik bosqichma-bosqich tuzatish zarurligini ko'rsatadi. Hb kontsentratsiyasining oyiga 2 g / dL dan yuqori o'sishi tavsiya etilmaydi. Bunday holda, umumiy haftalik ERV dozalarini 25-50% ga kamaytirish kerak.

ERVni qo'llash yo'li bemorlarning toifasiga qarab belgilanadi va shuningdek, ishlatiladigan dori turiga bog'liq. Teri ostiga rHuEPO ni kiritish afzalroqdir, chunki qimmat rHuEPO dori-darmonlarini iste'mol qilishni sezilarli darajada tejash imkonini beradi: parvarishlash terapiyasi paytida teri ostiga yuboriladigan rHuEPO ning o'rtacha haftalik dozasi vena ichiga yuborish paytida dozadan taxminan 30% kamroq. Farmakokinetik tadqiqotlar shuni tasdiqlaydiki, teri ostiga yuborilganda rhEPO preparatlarining (epoetin-alfa va epoetin-beta) yarim yemirilish davri sezilarli darajada oshadi. Gemodializ bilan davolanayotgan bemorlarga rHuEPO preparatlarini tomir ichiga yuborish qulay bo'lsa-da, iqtisodiy sabablarga ko'ra ularni teri ostiga yuborish kerak, kamdan-kam hollarda kam hollarda teri osti inyeksiyalarni ko'tara olmaslik kabi holatlari bundan mustasno. Shuning uchun, iqtisodiy va amaliy sabablarga ko'ra, surunkali buyrak kasalligi bo'lgan, dializ olmaydigan bemorlarga, shuningdek doimiy ambulator peritoneal dializda bo'lgan bemorlarga va buyrak transplantatsiyasidan keyin rHuEPO ni teri ostiga yuborish tavsiya etiladi [4, 5].

Agarda bemorda ERV qo'llagaandan so'ng ta'siri kuzatilmasa haftasiga 20 000 IU (300 IU / kg / haftasiga teri ostiga yoki 450 IU / kg / hafta siga tomirichiga) epoetin alfa yoki epoetin beta foydalanish zarurligini anglatadi. Bu ERVning o'rtacha samarali dozasi 2,5 baravar yuqori. ERVga qarshilikning eng keng tarqalgan sabablari temir tanqisligi (mutlaq yoki funktsional) va yallig'lanish kasalliklaridir [1, 4, 5].

Kamqonlikni temir preparatlari bilan davolash. Buyrak anemiyasining rivojlanishida temir tanqisligi muhim omil hisoblanadi. Nisbiy va mutlaq temir tanqisligi farqlanadi.

Mutlaq temir tanqisligi qon zardobida ferritinning 100 mkg / l dan past bo'lishi bilan belgilanadigan tanadagi temir zahiralarining umumiy kamayishi. Funktsional temir tanqisligi (ferritin > 100 mg/l, transferrinning to'yinganligi < 20% bo'lsa) organizmdagi temirning yetarli zaxirasiga qaramay, kerakli miqdordagi temir bilan proliferatsiya jarayonidagi eritroblastlar ta'minlanmasligida namoyon bo'ladi [4, 5]. Temir ko'rsatkichlarini kamida 3 oyda bir marta aniqlanishi kerak (zardobdagi ferritin, transferrin bilan to'yinganlik ulushi va / yoki gipoxromli qizil qon tanachalarining foizi). Oshqozon-ichak traktida temirning so'rilishining buzilishi belgilari bo'lmasa, peroral yo'l bilan temir preparatlarini qo'llash kerak. Elementar temirning kunlik dozasi kamida 200 mg bo'lishi kerak.

Oshqozon-ichak traktining buzilishi yoki temirning so'rilishining boshqa sabablari (shu jumladan uremiya rivojlanishi) bo'lsa, parenteral foydalanish uchun temir qo'shimchalarini qo'llash kerak. Eritropoezni rag'batlantiruvchi dorilar bilan davolash paytida temir tanqisligining rivojlanishi uni tezda bartaraf etishni talab qiladi, bu faqat temir preparatlarini parenteral yo'l bilan yuborish orqali mumkin [1, 2, 4, 6, 13].

Temir almashinuvining optimal va ruhsat etilgan darajalari:

- ferritin - optimal 200–500 mkg/l, maqbul 100–800 mkg/l;
- transferrinning to'yinganligi optimal 30-40%, maqbul 20-50% ;
- gipoxromli eritrotsitlar soni optimal <2,5%, maqbul <10%.

Dasturlashtirilgan gemodializda temir tanqisligi rivojlanishining eng muhim sababi surunkali qon yo'qotishdir, bu yiliga 3-4 litrni tashkil qiladi, bu 2 gramm temirga teng. Potensial qon yo'qotishlarga ekstrakorporal korpusda qoldiq qon (dializator, magistral), punksiya joylardan qon yo'qotish kabilar kiradi.

Dializdagi bemorlarda qon yo'qotishni kompensatsiya qilish va temir tanqisligining oldini olish maqsadida temir preparatlarini tomir ichiga yuborish talab qiladi. Tanadagi temir zahiralarini baholash rHuEPO terapiyasini boshlashdan oldin amalga oshirilishi kerak, keyin kamida har 3 oyda bir marta qon zardobida ferritin kontsentratsiyasini, transferrinning to'yinganlik foizini va gipoxromli eritrotsitlar sonini aniqlash zarur [1, 4, 6, 10]. Temirning mutlaq tanqisligi aniqlanganda 6-10 hafta davomida 1000 mg temirni tomir ichiga yuborish tavsiya etilgan. Odatda maqsadli gemoglobinga erishilgunga qadar haftasiga 1-2 marta 100 mg temir buyuriladi.

Temirning keyingi ushlab turuvchi dozalari laboratoriya nazorati ostida har 2-4 haftada bir marta qo'llaniladi. Shuni esda tutish kerakki, Hb darajasini 10 g / l ga oshirish uchun kamida 150 mg temir kerak bo'ladi.

Tavsiyalar [1, 4, 6, 10, 13]:

- eritropoetnlar bilan davolashni boshlashdan oldin temir almashinuvining holatini tekshirish kerak;
- surunkali buyrak kasalligi bo'lgan bemorlar uchun temir preparatlarini qo'llashning optimal usuli – bu tomir ichiga qo'llash;
- surunkali buyrak kasalligining dastlabki bosqichlarida temir preparatini peroral qo'llash mumkun; agar ular etarlicha samarali bo'lmasa, temirni tomir ichiga yuborish kerak;
- mutlaq temir tanqisligi aniqlansa, 6-10 hafta davomida gemodializ kunlarida 1000 mg temirni tomir ichiga yuborish kerak.

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SURUNKALI BUYRAK KASALLIGIDA ANEMIYANI RIVOJLANISH HUSUSIYATLARI VA SABABLARI

***Annotatsiya.** Temir organism uchun eng kerakli bo'lgan mikroelementlardan hisoblanadi. Temir tanqisligi kamqonligi temir mikroelementini yetishmovchiligi natijasida yuzaga keladi, gipoxrom anemiya va sideropeniya bilan namoyon bo'ladigan polietiologik sindromlar majmuasidir. Temirning yetishmovchiligi uning organizmga oziq-ovqat tarkibida yetarli miqdorda tushmasligi, oshqozon-ichak traktida so'rilishning buzilishi va qon yoqotishlar natijasida rivojlanadi. JSST ma'lumotlariga ko'ra dunyo aholisining tahminan 10-20% anemiyaning turli xil shakllaridan aziyat chekadilar.*

***Kalit so'zlar.** kamqonlik, temir tanqisligi, eritropoetin, surunkali buyrak kasalligi.*

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CHARACTERISTICS AND CAUSES OF DEVELOPMENT OF ANEMIA IN CHRONIC KIDNEY DISEASE

***Abstract.** Iron is one of the most necessary microelements for the body. Iron deficiency anemia occurs as a result of iron deficiency and a complex of polyetiologial syndromes manifested by hypochromic anemia and sideropenia. Iron deficiency develops as a result of insufficient intake of iron in food, impaired absorption in the gastrointestinal tract and blood loss. According to WHO, approximately 10-20% of the world's population suffer from various forms of anemia.*

***Key words:** anemia, iron deficiency, erythropoietin, chronic kidney disease.*

Kirish. Anemiya surunkali buyrak kasalligining (SBK) keng tarqalgan asorati bo'lib, u buyraklarning gematopoezni rag'batlantirish uchun etarli miqdorda eritropoetinni ajratish qobiliyatini yo'qotishi bilan bog'liq. Kamqonlik SBK bilan og'rigan bemorlarda terminal bosqichidan ancha oldin rivojlanishi mumkin va keyinchalik kuchayib boruvchi buyrak yetishmovchiligi namoyon bo'lishi mumkin. Anemiya darajasi, ayniqsa, buyrak yetishmovchiligini terminal bosqichida bo'lgan bemorlarda aniqlanadi o'rin bosuvchi buyrak terapiyasining boshlanishida. Buyraklar sababli kelib chiqqan anemiya buyrakni o'rinbosuvchi terapiyasining barcha turlarida keng tarqalgan, ammo kamqonlik bilan og'rigan bemorlarning eng

ko'p soni dasturlashtirilgan gemodializda kuzatiladi: davolash bo'lmasa, odatda bemorlarning 90% dan ortig'ida gemoglobin darajasi < 100 g/l kuzatiladi [1, 7].

Dializ terapiyani sifatini optimallashtirish bo'yicha tavsiyalarga muvofiq surunkali buyrak kasalligi i (KDOQI) buyrak funktsiyasini buzadigan, bu kasalliklarning rivojlanishiga hissa qo'shadigan sharoitlarni va buyrak funktsiyasining yo'qolishi natijasida yuzaga keladigan asoratlarni o'z ichiga oladi [1, 10]. Anemiya qizil qon tanachalari sonining me'yordan past bo'lgan holat sifatida tavsiflanadi.

Anemiya darajasini baholashning asosiy ko'rsatkichi gemoglobin (Hb) bo'lib, to'g'ridan-to'g'ri usullar bilan o'lchanishi mumkin, xalqaro standartga ega va uning darajasi baholash metodologiyasiga bog'liq emas [1]. Umumiy populyatsiyadagi sog'lom odamlarda gemoglobin kontsentratsiyasi jinsga, yoshga va tanadagi temir zahiralariga bog'liq. Bundan tashqari, Hb darajasi irqiga, yashash joyiga (dengiz sathidan 1000 m dan ortiq balandlikda yashovchi bemorlarda Hb darajasi yuqori va ular uchun optimal Hb ko'rsatkichlari yuqori bo'lishi mumkin), tamaki chekish odatiga bog'liqligi (chekish Hb darajasini 150 g / l gacha oshiradi, kislorod hajmini yaxshilamaydi va qon tomirlari kasalliklarini kechishini og'irlashtiradi).

Anemiya surunkali buyrak kasalligining erta asoratidir. Hb ning statistik jihatdan sezilarli kamayishi odatda buyrak etishmovchiligi rivojlanishidan ancha oldin aniqlanadi, bunda kreatinin klirensi erkaklarda 70 ml/min dan, ayollarda 50 ml/min dan past bo'ladi. Shunday qilib, surunkali buyrak kasalligining 2-3-bosqichlarida bo'lgan bemorlarda anemiya rivojlanadi [1].

Hozirgi vaqtda buyrak patologiyasi bo'lgan bemorlarda anemiyanı aniqlash uchun turli mezonlar mavjud.

EBPG (Revised European Best Practice Guidelines for the management of anemia in patients with chronic renal failure, 2004) va NKF – K/DOQI (K/DOQI clinical practice recommendations for anemia of chronic kidney disease) anemiyanı tashxislash uchun turli xil qollanmalarda tavsiya etilgan zamonaviy diagnostik mezonlari JSST tomonidan anemiyaga berilgan ta'rifga yaqinroq. [1]. Umumiy aholi orasida JSST tavsiyalariga muvofiq anemiya tashxisiy mezonlari (1968): erkaklarda Hb $< 13,0$ g/dl va ayollarda Hb $< 12,0$ g/dl.

Anemiyanı davolash bo'yicha Evropa qo'llanmasi (EBPG) qoidalariga muvofiq, surunkali buyrak etishmovchiligi bo'lgan bemorlarda gemoglobin darajasi o'rtacha qiymatdan 2 standart og'ish, ya'ni jinsi va yoshini hisobga olgan holda Hb darajasidan 95% dan past bo'lganida kamqonlik tashxisi qo'yiladi [1].

Shunday qilib, surunkali buyrak kasalligi bilan og'rigan bemorlarda kamqonlik gemoglobinning pasayishi hisobga olinishi kerak: Hb < 115 g / l - ayollarda, Hb < 135 g / l - erkaklarda, Hb < 120 g / l - 70 yoshdan oshgan erkaklarda.

Kamqonlik yurak-qon tomir tizimi faoliyatiga ta'sir qiladi va SBK kechishini og'irlashtiradi. Anemiya sharoitida to'qimalarni kislorod bilan ta'minlashning etarli emasligi yurak ichidagi qon oqimining qayta taqsimlanishiga, bu esa subendokardial qon ta'minotining pasayishiga olib keladi. Gipoksik vazodilatatsiya simpatik asab tizimining faolligini oshiradi, taxikardiyaga olib keladi, venoz qonni

yurakka qaytishini va yurak qon otib berish hajmini oshiradi. Ushbu jarayonga surunkali buyrak kasalligi III-V bosqichlari bo'lgan bemorlarda surunkali gipergidratatsiya ham hissa qo'shadi. Shu bilan birga, qon aylanishining giperkinetik turi fonida chap qorincha eksantrik gipertrofiyasi shakllanadi, uning chastotasi anemiyaning og'irligi bilan bog'liq. Surunkali buyrak etishmovchiligini terminal bosqichidagi 75-80 foiz bemorlarda dilatatsion kardiomiopatiya rivojlanadi, u esa o'znavbatida o'tkir koronar sindrom va yurak ritmining buzilishi xavfini oshiradi. Yaqqol namoyon chap qorincha gipertrofiyasida o'lim 4 baravar ortadi [4, 5]. Surunkali buyrak kasalligi bilan og'rigan bemorlarni uzoq muddatli kuzatishlarda gemoglobinning boshlang'ich darajasi qanchalik past bo'lsa, terminal buyrak etishmovchiligini rivojlanish xavfi shunchalik yuqori ekanligi aniqlandi. Yuqoridagilar bilan bog'liq holda, nefrogen anemiyani davolash muammoning dolzarbligi anglatadi.

Nefrogen anemiyaning patogenezida buyraklar tomonidan eritropoetin ishlab chiqarilishining kamayishi SBK anemiyasining rivojlanishida katta ahamiyatga ega. Eritropoetin gormoni molekulyar og'irligi 30400 Da bo'lgan glikoprotein bo'lib, 165 ta aminokislota va 4 ta karbongidrat zanjiridan iborat (1-rasm).

Nefrogen anemiyasining asosiy patogenetik belgisi gematokrit darajasi va eritropoetin ishlab chiqarish o'rtasidagi normal mavjud bo'lgan teskari munosabatlarning buzilishidir, buning natijasida gematokritning pasayishi eritropoetin ishlab chiqarishning ko'payishi bilan birga keladi. Kislorodning parsial bosimining pasayishi tufayli Hb darajasi pasayganda, gipoksiyani keltirib chiqaradigan HIF1 omilining dimerizatsiyasini kuchaytirishga qaratilgan avtoregulyatsiya mexanizmlari faollashadi. Olingan faol HIF1 kompleksi eritropoetin genining transkripsiyasini faollashtiradi va ikkinchisining ishlab chiqarilishini oshiradi [4, 5, 9].

Aniqlanishicha, HIF1-alfa nafaqat to'qima ishemiyasining belgisi, balki butun organizm to'qimalarining moslashuvida ishtirok etuvchi mediatorlar genlarining ifodalanishiga ham faol ta'sir ko'rsatadi.

Mediatorlar genlari butun organismni kislorod tanqisligiga moslashishida ishtirok etadi: qizil qon tanachalari va temir metabolizmining regulyatorlari (eritropoetin, transferrin va uning retseptorlari, seruloplazmin), qon tomirlarining tonusi va endotelial holati regulyatorlari (endotelin-1, induksiyalangan NO sintaza, PAI-1), energiya almashinuvi regulyatorlari (glyukoza, albolaza, geksokinaza, laktatdegidrogenazal va boshqalar), angiogenez omillari (VEGF va uning retseptorlari), shuningdek hujayra proliferatsiyasi va differentsiatsiyasining ba'zi regulyatorlari [4, 5, 8].

SBKda anemiya patogenezida uremik toksinlarning suyak iligi eritroid eritroid qatorini ajdodlariga antiproliferativ ta'siri ham ahamiyatli. Surunkali buyrak kasalligi IV-V bosqichlari bo'lgan bemorlarning ko'pchiligida periferik qondagi eritrositlarning o'rtacha umr ko'rish muddati qisqaradi [1, 2]. Bundan tashqari, uremik toksinlar eritropoetin genining faoliyatini bostiradi. Shuning uchun surunkali buyrak kasalligi bilan og'rigan bemorlarning qonida eritropoetin miqdori bir xil og'irlikdagi boshqa etiologiyali anemiyali bemorlarga qaraganda ancha past

bo'ladi. Surunkali yallig'lanish va infektsiya mavjud bo'lsa, surunkali buyrak yetishmovchiligi bilan xasta bemorlarda anemiyaning og'irligi va tabiatiga yallig'lanish sitokinlari (TNF-a, IL-1) ham ta'sir etadi. Yallig'lanish sitokinlari eritropoetin sekretsiasini va eritroid hujayralarining ko'payishini bostiradi, shuningdek, bularga makrofaglardagi temirning o'tishiga to'sqinlik qiladi [7].

Surunkali buyrak kasalligi bo'lgan bemorlarda muntazam ravishda gemodializ bilan davolanish surunkali immunitet faollashishi paydo bo'lishi mumkin. Bunga sabab qon hujayralari -leykotsitlarni dializ membranasi bilan aloqasi va tez-tez infektsiya epizodlari. Uzoq muddat davomida nefrotik sindrom mavjud bo'lsa, temir yetishmovchiligi siydik orqali transferrinni yo'qolishi, foliy kislotasi va B 12 vitamini etishmovchiligi esa oshqozon-ichak traktida so'rilishining buzilishi tufayli rivojlanishi mumkin [1, 4].

Temir tanqisligi. Eritroid qatorning proliferativ potentsialini amalga oshirish uchun tanadagi temir miqdori eritropoetin darajasiga mos kelishi kerak. Suyak iligida temir tushishi etarli bo'lmasa, qizil qon tanachalari kamayadi va og'ir temir tanqisligida esa Hb sintezi buziladi va temir tanqisligi turidagi qon hosil bo'lishi rivojlanadi [3-5].

Temir zahiralarning kamayishi bilan uning so'rilishi ortadi. Temir organizmga oziq-ovqat bilan ferro- (Fe^{2+}) va asosan ferri-ion (Fe^{3+}) ko'rinishida tushadi - kuniga 15-20 mg temir kirishi mumkin, lekin erkaklarda atigi 0,5-1,0 mg va tug'ish yoshidagi ayollarda 1,0-2,0 mg so'riladi [1, 3]. Odatda, makrofaglarda yashash muddati tugab parchalangangan qizil qon hujayralaridan ajralib chiqqan temir eritropoez uchun ishlatiladi, u erdan qon plazmasiga qaytariladi yoki ferritin bilan birgalikda - hujayra ichida saqlanadi [1, 3, 4].

Sog'lom odamlarda temir zahiralari 600 dan 1000 mg gacha. Qon zardobidagi temir kontsentratsiyasi transferrin bilan bog'langan temir tarkibini aks ettiradi. Zardobning umumiy temir bog'lash hususiyati erkin transferrin miqdorini aks ettiradi. Zardobdagi temir miqdori 9-27 mkmol / l (50-150 mkg / dl) va zardobning umumiy temir bog'lash hususiyati normal konsentratsiyasi - 54-64 mkmol / L (300-360 mkg / dL).

Shuningdek transferrinni temir bilan to'yinganlik koeffitsienti ham hisoblanadi (TTTK, %) – transferring bilan bog'langan temirning zardobning umumiy temirni bog'lash hususiyatiga nisbati. Odatda, TTTK 30-50% ni tashkil qiladi, temir tanqisligida < 20% va temirning ortiqcha yuklamasida TTTK > 50-60% ni tashkil qiladi [1, 3, 4].

Temir ferritin va gemosiderin shaklida to'planadi. Makrofaglarda ferritin gemosideringa aylanishi mumkin. Ferritin temiri gem sintezi uchun zarur bo'lganda tez ishlatiladi, gemosiderin temiri esa metabolizmga sekinroq kiradi. Erkaklarda zardobdagi ferritin kontsentratsiyasining normal ko'rsatkichlari 50-150 mkg / l, ayollarda - 15-50 mkg / l. Ferritin darajasi < 15 mkg/l temir zahiralarning tugashini ko'rsatadi. Shu bilan birga apoferritin sintezi ham kamayadi [1, 3, 8].

Nefrogen anemiya tashxislashda asosan klinik va laboratoriya tekshiruvi anemiya darajasi va turi, eritropoez faolligi, eritropoez uchun mavjud bo'lgan funktsional faol temirning mavjudligi va uning zaxiralari haqida ma'lumot berishga

mo'ljallangan. Umuman olganda, nefrogen anemiyasi tashxisi boshqa kelib chiqishi mumkin bo'lgan anemiyalarni istisno qilgandan so'ng belgilanadi [9, 14].

Gemoglobin kontsentratsiyasi periferik venoz qonda aniqlanadi. Gemodializ bilan og'rigan bemorlarda laboratoriya tahlillari uchun namuna olish vaqti muhim omil bo'lib, gemoglobin darajasini faqat gemodializ jarayoni boshlanishidan oldin olingan namunalarda aniqlash kerak. Eritropoez stimulyatorlarini buyurishdan oldin, eritropoetinning nisbiy etishmovchiligini kuchaytiradigan anemiyaning boshqa sabablarini aniqlash uchun birlamchi klinik va laboratoriya tekshiruvini o'tkazish tavsiya etiladi. Agar buyraklar faoliyati sezilarli darajada buzilgan bo'lsa va diagnostik tadqiqotlar natijalari SBK tashqari anemiyaning boshqa sabablarini aniqlamasa, buyrak anemiyasi tashxisini ko'rib chiqish kerak. Asosiy dastlabki klinik va laboratoriya tekshiruvlari quyidagi ko'rsatkichlarni o'z ichiga olishi kerak.

- Hb kontsentratsiyasi - anemiya darajasini aniqlash uchun;
- eritrotsitlar indeksleri (o'rtacha korpuskulyar hajm [MCV] va o'rtacha Hb tarkibi [MCH]) - anemiya turini aniqlash uchun;
- retikulotsitlar soni (mutlaq) - eritropoez faolligini baholash uchun;
- plazma dagi (zardob) ferritin kontsentratsiyasi - temir zahiralarini aniqlash uchun.

Eritropoez uchun mavjud bo'lgan temir miqdori quyidagi ko'rsatkichlarni o'lchash yo'li bilan baholanadi: plazma yoki qon zardobida transferrinning to'yinganligi (% TSAT); gipoxrom eritrotsitlar ulushi (HRC); Plazma yoki zardobda C-reaktiv oqsil kontsentratsiyasi - yallig'lanish reaksiyasini aniqlash uchun.

Ma'lumotlarning mazmuni etarli bo'lmagan taqdirda Dastlabki bosqichda olingan ma'lumotlarga asoslanib, keng qamrovli klinik tekshiruv o'tkazilishi kerak, u quyidagilarni o'z ichiga olishi mumkin:

- oshqozon-ichak trakti orqali qon yo'qotilishini aniqlash (yashirin qon uchun test);
- B 12 vitamini va foliy kislotasining plazmadagi kontsentratsiyasini o'rganish;
- paratiroid gormonining (iPTH) plazma yoki zardobdagi kontsentratsiyasi;
- leykotsitar formulasini hisoblash va trombotsitlar sonini aniqlash;
- gemolitik testlar;
- ba'zi hollarda - Hb elektroforezi va suyak iligi tekshiruvi.

Yuqoridagi ma'lumotlar SBK bilan og'rigan bemorlarda buyrak funksiyasini og'ir buzilishini boshlanishini kutmasdan, anemiyani oldini ilish, uni erta tashxislash, rivojlanish mexanizmini aniqlash va adekvat davolashni zarurligini ko'rsatadi. Bunday yondashuv nefroproteksiyani bir qismi bo'lib, SBK ni nafaqat dializdan oldingi bosqichda, balki o'rin bosuvchi buyrak terapiyasi jarayonlarida buyrak yetishmovchiligini kechishini faolligini susaytiradi, yurak-qon tomir xavflarini va o'lim ko'rsatkichlarini kamaytiradi.

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THE ROLE AND IMPORTANCE OF LOCAL PRODUCTION IN REDUCING A COUNTRY'S DEPENDENCE ON IMPORTS

Abstract. *This article explores the impact of organizing import-substituting local production by entrepreneurial entities on reducing a country's dependence on foreign goods. It also highlights the significance of such entrepreneurial activities in the economic development of the nation and discusses relevant theoretical aspects. Additionally, the article provides proposals and recommendations for establishing local production to replace imports within entrepreneurial ventures.*

Keywords: *small business, import dependence, private entrepreneurship, import substitution, localization, product manufacturing, employment, sustainable development, modernization, market saturation, efficiency, diversification.*

Introduction

There are various trends in global economic development, one of which involves establishing and efficiently utilizing localization in the manufacturing and services sectors. Localization policy has traditionally been seen as a key tool to balance exports and imports, increase employment, and reduce the impact of external and internal negative factors on the economy. Today, however, it is also considered a means to enhance a country's investment attractiveness.

The President of the United States, one of the most advanced economies in the world, has emphasized the importance of manufacturing for the national economy and called on the government to support it. He aims to implement this through Hamilton-style import substitution—replacing foreign-manufactured goods in the U.S. market with domestically produced alternatives²⁸. This illustrates that localization processes are important not only for developing countries but also for developed ones.

In this context, one of the most effective strategies for ensuring stable economic growth in Uzbekistan under current globalization conditions is to utilize domestic capacities—namely, to replace imported finished goods with locally produced products and further develop domestic industry.²⁹ In the new stage of economic reforms in Uzbekistan, particular attention is being paid to the full utilization of regional production capacities, based on the efficient use of local raw materials and the development of industry through advanced technologies, as a means to reduce import dependence.

²⁸ <https://www.newequipment.com/industry-trends/article/22059145/trump-echoes-alexander-hamilton-with-import-substitution-stance>

²⁹ Decree of the President of the Republic of Uzbekistan dated September 11, 2023 on the "Uzbekistan-2030" strategy PF-158 // <https://lex.uz/docs/6600413>

Developing production through import substitution and localization—particularly via small business entities—can yield significant results. Small businesses are quick to adapt to changes, are unafraid of innovation and competition, and are crucial in providing employment and increasing incomes. In many cases, they serve as engines of growth for developing economies.

Literature Review

Small business entities account for more than 56% of Uzbekistan's gross domestic product (GDP) and 78% of employment, playing a vital role in the economic process³⁰. The partial or complete domestic production of imported goods within a region is referred to as import-substituting localization. Therefore, it is important to understand that localization represents a dynamic structure reflecting the ratio of imports to domestic supply and the changes in the level of localization in the economy.

From another perspective, import substitution is also viewed as a development strategy, a component of the balance of payments, or an industrialization policy. It is considered one of the main drivers of sectoral and economic development through the active attraction of investment into production.

A review and synthesis of literature dedicated to localization show that the definitions of the term "localization" differ slightly depending on the research objectives and the period during which the research was conducted. These definitions help reveal the unique characteristics of localization processes within the studied fields.

The term "localization" originates from the Latin verb *localize*, meaning "to make local" or "to assign to a specific place."³¹ In Uzbekistan's economic literature, the term "localization" is widely used alongside the equivalent term *lokalizatsiya* (localization in Russian).

Localization refers to the process of producing and managing goods and services that substitute imports in the domestic market. This involves identifying market demand, properly mobilizing resources, using cost-effective technologies, adhering to quality standards, and optimizing supply chains to enhance competitiveness.

The German economist Friedrich List, in his work *The National System of Political Economy*, emphasized the necessity of active state intervention and a protectionist policy for the development of national economies. He argued that the state must support the production of import-substituting goods to develop its industry. One of List's central ideas is that national industries should be protected from foreign competition during their early stages of development. This is achieved through state-enforced protective measures such as tariffs and restrictions. According to List, a country's wealth and power are defined by the volume of its industrial exports and the reduction in imports.³² His theory asserts that active government involvement in the economy and the focus on producing import-

³⁰ <https://stat.uz/uz/rasmiy-statistika/small-business-and-entrepreneurship-2>

³¹ https://www.etymonline.com/word/localization?utm_source

³² Anikin A.V. *The Youth of Science: The Life and Ideas of Pre-Marxian Economic Thinkers*. M.: Politizdat, 1975. P. 323-338

substituting goods are critical to industrial development—a view that remains relevant today.

For instance, many developing countries now focus heavily on producing locally made alternatives to foreign goods to ensure sustainable growth and reduce dependence on imports.

According to a 2023 study by Pavel V. Razov and Irina G. Prokhorova, organizing import-substituting local production plays a key role in ensuring sustainable development and economic diversification. The authors propose that countries prioritize policies aimed at these goals³³.

Professor Ha-Joon Chang of the University of Cambridge is a strong advocate of protectionist economic policies—particularly import substitution—as a historically and legally validated tool for economic development in developing countries. In several of his major works, he presents empirical evidence from historical and modern cases of industrialization in support of protectionism.

In his book *Kicking Away the Ladder*, Chang argues that all wealthy nations, including those now promoting free trade and open markets (such as the UK and the USA), achieved prosperity through protectionism, subsidies, and policies they now advise developing nations to avoid. He emphasizes the contradiction in developed nations recommending policies they themselves abandoned only after achieving economic success.³⁴

These studies underscore the importance of localization and import-substituting production in reducing import dependence and driving economic growth.

Research Methodology

This study employed a combination of scientific and methodological approaches and techniques, including:

- ❖ **Analysis and synthesis methods:** for breaking down complex economic relationships and reassembling them into a coherent framework.

- ❖ **Comparative analysis:** to examine the similarities and differences in import substitution strategies and their effects across regions and sectors.

- ❖ **Statistical analysis:** for evaluating numerical data and trends related to production, employment, import/export volumes, and economic growth.

- ❖ **Graphical and tabular presentation:** to visually express data and trends for clearer understanding and effective communication.

These methods were systematically applied to assess the organization of local production by entrepreneurial entities and its impact on reducing dependence on imports, particularly within the context of Uzbekistan's economic environment.

Analysis and Results

³³ Razov P.V., Prokhorova I.G. The role of import substitution in supporting small and medium-sized businesses. Socio-political sciences. 2023. vol. 13. No. 5. Pr. 96–101. (In Russian) DOI: 10.33693/2223-0092-2023-13-5-96-101. EDN: NIHCLY

³⁴ https://www.theguardian.com/commentisfree/article/2024/may/22/the-guardian-view-on-free-trade-an-idea-whose-time-has-gone?utm_source=chatgpt.com

In developing countries, import substitution is typically implemented as part of broader development goals. These nations often lack the sufficient capacity to effectively utilize their national resources, and in many sectors, modern technologies are not yet available. Consequently, they may face difficulties achieving export-led growth in a highly competitive global environment. However, a well-organized localization strategy can provide a pathway to real economic growth. For instance, Uzbekistan has achieved significant outcomes in the textile and construction industries through active government support for such strategies.

As a country's economy develops and its wealth increases, there is a growing tendency to purchase various goods and services from abroad. This is due to regional specialization processes that emerge based on available resources, climate conditions, logistics, and labor. Thus, production and service provision increasingly reflect these regional advantages.

Currently, there is virtually no concern in Uzbekistan about shortages of basic goods—whether food, clothing, or household items. This is largely due to the responsiveness of small businesses, which are highly sensitive to even minor changes in consumer demand. These entrepreneurs respond quickly to shortages: initially by sourcing goods from other regions or countries, and over time by localizing production to restore market supply-demand balance.

An increase in the share of small business participation in leading sectors is a strong foundation for economic growth and social stability. In Uzbekistan, small businesses have become the most dynamic sector, driving job creation, investment, innovation, competition, added value, and exports. Over the past five years, the number of small and medium enterprises has doubled. Around 10.5 million citizens are employed in this sector, which contributes over half of the national economy, one-third of industry, and one-third of exports—clear evidence of the broad reforms being implemented.

By the end of 2024, small business entities in Uzbekistan had generated 753.2 trillion UZS in gross value added (GVA), accounting for 54.3% of the country's total GVA. A sectoral breakdown shows: 33.9% came from agriculture, forestry, and fisheries; 12.6% from industry; 10.1% from construction; and 43.4% from services.

The share of small businesses in major sectors of the economy was as follows: 95.8% in agriculture, forestry, and fisheries; 78.4% in construction; 49.8% in services; and 25.9% in industry.

From 2025 to 2030, the Asian Development Bank plans to allocate \$3.4 billion to support business development in Uzbekistan. According to Kanokpan Lao-Araya, head of the ADB's Uzbekistan office, \$400 million will be allocated by the end of 2025 specifically for developing small and medium enterprises (SMEs). One of the ADB's key focuses is facilitating the integration of SMEs into global value chains. These measures will further strengthen the role of SMEs in the national economy.

In line with Uzbekistan's national development strategy “Uzbekistan – 2030,” key priorities include improving citizens' welfare, protecting natural resources,

ensuring sustainable economic growth, reducing poverty, enhancing education quality, safeguarding the environment, and promoting social integration. As a result of these initiatives, there has been a notable improvement in income levels and living conditions. By the end of 2024, the real growth rate of household income reached 108.1% compared to the same period of the previous year. This growth reflects the success of the government's effective economic policy and its well-structured action plans.

Under the leadership of President Shavkat Mirziyoyev, wide-ranging reforms have empowered citizens to use their potential, foster innovation, and explore entrepreneurship without fear. In today's challenging global context, countries are increasingly prioritizing the protection of domestic producers. From this perspective, it is essential to continue supporting entrepreneurs who manufacture competitive products, thereby boosting their legal confidence and future income potential.

As of now, nearly 9,200 entrepreneurs in Uzbekistan have created at least 50 jobs each. With proper support, these businesses can expand and employ even more people. Companies hiring individuals from low-income groups are granted tax exemptions on social contributions for three years—a benefit available not only to textile enterprises but across all sectors. This approach could provide employment to hundreds of thousands of low-income citizens in sectors such as textiles, construction materials, leather footwear, electrical engineering, food production, livestock, and construction.

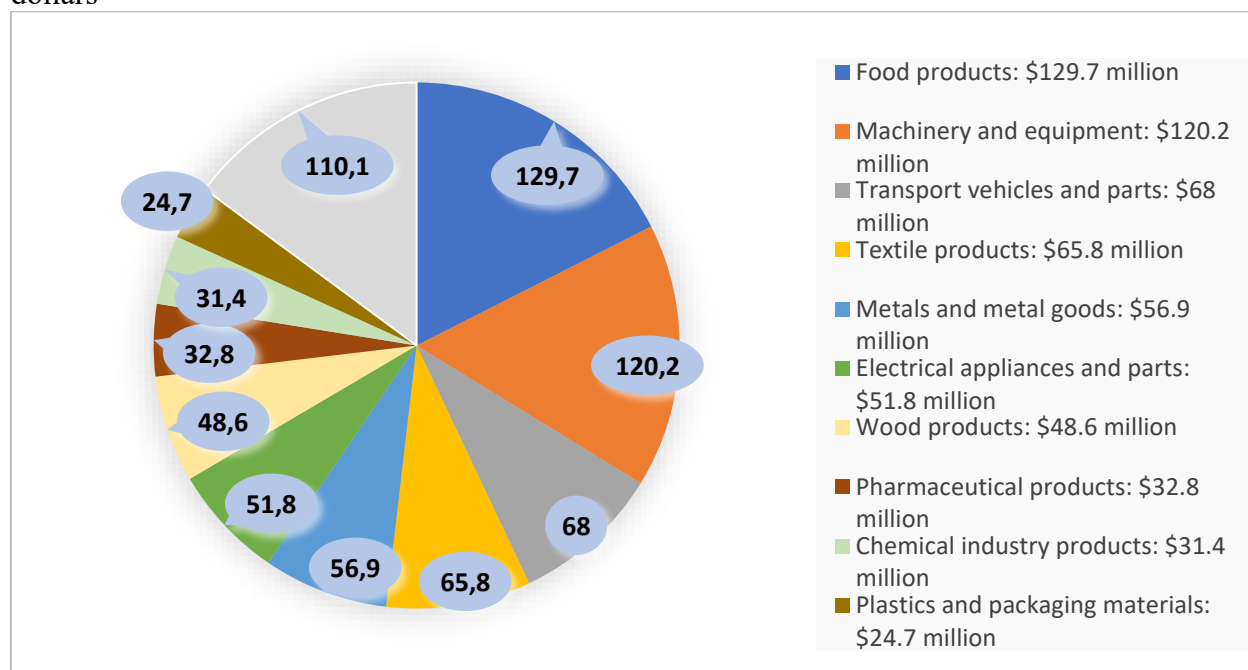
In 2024, as a result of supportive policies and infrastructure, small businesses in Namangan region produced industrial goods worth 15.97 trillion UZS, accounting for 50.0% of total regional output. This represents an increase from 48.9% in 2023 and 43.8% in 2022, indicating notable growth in small business-driven industrial production in the region.

Localization efforts play a key role in shaping a competitive national economy. To organize the production of import-substituting goods, entrepreneurial entities must first analyze imported products and market conditions. Accordingly, this study includes an analysis of foreign trade activities in Namangan region.

In 2024, Namangan imported \$745.1 million worth of goods—a decrease from \$828.6 million in 2023. The main imported goods included:

- Food products: \$129.7 million
- Machinery and equipment: \$120.2 million
- Transport vehicles and parts: \$68 million
- Textile products: \$65.8 million
- Metals and metal goods: \$56.9 million
- Electrical appliances and parts: \$51.8 million
- Wood products: \$48.6 million
- Pharmaceutical products: \$32.8 million
- Chemical industry products: \$31.4 million
- Plastics and packaging materials: \$24.7 million
- Other goods: \$115.1 million

Figure 1: Analysis of goods imported to Namangan region in 2024 by product type, million dollars³⁵



These imports came from 58 countries, with the largest shares from China (36.5%), Russia (11.3%), India (9.6%), Kazakhstan (7.4%), Turkey (6.5%), Kyrgyzstan (4.5%), and Germany (4.4%).

Exports from Namangan totaled \$596.5 million in 2024, reaching 51 countries. The largest export markets were Russia (58.0%), China (8.0%), Kyrgyzstan (7.2%), Kazakhstan (4.9%), Turkey (4.0%), and Germany (2.4%).

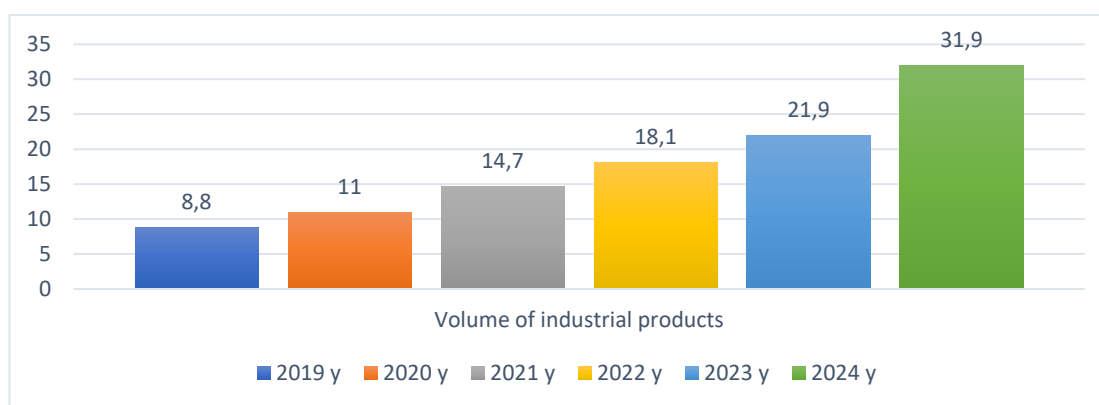
The value of goods produced under the 2024 localization program increased by 33.1%, reaching 110.2 trillion UZS. Experience from the COVID-19 pandemic has shown that developing domestic production through localization is crucial for reducing economic dependence on external factors, ensuring supply of essential goods, saving foreign currency reserves, attracting investment, and increasing employment.

As a result, the government actively supports entrepreneurs engaged in localized production, especially those manufacturing exportable and import-substituting goods. By focusing on high value-added production, efficient resource use, and expansion of localization efforts, the foundation is laid for deepening and broadening domestic production.

Figure 2. Information on the volume of industrial products in Namangan region. (2020-2024)³⁶

³⁵ Based on information from the press service of the Namangan regional administration

³⁶ <https://www.namstat.uz/uz/rasmiy-statistika/industry-2>



In Namangan region alone, 631 new enterprises were launched in 2024, raising the total number of industrial enterprises to 8,450. The region's industrial output grew from 11 trillion UZS in 2020 to 31.9 trillion UZS by 2024—a 2.9-fold increase.

Thanks to state-supported projects in Namangan, an additional 32,450 jobs were created. New import-substituting, high value-added products were introduced, including pectin, bioactive supplements, mineral fertilizers, synthetic fabric, water pumps, electric motors, pharmaceutical goods, tricycles, and lithium batteries. As a result, imports decreased by \$65.5 million, and the localization rate rose to 57%.

Table 1. Information on the production of finished products, components and materials within the framework of localization programs in Namangan region. (2020-2024)³⁷

Indicators	Unit of measurement	2020 y	2021 y	2022 y	2023 y	2024 y
Number of projects	Pieces	53	66	85	84	122
Number of enterprises	Pieces	34	50	67	66	85
Volume of production of localized products	billion soums	315,0	668,9	1513,0	2107	3023
Volume of exports of localized products	million dollars	2,1	10,1	19,3	12,2	84,1
Number of new jobs created through the organization of production of localized products	Pieces	520	1114	1246	758	2034

According to Table 1 (2020–2024 data), localized production in Namangan has seen significant growth:

- The number of projects rose from 53 to 122

³⁷ <https://www.namstat.uz/uz/qo-mita-yangiliklar/15495-namang2023-21>

- Enterprises increased from 34 to 85
- Production volume increased from 315 billion UZS to 3.02 trillion UZS
- Exports rose from \$2.1 million to \$84.1 million
- New jobs created increased from 520 to 2,034

These results show that localization efforts in Namangan are expanding both in scale and efficiency. In 2024 alone, 122 projects produced localized goods worth 3 trillion UZS, generating \$84.1 million in exports. Thirty-three new product types replaced imports worth \$212.6 million, and over 2,000 new jobs were created—an increase of 43.4% in output and 6.9 times growth in export value compared to 2023.

These outcomes confirm the high potential for organizing import-substituting production by entrepreneurial entities in Namangan.

Conclusion and Recommendations

Localization is intrinsically linked with specialization and regional labor distribution. It plays a significant role in the production of new goods and services and in enhancing a country's investment attractiveness. At the same time, the successful adaptation of such goods and services requires innovative approaches to organizing production. This, in turn, positively affects regional infrastructure development, job creation, and increased revenues to local budgets.

In recent years, Uzbekistan has placed significant emphasis on localizing production within entrepreneurial ventures. Raising the level of localization is essential for ensuring the stable and consistent development of the economy, reducing its dependence on external factors, and accelerating the adoption of new technologies in production processes.

To effectively organize import-substituting production by entrepreneurial entities, attention should be directed to several key stages. These stages are outlined below:

Key Stages for Organizing Import-Substituting Local Production by Entrepreneurial Entities

1. Market Analysis

✓ Assess the demand for the planned product and confirm its necessity in the local market.

✓ Analyze current competitors, including imported alternatives, and evaluate their market share, pricing, and quality.

✓ Collect and analyze consumer opinions on product features, quality, and price sensitivity.

2. Product Development

✓ Emphasize product design that meets the preferences of local consumers.

✓ Ensure high quality and compliance with established standards to compete effectively with imports.

✓ Implement potential innovations or advantages that give the product a competitive edge.

3. Regulatory Compliance

✓ Study and comply with local and international standards related to safety, health, and environmental protection.

- ✓ Identify tariffs, duties, or restrictions affecting imported competing goods and leverage available benefits.

- ✓ Protect national products through intellectual property rights (patents, trademarks, etc.).

4. Supply Chain Management

- ✓ Ensure availability and reliability of raw materials.

- ✓ Evaluate the cost, quality, and consistency of both local and imported inputs.

- ✓ Develop a reliable logistics plan and establish contractual relationships with suppliers.

5. Financial Planning

- ✓ Determine capital requirements for facilities, equipment, technology, and human resources.

- ✓ Explore financing options such as loans, investments, grants, or subsidies.

- ✓ Analyze and utilize government support programs for localized production.

- ✓ Manage operational costs and implement cost control measures to ensure profitability.

6. Production and Operations

- ✓ Establish suitable production facilities based on location advantages like proximity to raw materials and labor availability.

- ✓ Invest in efficient technologies and equipment for quality and cost-effective production.

- ✓ Hire and train skilled workers and ensure compliance with labor laws and proper working conditions.

7. Marketing and Sales

- ✓ Create a national brand that reflects innovation and cultural values, and build consumer awareness.

- ✓ Set competitive pricing to attract consumers away from imports and ensure profitability.

- ✓ Develop effective distribution channels (direct sales, retail, wholesale, online platforms).

8. Risk Management

- ✓ Monitor market fluctuations, changes in consumer preferences, and economic conditions.

- ✓ Identify and mitigate operational risks such as production delays or equipment failures.

- ✓ Manage financial risks through careful budgeting, maintaining cash reserves, and contingency planning.

9. Sustainability and Social Responsibility

- ✓ Apply sustainable practices: efficient resource use, green energy, waste management, and eco-friendly technologies.

✓ Engage in socially responsible activities that improve the company's image—such as scholarships, facility construction, and support for vulnerable populations.

10. Continuous Improvement

✓ Establish feedback systems to gather input from customers and stakeholders.

✓ Invest in R&D to improve products and stay ahead of market trends and competitors.

By focusing on these ten stages, entrepreneurial entities can effectively organize localized production, generate employment opportunities, reduce dependence on imported goods, attract investment, and stimulate national economic growth.

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QASHQADARYO VILOYATI AHOLISINING HOZIRGI DEMOGRAFIK VAZIYATI

Annotatsiya: Ushbu maqolada O'zbekiston Respublikasi Qashqadaryo viloyatidagi demografik vaziyat - aholining o'sishi, tabiiy harakati, migratsiya, ishchi kuchi, urbanizatsiya va aholi punktlari jarayonlari tahlil qilinadi, shuningdek, demografik jarayonlarning mamlakat ijtimoiy-iqtisodiy rivojlanishining joriy va istiqbolli chora-tadbirlarini belgilashga ta'siri o'rganiladi.

Kalit so'zlar: demografik vaziyat, aholi tarkibi, demografik siyosat, iqtisodiy va ijtimoiy jarayonlar, mehnat resurslari, migratsiya, aholi punktlari, urbanizatsiya darajasi.

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CURRENT DEMOGRAPHIC SITUATION OF THE POPULATION OF KASHKADARYA REGION

Abstract: This article analyzes the demographic situation in the Kashkadarya region of the Republic of Uzbekistan - population growth, natural movement, migration, labor resources, urbanization and resettlement processes, and also examines the impact of demographic processes on the determination of current and future measures of the country's socio-economic development.

Key words: demographic situation, population structure, demographic policy, economic and social processes, labor resources, migration, settlements, level of urbanization.

Har bir davlat aholisining soni va yosh-jinsiy tarkibidagi mutanosiblik, uning rivojlanish istiqbolli dasturlarini ishlab chiqishda asosiy omil hisoblanadi. Aholi soni va tarkibini hisobga olish uslublari, dasturlari, texnikalari jamiyat rivojlanishiga monand doimo rivojlanib, takomillashib keldi. Aholini hisobga olishda, uning umumiy soni, yosh-jinsiy tarkibi bilan bir qatorda oilaviy tarkibi, tug'ilish, o'lim, nikoh va ajrim kabi demografik jarayonlar, aholi migratsiyasi haqida ham ma'lumotlar to'planib boriladi. Aholi geografiyasi va demografik tadqiqotlarda aholi soni eng asosiy ko'rsatkichdir. Aholi soni dinamikasidagi o'zgarishlarni tahlil etganda uning mutloq va nisbiy ko'rsatkichlaridan foydalaniladi. Aholi sonining juda yuqori sur'at bilan ko'payib, yoki kamayib ketishi demografik vaziyatni keskin o'zgarishiga olib keladi. Aholi sonining

ko'payib borishi jamiyatda ishlab chiqarishning mukammallashib borishi, sodir bo'lgan mehnat taqsimotlarining rivojlanishida alohida omil hisoblanadi.

Qashqadaryo viloyati O'zbekistonning janubida joylashgan, maydoni 28,6 ming kv.km bo'lib, mamlakat hududining 6,4 % ini tashkil etadi. Viloyat aholisi 3560,6 ming kishini tashkil etadi, shu jumladan qishloq aholisi 2036,4 ming kishi (57,2 %) , shahar aholisi 1524,2 ming kishi (42,8 %). 2023 yil boshidan 78,3 ming kishiga ko'paydi yoki 2,2 % ga o'sdi. Aholi soniga ko'ra Qashqadaryo viloyati mamlakatda Samarqand va Farg'ona viloyatlaridan keyingi uchinchi o'rinda turadi. Aholining zichligi har bir kv.km ga 124,6 kishini tashkil etadi.

O'tmishda Buxoro amirligi tarkibida bo'lgan Qashqadaryoda 1926 yilga qadar aholi ro'yxatga olinmagan. M.Qoraxonovning (1965y) tadqiqotlariga ko'ra 1897 yilda hozirgi Qashqadaryo viloyati hududida taxminan 540 ming aholi istiqomat qilgan bo'lib, shundan qariyb 30 ming kishi shahar aholisiga mansub bo'lgan. 1926 yilda o'tkazilgan aholi ro'yxati ma'lumotlariga ko'ra Qashqadaryo viloyatining aholisi 343,5 ming kishiga yetgan (shahar aholisi-39,1 ming kishi, qishloq aholisi-304,4 ming kishi). 1926-1939 yillar mobaynida viloyatda aholining umumiy soni 118,1 ming kishiga ko'paydi yoki aholining yillik o'sishi 2,6 % ni tashkil etdi va viloyat aholisining soni 459,6 ming kishiga yetdi. 1926- 1939 yillarda viloyatda ishlab chiqarish kuchlarining kam rivojlanganligi hamda chetdan keladigan aholi harakatining kam bo'lishi tufayli aholining yillik o'sish darajasi mamlakatdagiga nisbatan past bo'lgan. Pirovardida O'zbekiston umumiy aholisiga nisbatan Qashqadaryo viloyatining tutgan o'rni 7,5 % dan (1926y.) 7,3 % ga (1939y.) kamaydi. 1939-1959 yillarda Qashqadaryo viloyatining aholisi 48,4 ming kishiga ko'paydi. 1959 yilda o'tkazilgan aholi ro'yxati ma'lumotlariga ko'ra viloyatda 508,0 ming kishi, shu jumladan qishloqlarda 440,6 ming kishi va shaharlarda 67,4 ming kishi istiqomat qilgan.

Qashqadaryo viloyati aholisi o'sishini tahlil qilish bu yerda aholining hududiy tashkil topishi va tabiiy ko'payishi 1960 yillardan boshlanganligini ko'rsatadi. 1960-1980 yillarda Qarshi cho'lini o'zlashtirish maqsadida ulkan gidrotexnik inshootlarning (Qarshi va Kasbi kanallari, suv omborlari, sug'orish tarmoqlari va boshqalar.) barpo etilishi, katta zahiralarga ega bo'lgan neft va gaz konlarining ochilishi va foydalanishga topshirilishi, yirik sanoat korxonalarining ishga tushirilishi va boshqa tadbirlar aholi sonining tez sur'atlarda o'sishiga sabab bo'ldi. Bu davrda viloyat aholisining shakllanishiga tug'ilishning nisbatan yuqori bo'lishi va boshqa hududlardan keladigan aholi harakatining kuchayganligi ham sabab bo'ldi. Natijada viloyat aholisi 508,0 ming kishidan (1959y.) 802,0 ming kishiga (1970y.) yetdi. 1959-1970 yillarda viloyat aholisining soni 57,6 % ga ko'paygan holda o'rtacha yillik o'sishi 4,9 % ni tashkil etdi. Aholi sonining bunday tez sur'atlar bilan o'sishida tabiiy ko'payish bilan bir qatorda chetdan aholining ko'cib kelishi (mexanik ko'payish) ham muhim ahamiyatga ega bo'ldi. 1970 yilda viloyat aholisining 16,5 % ini shahar aholisi tashkil etgan, 1990 yilda esa bu ko'rsatkich 26,0 %, 2024 yilda 42,8 % ni tashkil qildi.

Aholi soni bo'yicha viloyatda Koson tumani oldinda turadi (2024-yilda 312,1 ming kishi). Bu tumanda viloyat aholisining 8,7 %i istiqomat qiladi. Qamashi

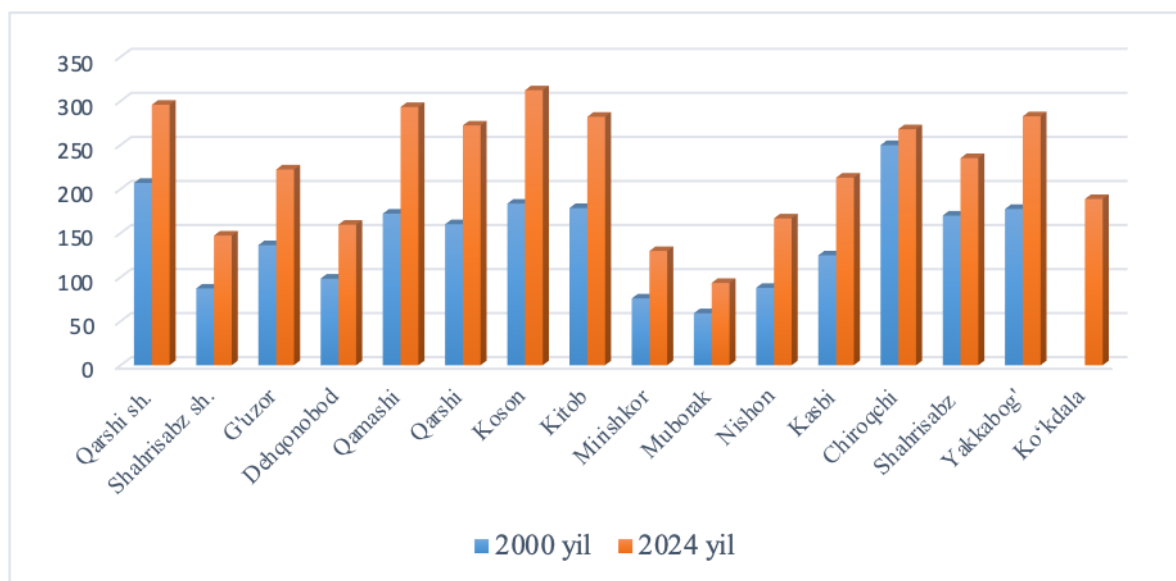
tumanining aholisi 2024-yilda 293,1 ming kishihi tashkil etadi. Koson tumanida aholining oʻrtacha zichligi har 1km² ga 166,0 kishi, Qamashi tumanida esa 110,2 kisini tashkil etadi. Qishloq tumanlari orasida aholi soniga koʻra yuqorida nomlari qayd qilingan tumanlardan keyin uchinchi oʻrinda Yakkabogʻ tumani (2024-yilda 282,5 ming kishi) turadi. Tumanda aholining oʻrtacha zichligi har 1 km² ga 256,8 kishi boʻlib, viloyatda bu koʻrsatkich boʻyicha Kasbi (327,6 kishi), Qarshi (302,3 kishi) tumanlaridan keyingi uchinchi oʻrinda turadi.

Aholi soniga koʻra Yakkabogʻ tumanidan keyingi oʻrinni aholisining soni 282,0 ming (2024- yil) boʻlgan Kitob tumani band etgan boʻlib, tuman aholisining qariyb 20%i tumanning maʼmuriy markazida – Kitob shahrida istiqomat qiladi.

Qashqadaryo viloyatining maydoniga koʻra eng katta – Dehqonobod (4,0 ming km²), Mirishkor (3,21 ming km²) va Nishon (2,11 ming km²) tumanlarining demografik salohiyati nisbatan kichik. Dehqonobod tumanida 159,5 ming kishi, Mirishkor tumanida 129,6 ming kishi va Nishon tumanida 166,6 ming kishi yashaydi. Shunday qilib, viloyatning togʻli va choʻl hududlaridagi tumanlar eng kam aholi yashaydigan tumanlardir.

1-rasm

Qashqadaryo viloyati maʼmuriy hududlari boʻyicha aholi sonining oʻsish dinamikasi



Manba: Qashqadaryo viloyati statistika boshqarmasi malumotlari asosida tuzilgan

Viloyatda aholi salmogʻiga koʻra Gʻuzor (222,2 ming kishi), Kasbi (213,0 ming kishi), Qarshi (272,1 ming kishi) tumanlari oʻrtacha koʻrsatkichga ega. Ayni vaqtda Qarshi (0,9 ming km²) va Kasbi (0,65 ming km²) tumanlarining yer maydonining kichikligi sababli aholi zichligi viloyat darajasida eng yuqori koʻrsatkichga ega (tegishlicha 302,3 va 327,6 kishi 1 km² ga).

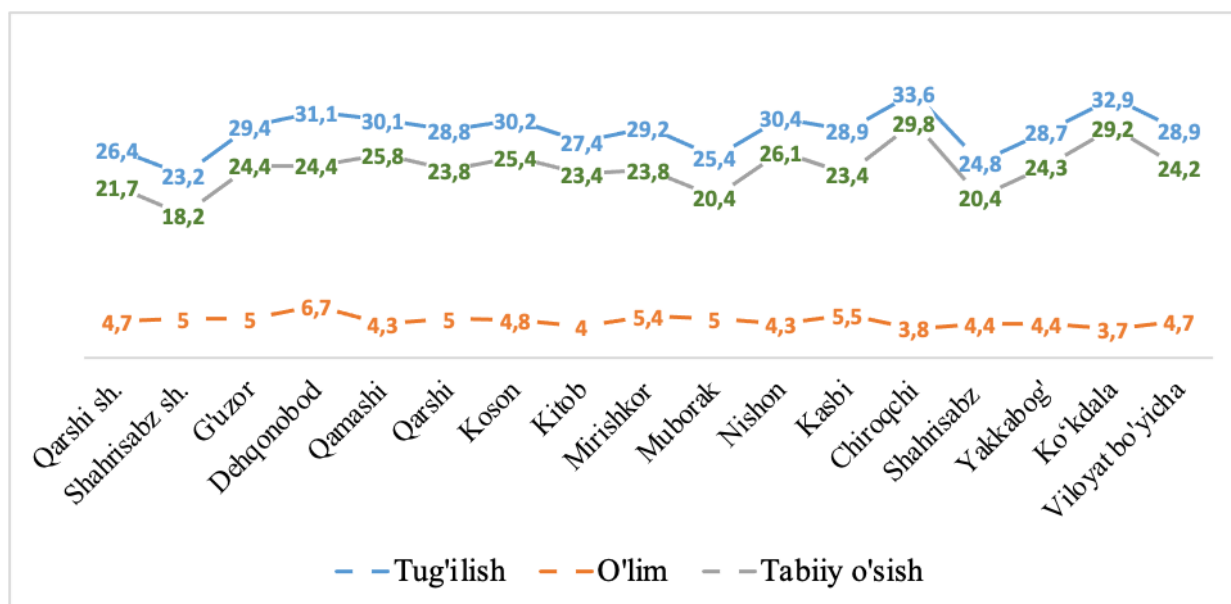
Umuman olganda, yuqori mintaqa (Shahrisabz, Yakkabogʻ va Kitob tumanlari) koʻp jihatdan Respublikamizning aholisi zich voha va vodiylariga oʻxshab ketadi. Ammo, taʼkidlash joizki, zichlik, quyi mintaqaning ayrim

tumanlarida (Kasbi, Qarshi) ham ancha yuqori, ya'ni 250-300 kishiga teng. Qashqadaryo viloyati miqyosida aholi zichligi Qarshi shahrini qo'shib hisoblamaganda har km kv ga 124,6 kishiga to'g'ri keladi. O'z navbatida Qashqadaryo viloyati aholi zichligi bo'yicha Respublikada Farg'ona vodiysi, Toshkent va Samarqand viloyatlaridan keyingi o'rinda turadi.

Keyingi yillar mobaynida, ya'ni 1989-2014 yillar oralig'ida aholi soni ancha tez ko'payib borgan: Muborak tumanida o'rtacha yillik ko'payish 5,70, Kosonda 4,75 % Kitob va Nishon tumanlarida 4,10 foizni tashkil qilgan. Nisbatan pastroq demografik o'sish Dehqonobod (2,40 %), Qarshi (2,50 %) va Kasbi (2,50 %) tumanlarida kuzatiladi. Shu o'rinda e'tirof etish lozimki, mazkur ko'rsatkichlar bo'yicha Muborak tumani respublikamizda eng oldingi o'rinlarni egallaydi. Tuman aholisining bunday tez o'sishi nafaqat tabiiy ko'payish, balki aholi migratsiyasi bilan ham bog'liq (tabiiy resurslarni o'zlashtirish natijasida aholi bu yerga ko'plab ko'chib kelgan). Hududlar kesimida eng yuqori o'sish sur'ati 2023 yilning mos davriga nisbatan Ko'kdala va Chiroqchi tumanida 2,9-2,8 % ni, Qarshi, Koson va Nishon tumanlarida 2,4%, Qarshi shahar va G'uzor tumanida 2,3%, Qamashi, Mirishkor va Kasbi tumanlarida 2,2 % ni, Kitob va Yakkabog' tumanlarida 2,1% ni, Dehqonobodda 2,0 %, aksincha eng kam o'sish sur'ati Shaxrisabz shahrida va Shaxrisabz tumanida 1,7 % ni, Muborak tumanida 1,6 % ni tashkil etdi.

Viloyatda tabiiy harakat ko'rsatkichlari boshqa hududlarga qaraganda sezilarli darajada farq qiladi. Viloyatda tug'ilish koeffitsiyenti har 1000 kishi aholiga 28,9 kishini tashkil etadi (2023 yil). Eng yuqori daraja 2000 yilda Chiroqchi tumanida bo'lib, u bu yerda yaqin 34 kishiga barobar (O'zbekistonda oldingi o'rinlarda). G'uzor tumanida ham tug'ilish ancha yuqori – 28,6 ‰. Ayni vaqtda umumiy tug'ilish koeffitsiyenti Shaxrisabz tumanida past, Qarshi shahrida esa u 21,8 promille. 2023 yilda ham Chiroqchi tumani tug'ilish koeffitsiyenti bo'yicha ajralib turadi (33,6 ‰). Qolgan qishloq tumanlari orasida katta farq kuzatilmaydi. Viloyat markazi – Qarshi shahrida tug'ilish 26,4 promille. Aholi o'lim koeffitsiyentida (4,7‰) ham katta raqamlar qayd etilmaydi. U 2023 yilda Dehqonobodda 6,7 ‰, Kasbi va Mirishkorda 5,5-5,4 ‰, Qarshi, G'uzor va Muborak tumanlarida 5,0 ‰, Koson tumanida 4,8 ‰, Shaxrisabz, Yakkabog', Qamashi va Nishon tumanlarida 4,4-4,3 ‰ ni ko'rsatgan. Aholi tabiiy harakatining yakuni, ya'ni tabiiy ko'payish esa ko'proq tug'ilish darajasi ta'sirida shakllangan, eng yuqorisi Chiroqchida (29,8 ‰), eng pasti Shaxrisabz va Muborakda (20,4 ‰) qayd etiladi. Shunday qilib, tug'ilishning yuqoriligi, o'lim ko'rsatkichining ancha pastligi viloyatda aholi sonining tez o'sishiga olib keladi.

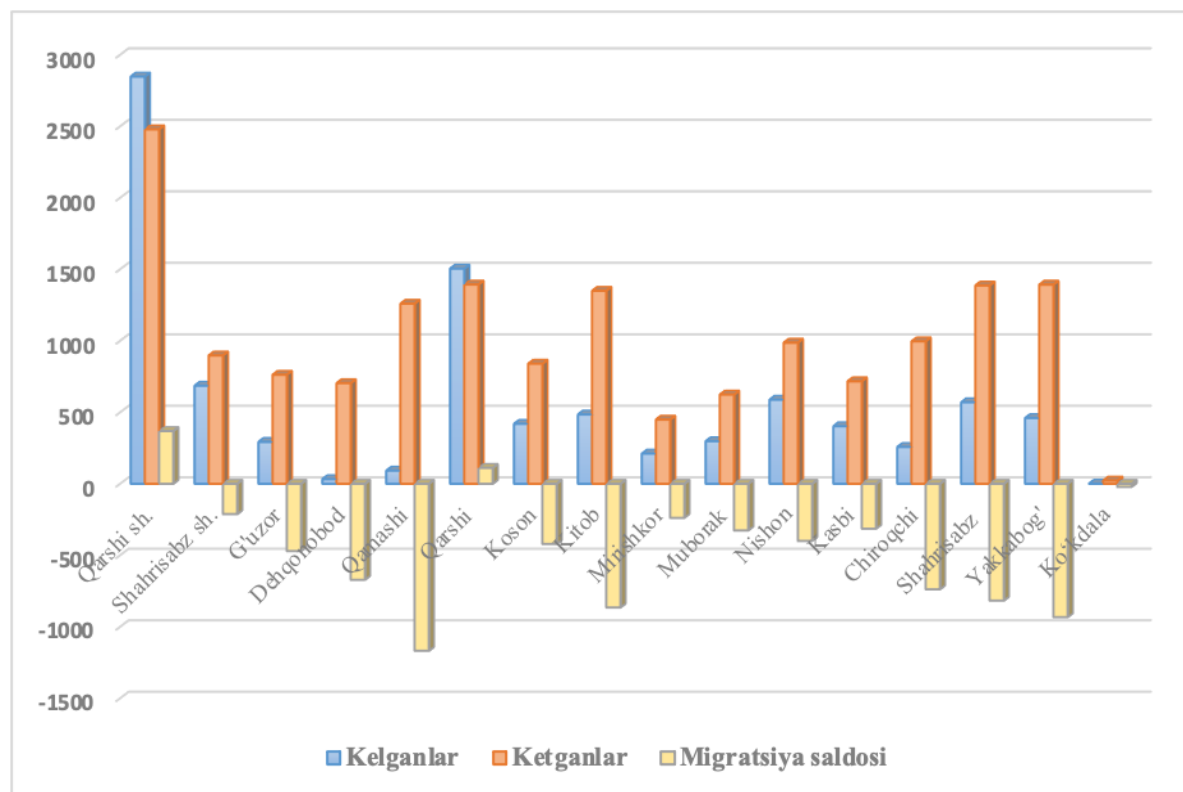
Qashqadaryo viloyati qishloq tumanlari aholisining tabiiy harakati (promilleda)



Manba: Qashqadaryo viloyati statistika boshqarmasi ma'lumotlari asosida tuzilgan

Migratsiyaning aholi soni o'sishiga ta'siri uncha kuchli bo'lmasada, u salbiy. 2023- yilning yanvar-dekabr oylarida viloyat bo'yicha ko'chib kelganlar soni 9 150 kishini, shu davr mobaynida ko'chib ketganlar soni esa 16 263 kishini tashkil qilgan, 2022 yilda migratsiya qoldig'i minus 7289, 2023 yilda minus 7113 kishini tashkil etgan. 2023 yil natijalariga ko'ra, har ming kishi hisobiga Yakkabog' tumaniga 460 kishi kelgan va 1393 kishi ketgan, migratsiya qoldig'i minus 933 kishini tashkil etgan. Qarshi tumanida 1505 kishi kelgan va 1394 kishi ketgan, migratsiya qoldig'i 111 kishi. Qashqadaryo viloyatining qolgan aksariyat qishloq tumanlarida aholi migratsiyasining natijasi manfiy bo'lgan. Eng katta minus qoldiqlar Qamashi (minus 1 168), Yakkabog' (minus 933) va Shahrisabz (minus 817) tumanlarida kuzatilgan.. Shu bilan birga ta'kidlash joizki, Quyi mintaqaning ayrim tumanlarini aholisi (masalan, Muborak, Kasbi, Nishon, Mirishkor) asosan ichki migratsiya natijasida shakllangan.

Qashqadaryo viloyati migratsiya ko'rsatkichlari



Manba: Qashqadaryo viloyati statistika boshqarmasi ma'lumotlari asosida tuzilgan

Mehnat resurslarining shakllanishi aholining yoshi va jinsiy tarkibiga bog'liq. 1959 yilda o'tkazilgan aholi ro'yxati yakuniga ko'ra erkaklar viloyat aholisi tarkibida 48,1 % ni tashkil etgan. Hozirgi paytda viloyat aholisining 50,6 % ini erkaklar va 49,4 % ini ayollar tashkil etadi.

Qashqadaryo viloyatida tabiiy o'sishning ancha yuqori bo'lishi aholining yosh tarkibiga ancha katta ta'sir ko'rsatadi. Viloyatda barcha aholi orasida yosh bolalalar va o'smirlar salmog'i ancha yuqori bo'lishini, mehnat resurslari sonining muttasil oshib borishini ta'minlaydi.

Viloyatning umumiy urbanizatsiya darajasi 42,8 % - bu respublika ko'rsatkichidan ancha past (51 %). Bu yerda hammasi bo'lib 12 shahar va 117 ta shaharcha bor. Ulardan Qarshi O'zbekistonning 17 katta shaharlari qatoriga kiradi (295,6 ming kishi, 2023 y.). Shahrisabzda 147,2 ming, Kosonda 164,0 ming kishi yashaydi; Qamashi va Kitob shaharlarida 69-105 mingdan kishi bor. Qolgan shahar va shaharchalarda aholi soni bundan ozroq.

2009 yilda "Qishloq taraqqiyoti va farovonligi" Davlat dasturini qabul qilinishi munosabati bilan viloyatning 119 ta qishloq aholi punktlariga shaharcha maqomi berilgan. Natijada, umumiy urbanizatsiya darajasi 2008 yildagi 24,6 foizga teng bo'lgani holda, u birdaniga 19,0 foizga ortdi. Yangi shaharchalar (agroshaharchalar), ayniqsa Shahrisabz, Qarshi, Kitob va Yakkabog' tumanlarida

ko'p. Jumladan, Shahrisabzda bunday maqomga 13 ta, Qarshida 15, Kitobda 13, Yakkabog'da 14 ta qishloqlar ega bo'lgan.

Ma'lumki, Qashqadaryoning yuqori zonasida joylashgan qishloq tumanlarida intensiv sug'orma dehqonchilik yaxshi rivojlangan va shu asosda aholi zich, katta-katta qishloqlar shakllangan. Nisbatan ozroq yangi shaharchalar Mirishkor (3 ta) va Dehqonobod tumanlarida (3 ta) paydo bo'lgan. Yangi shaharchalarni aholi soni bo'yicha eng kattalari: Maymanoq - 15,7 ming kishi, Fazli - 10,5 ming (Kasbi tumani), Yangi Mirishkor - 15,5 ming, Pomuq - 12,4 ming (Mirishkor), Karlik - 15,6 ming (Muborak tumanida), Karashina - 10,1 ming kishi (Dehqonobod tumani) va h.k.

Viloyatda 1042 ta qishloq aholi punktlari mavjud, qishloq fuqarolar yig'inlari 18 ta. Dehqonobod, Qamashi, Kitob, Chiroqchi, Shahrisabz va Yakkabog' tumanlarining har birida 100 dan ortiq qishloqlar bor (eng ko'pi Kitob tumanida - 144 ta). Son bo'yicha eng oz qishloqlar Muborak (15 ta), Mirishkor (22 ta) va Nishon (30 ta) tumanlarida. Bu ma'muriy hududlarning barchasi yangi yerlarni o'zlashtirish munosabati bilan tashkil etilgan.

Qashqadaryo viloyatida o'tgan asrning 70-yillariga qadar ham kichik qishloqlar ko'pchilikni tashkil etgan. Qarshi cho'lini o'zlashtirish va sug'orish hamda yer osti boyliklaridan foydalanish darajasining oshishi, ishlab chiqarishning rivojlanishiga bog'liq holda qishloqlarning yiriklashuvi sodir bo'ldi. Ikkinchidan, tog' hududidagi kichik qishloqlardan aholining Qarshi cho'liga ko'chirilishi, suv omborlari o'rnidagi qishloq aholisining boshqa hududlarga o'tishi ta'sirida bo'ldi. Shu bois Qarshi cho'lida yangi qishloqlar tashkil topdi. Ammo viloyat miqyosida qishloqlarning soni ko'paymadi, aksincha kamayib bordi. 1970 yilda viloyatda 1211 ta qishloq bo'lgan, 1979-yilda esa qishloqlarning soni 1 014 tani, 1989-yilda 1 080 tani tashkil etgan. 2024-yil ma'lumotlariga ko'ra viloyatda 1 042 ta qishloq mavjud.

Qishloqlar sonining kamayishi, shuningdek, shaharlar bilan tutashgan qishloqlarning shaharlarga qo'shilishi bilan ham bog'liq. 1979 – 1992-yillarda 33 ming qishloq aholisi qishloqlarni shaharlar tarkibiga kiritilishi munosabati bilan shahar aholisi maqomini olgan. Shu yillarda Qarshi shahriga yaqin atrofdagi 17 ta qishloq (Aralovul, Arabxona, Qavali, Xudoyzot, Tutak, Yakkabog', Kamandi va b. qishloqlar); Chimqo'rg'on, Pachkamar va Hisorak suv omborlarining barpo etilishi munosabati bilan ularning o'rnidagi qishloq ko'chirilgan edi. Shuningdek, Shahrisabz shahriga 15 ta qishloq va Kitob shahriga 3 ta qishloq qo'shilgan va Kitob shahriga 3 ta qishloq qo'shilgan edi. Shu tufayli 31 ta qishloq yangi hududlarda shakllandi. Qarshi cho'lida Mirishkor tumanida Chamanzor, Navbahor, Guliston, Obod, Cho'lquvar; G'uzor tumanida Sho'rtan, Chilgiz va 8-Mart; Qamashi tumanida Guliston, Mirzadala; Qarshi tumanida Bog'obod, Yangiobod, Haqiqat; Koson tumanida Gulbog'; Muborak tumanida Yangier, Gulshan, Zarbuloq; Nishon tumanida Oydin, Do'stlik, Nuriston, Ko'chatzor, Navro'z, Oq oltin, Paxtakor, Yulduz, Shirinobod, Guliston; Chiroqchi tumanida Navro'z va boshqa qishloqlar shakllandi. Shuningdek, yangi sug'orish inshootlari asosida chorvachilikka ixtisoslashgan xo'jaliklarning paxtachilikka ixtisoslashuvi tufayli ariqlar (kanallar) yoqasida yangi qishloqlar shakllandi va eskilari yiriklashdi.

Viloyatda yer osti tabiiy boyliklarining ochilishi va foydalana boshlashi, bir qator transport infratuzilmalarining – Qarshi, Yakkabogʻ, Qamashi – Chiroqchi, Qamashi – Langar, Qarshi – Samarqand, Qarshi – Buxoro avtotransport yoʻllari hamda Qarshi – Amudaryo, Qarshi – Samarqand temir yoʻllarining ishga tushirilishi; Gʻuzor – Boysun – Qumqurgʻon temir yoʻllarining qurila boshlanishi tufayli kichik qishloqlar yiriklasha bordi. Buning natijasida 1970 – 1989 yillarda qishloqlar soni 121 taga, 1996 – 2004 yillarda esa 16 taga kamaydi. Ammo, viloyat qishloqlarida aholining soni 1970 – 1989 va 1996 – 2024-yillarda tez oʻsdi. 1970-yilda har bir qishloqda oʻrtacha 552,8 kishi yashagan boʻlsa, 1979-yilda 808,7 kishi va 1989-yilda 1098,8 kishi yashaydi. Hozirgi paytda viloyatdagi qishloqlarning yiriklashuvi va yangi qishloqlarning shakllanishi bilan qishloqlar orasidagi masofa ham sezilarli oʻzgardi. Masalan, 1989 yilda viloyatning qishloqlari orasidagi masofa 5,4 kmni, 2024 yilda 5,1 kmni tashkil qildi. Demak, viloyatning Kitob, Shaxrisabz, Yakkabogʻ, Qamashi, Chiroqchi, Kasbi, Qarshi tumanlarida qishloqlar zich joylashgan.

Viloyat qishloqlari orasida aholisi 100 va 101 – 500 kishi boʻlganlari tobora kamayib bormoqda. Masalan, keyingi yillarda qishloqlarning yiriklashuvi natijasida ularning soni kamaygan holda, aholi soni 501 – 1000 kishi boʻlgan qishloqlar soni 310 tadan 369 tagacha, aholisi 1001 – 3000 kishi boʻlgan qishloqlar 161 taga, 3000 dan ziyod kishi yashaydigan qishloqlar 36% ga oʻsgan. Viloyat tumanlarida qishloqlarning zichligi va ularda yashayotgan aholi soni bir-biridan keskin farq qiladi.

Binobarin, viloyatning togʻli qismida ham kelgusida aholisi 101 – 500 kishilik qishloqlarni saqlab qolish maqsadga muvofiq. Zero, hozirgi paytda ham tekislik hududlarida aholining rivojlanishi va suv bilan bogʻliq holda aholini joylashtirishda muammolar yuzaga kela boshladi.

Viloyatning togʻ hududlarida joylashgan qishloqlarda 101 – 500 kishi yashaydigan qishloqlar koʻproq. Togʻ oldi adirlarida Chiroqchi, Qamashi, Yakkabogʻ tumanlarida 500 – 1000 va 1001 – 3000 kishi yashaydigan qishloqlar koʻpchilikni tashkil etadi.

Qarshi choʻli tumanlarida 1001-5000 kishi, Qamashi, Dehqonobod, Shaxrisabz, Chiroqchi, Yakkabogʻ tumanlarining togʻ rayonlarida 101-500 va 501-1000 kishilik qishloqlar koʻpchilikdir. Umuman, viloyatning togʻ zonasida yer zahiralarning iqtisodiy koeffitsiyenti kamligi va suv tanqisligi, transport aloqalarining noqulayligi, yer yuzasining notekisligi tufayli yirik qishloqlar kam, ammo yiriklashuv davom etadi.

Viloyatning koʻpgina qishloqlarida aholining tez koʻpayishiga bogʻliq holda iqtisodiy imkoniyatlar yil sayin kamaymoqda, ortiqcha mehnat resurslari vujudga kelmoqda. Qishloq aholisi 1000 kishidan, ayniqsa 3000 – 5000 dan ortiq boʻlgan qishloqlar soni koʻpayib bormoqda. Bu holat ayniqsa 1996 – 2024-yillarda ancha tezlashdi.

Aholi va aholi manzilgohlari soni, uning tarkibiy tuzilishi va taqsimlanishi tabiiy, ijtimoiy-iqtisodiy geografik omillar va hududni oʻzlashtirilish darajasidagi xususiyatlarni oʻzida aks ettiradi. Shu oʻrinda taʼkidlash lozimki, aholi oʻsishi,

uning joylashishini yirik mintaqa, shaharlar doirasida tadqiq qilish an'anaviy bo'lib qolgan, ammo qishloq aholi manzilgohlari va QFY miqyosida o'rganish esa nisbatan murakkab va mehnat talab qiladi. Kichik - kichik qishloqlarning yiriklashib ular orasidagi masofalarning tobora yaqinlashib, qo'shib ketishi qishloqlar va ular aholisi to'g'risidagi statistik ma'lumotlarning to'g'ri emasligi nomlarining tez – tez o'zgarib turishi tadqiqotda muayyan qiyinchiliklar tug'diradi. Shu sababdan qishloqlar, ularning tarkibi va funktsional turlanishlariga bag'ishlangan ishlar juda oz bajarilgan.

1-jadval

**Qashqadaryo viloyati qishloq aholi punktlarining
tarkibiy tuzilishi**

Qishloqlar, aholi soni bo'yicha	Qishloq aholi punktlari		Aholisi	
	soni	foizda	ming kishi	foizda
250 kishigacha	46	4,4	9953,5	0,5
251-500 kishi	129	12,3	71665,2	3,6
501-1000 kishi	310	29,6	316521,3	15,9
1001-2000 kishi	369	35,3	708689,2	35,6
2001-3000kishi	105	10,1	352353,9	17,7
3000 kishi va undan ortiq	87	8,3	531516,9	26,7
Viloyat bo'yicha jami	1046	100	1990700	100

Manba: Qashqadaryo viloyati statistika boshqarmasi ma'lumotlari asosida hisoblab chiqilgan.

Boshqa viloyatlarda bo'lganidek, Qashqadaryo aholisi milliy tarkibida o'zbeklar keskin ajralib turadi – 92,3 %. Ikkinchi o'rinda tojiklar – 4,3 %. Qolgan millat vakillaridan turkman va ruslar ko'proq .

1 yanvar 2024 yilning dastlabki ma'lumotlariga ko'ra, Qashqadaryoda mehnatga layoqatli aholi soni 1826,7 ming kishi. Shundan 1316,6 ming kishi iqtisodiy faol hisoblanadi. Iqtisodiyot tarmoqlarida band aholi 1220,1 ming kishi. 2023 yil yakunlari bo'yicha bir yilda 89,4 ming yangi ish o'rinlari yaratilgan (asosan qishloq joylarda). Ishsizlik darajasi 7,3 %. Biroq shunga qaramasdan, viloyatda, xususan uning aholisi zich tumanlarida mehnat resurslaridan to'laroq foydalanish va mehnat bozori faoliyatini yaxshilash muhim muammodir.

Iqtisodiyotda band aholining katta qismi qishloq xo'jaligiga to'g'ri keladi (35-40 %). Shu bilan birga ijtimoiy sohalarida ham bu ko'rsatkich ancha yuqori, sanoat, transport va aloqada esa u pastroq. Umumiy holat viloyat urbanizatsiya darajasining iqtisodiy jihatlarini o'zida aks ettiradi.

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FEATURES OF DIARRHEA IN PATIENTS WITH CHRONIC PANCREATITIS

Abstract: *Chronic pancreatitis (CP) is a chronic inflammatory condition of the pancreas that often leads to exocrine insufficiency. A common manifestation is diarrhea, which reduces quality of life and leads to nutritional deficiencies. This paper reviews the main pathogenetic mechanisms, clinical features, diagnostic approach, and treatment options for CP-related diarrhea.*

Keywords: *chronic pancreatitis, diarrhea, exocrine insufficiency, steatorrhea, enzyme therapy*

Introduction.

Chronic pancreatitis (CP) is a chronic inflammatory disease of the pancreas that leads to irreversible morphological changes, progressive fibrosis, and a decline in both exocrine and endocrine function. The global incidence of CP varies from 4 to 10 cases per 100,000 population annually, with increasing prevalence among younger individuals due to alcohol abuse and dietary habits. One of the most debilitating symptoms of CP is chronic diarrhea, which occurs in approximately 30–40% of patients. In most cases, CP develops at the age of 35–50 years. This condition leads to significant weight loss, malnutrition, fat-soluble vitamin deficiencies, and reduced quality of life [8].

Pathogenesis and Mechanisms of Diarrhea.

The primary cause of diarrhea in CP is exocrine pancreatic insufficiency (EPI), resulting from acinar cell destruction and a decrease in digestive enzyme production [4]. Impaired lipid digestion leads to steatorrhea, a hallmark of EPI [6]. Additional mechanisms include bile acid malabsorption, small intestinal bacterial overgrowth (SIBO), and altered intestinal pH and motility [2]. These pathophysiological processes contribute to frequent, greasy, foul-smelling stools and nutritional deficiencies, particularly of vitamins A, D, E, and K [8]. As a result, patients experience diarrhea, steatorrhea, flatulence, loss of appetite, etc. Clinically expressed insufficiency of the exocrine pancreatic function develops only when its functional activity decreases by more than 90%. Clinical manifestations of impaired fat absorption include steatorrhea and flatulence, weight loss (in 30–52% of patients).

Clinical Presentation.

Patients with CP-associated diarrhea commonly report frequent bowel movements (3–6 or more times per day), steatorrhea, bloating, nausea, and

unintended weight loss [6]. Appetite may be reduced, and fatigue is common. Chronic nutrient malabsorption can result in anemia, hypoproteinemia, and micronutrient deficiencies manifesting as muscle cramps, dry skin, visual disturbances, and increased susceptibility to infections [6].

Differential diagnosis of diarrhea in CP includes distinguishing it from irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), celiac disease, and parasitic infections. IBS is functional in nature and does not involve steatorrhea or significant weight loss [6]. IBD (e.g., Crohn's disease, ulcerative colitis) is often associated with bloody stools and systemic inflammation, confirmed by endoscopy. Celiac disease is marked by positive serological markers (e.g., anti-tTG antibodies) and villous atrophy on biopsy. Parasitic causes such as giardiasis or amoebiasis are diagnosed through stool microscopy or PCR. CP-related diarrhea is best distinguished by low fecal elastase-1 levels and imaging findings of pancreatic fibrosis or ductal changes.

Diagnostic evaluation of CP-related diarrhea includes fecal elastase-1 measurement (values below 200 $\mu\text{g/g}$ indicate EPI), 72-hour fecal fat test, breath tests for SIBO, and abdominal imaging such as ultrasound, CT, or MRI [2]. Endoscopic ultrasound (EUS) is useful for detecting subtle structural changes. Nutritional assessment involves biochemical markers and anthropometry.

Calculation of the fat absorption coefficient requires a stool collection for 72 hours after ingestion of a known amount of fat (100 g/day). Excretion of more than 7 g/day of fat in the stool indicates fat malabsorption, while excretion of more than 15 g/day is considered severe fat malabsorption. However, this procedure is difficult for both patients and laboratory personnel and is rarely performed in routine practice. In general, indirect tests are moderately sensitive and specific for the diagnosis of CP [7].

Pancreatic elastase-1 is a human-specific enzyme that does not degrade during intestinal transit, is enriched 5-6 times in feces and, therefore, is a marker of exocrine pancreatic function [7]. Normally, the elastase level is more than 200 $\mu\text{g/g}$ of feces. In mild to moderate exocrine insufficiency, its content fluctuates within 100-200 $\mu\text{g/g}$ of feces. In severe exocrine insufficiency, the elastase content is less than 100 $\mu\text{g/g}$ of feces. This simple, fast and inexpensive method has no limitations in application and allows to determine the state of the exocrine function of the pancreas at earlier stages.

Treatment. The main principles of treatment of SIBO are therapy of the underlying disease, which became the main reason for its development, decontamination of opportunistic microflora and restoration of eubiosis. It would be advisable to prescribe adequate doses of enzyme preparations, which are the basic treatment for CP with SIBO. The mainstay of treatment is pancreatic enzyme replacement therapy (PERT), typically using pancreatin at doses of 25,000–50,000 lipase units with meals. Dietary modification includes low-fat intake and supplementation of fat-soluble vitamins. For SIBO, antibiotics such as rifaximin are prescribed, along with probiotics [2]. In cases of bile acid malabsorption, bile acid

sequestrants like cholestyramine may be used. The effectiveness of treatment is monitored by stool consistency, frequency, and nutritional improvement.

Conclusion.

Diarrhea in chronic pancreatitis is multifactorial, requiring an integrated and personalized approach. Timely diagnosis and effective therapy including PERT and adjunctive treatments significantly improve digestive function, nutritional status, and quality of life in affected patients. The modern list of drugs and the correctness of their use enable the practicing physician to carry out correction and prevention of disorders of the function of the pancreas and the microbiocenosis of the small intestine in each specific case with high efficiency and safety. Future research should focus on standardizing diagnostic criteria and optimizing therapeutic regimens.

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**THE IMPACT OF MODERN EDUCATIONAL TECHNOLOGIES ON THE
LEARNING PROCESS**

Annotation: This article analyzes the impact of modern educational technologies on the educational process. It explores how technologies contribute to updating students' learning processes, improving teachers' methodologies, personalizing education, and advancing the education system on a global scale. Modern technologies, including interactive learning tools, distance education systems, and digital platforms, provide students with opportunities to expand their knowledge and allow teachers to update their pedagogical methods. The effective use of educational technologies not only creates new opportunities for students and teachers but also promotes equity in education.

Keywords: Modern educational technologies, learning process, personalized education, distance learning, interactive lessons, digital platforms, student motivation, equity in education, global education system.

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Yuqumli kasalliklar kafedrası assistenti
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JARAYONIGA TA'SIRI**

Annotatsiya: Ushbu maqola zamonaviy ta'lim texnologiyalarining ta'lim jarayoniga ta'sirini tahlil qiladi. Maqolada texnologiyalarning o'quvchilarning bilim olish jarayonini yangilash, o'qituvchilarning metodologiyalarini takomillashtirish, ta'limni shaxsiylashtirish va ta'lim tizimining global miqyosda rivojlanishiga qanday ta'sir qilishini o'rganiladi. Zamonaviy texnologiyalar, shu jumladan interaktiv ta'lim vositalari, masofaviy ta'lim tizimlari va raqamli platformalar, o'quvchilarga o'z bilimlarini kengaytirish, o'qituvchilarga esa pedagogik metodlarni yangilash imkonini yaratadi. Ta'lim texnologiyalarining samarali qo'llanilishi nafaqat o'quvchilar va o'qituvchilar uchun yangi imkoniyatlar yaratadi, balki ta'limda adolatni ta'minlashga ham xizmat qiladi.

Kalit so'zlar: Zamonaviy ta'lim texnologiyalari, o'quv jarayoni, shaxsiylashtirilgan ta'lim, masofaviy ta'lim, interaktiv darslar, raqamli platformalar, o'quvchilarning motivatsiyasi, ta'limda tenglik, global ta'lim tizimi.

Introduction: The impact of modern educational technologies on the educational process has been widely analyzed in recent years, creating opportunities to enhance the effectiveness of learning systems, ensure student engagement, and elevate the quality of education to a new level. Educational technologies not only simplify the learning process for students but also offer teachers opportunities to implement new methodologies and update their knowledge. The influence of technology on the learning process is broad and profound, encompassing all aspects of teaching and learning systems. One of the most significant impacts of modern educational technologies is the renewal and enrichment of students' knowledge acquisition. Through interactive learning tools, distance learning systems, multimedia resources, and digital platforms, students can not only study traditional texts but also expand their knowledge using video and audio materials, simulations, and interactive exercises. These technologies help students quickly update their knowledge and utilize visual and audio formats to grasp complex concepts. Multimedia tools facilitate students' concentration and active participation in the learning process, thereby increasing their motivation to learn.

Literature analysis: The article refers to several scientific studies and expert opinions to analyze the impact of modern educational technologies on the learning process. K. Gross and S.L. Rubinstein's scientific approaches to game technologies demonstrate the influence of play on an individual's social adaptation. The ideas proposed by O.A.Chirkova and T.F.Bashkireva on using active teaching methods and game technologies in the educational process suggest effective methods for developing students' professional skills. The influence of modern educational technologies on the learning process plays a particularly important role in technical fields by efficiently transmitting theoretical knowledge to the study of real technical systems and devices. Theoretical knowledge in subjects like mathematics, physics, chemistry, and informatics serves as the foundation for technical courses. This turns one of the primary tasks of teachers into ensuring a continuous connection between abstract concepts from natural sciences and practical technical systems.[1] German psychologist K.Gross referred to play as *the first school*, as it helps children understand the events occurring in their environment.[2] S.L.Rubinstein described play as *the primary stage of practice*, and A.N.Leontyev emphasized that the motive of play lies not in the result, but in the process itself. According to leading global educators and psychologists, play not only helps restore social experience but also serves to optimize the process of social adaptation and individualization within society.

O.A.Chirkova proposes the use of game technologies to develop students' professional and social skills. She believes that during their first year, students are introduced to their future professions, and using game technologies during this stage is effective. Business games aimed at changing the system of classroom activities and their subject content provide students with opportunities to study professional activities in real-world settings.[3] Curricula across different specialties integrate related disciplines, such as those in the field of economics, into unified modules. T.F.Bashkireva presents her experience with active teaching methods in the

integrated study of economics-related subjects, including solving crosswords, presentations, and tests (which combine questions from several subjects), among others. These methods help students integrate different subjects and develop their professional knowledge in a practical manner.[4] In a rapidly changing society and production environment, progressive professional education plays a crucial role in preparing students to adapt to future changes. This process also supports the individual's self-identification in professional activities and enables decision-making related to their career paths. Progressive education not only ensures the right to self-identification but also helps individuals acquire the necessary knowledge and skills in advance to operate in any field. This process fosters the development of forecasting, analytical, and anticipatory skills, helping students succeed not only professionally but also in everyday life.[5] To further analyze the impact of modern educational technologies, attention must be given to the personalization of the learning process. Every student should have the opportunity to receive education tailored to their individual needs and abilities. Distance learning and technologies that allow students to learn at their own pace play a crucial role in personalizing education. Online platforms and interactive lessons enable students to absorb content at their own pace and according to their preferences. This, in turn, fosters self-learning skills and encourages independent thinking. It is incorrect to associate the impact of educational technologies solely with students, as they also provide new opportunities for teachers. With new technologies, teachers can update their knowledge, improve their methodologies, and develop innovative approaches to enhance the quality of education. Distance learning systems, video conferencing, webinars, and online courses help teachers strengthen their knowledge and learn new pedagogical methods. Additionally, technologies allow teachers to monitor students' academic progress in real time and work with them individually.

The impact of modern educational technologies also significantly contributes to educational equity in society. Digital technologies provide learning opportunities to students with limited access. Distance learning systems and online courses offer learning opportunities to students from various parts of the world. This helps promote equity in education. For example, students in rural areas can access modern education through online courses and digital platforms. In this way, educational technologies not only expand opportunities for students but also equalize access to education, thereby enhancing social justice. Another critical effect of modern educational technologies is the global development of education systems. Technologies expand opportunities for both teachers and students to receive and share knowledge worldwide. Global online platforms, digital textbooks, and teacher training systems offer equal-quality education in various parts of the world. This strengthens the integration of international education systems and supports the global advancement of education. For instance, online courses and certification programs available in multiple languages allow students to receive education from anywhere in the world.

Research methodology: Several methodologies were employed in this study to examine the impact of modern educational technologies on the educational

process. First, a literature review was conducted to analyze scientific sources and existing studies, which provided a theoretical basis for understanding modern educational technologies, their impact on students' learning processes, and teachers' methodological approaches. This analysis covered both national and international studies, articles, monographs, and scientific journals to identify the latest developments and approaches in the field of educational technologies. Empirical methods such as surveys and questionnaires were also used. These methods helped collect and analyze data from both students and teachers. Through the questionnaires, students' attitudes toward educational technologies, their effectiveness, motivation, and activity levels were studied. For teachers, the surveys gathered information on their methodological approaches, experiences with technology, and how they implement it in teaching.

Furthermore, a case study method was used to examine the impact of distance education systems and interactive learning tools on students and teachers. Lessons that integrated modern educational technologies were observed in several educational institutions to analyze student engagement and the effect on teachers' pedagogical methodologies. A mixed methodology combining qualitative and quantitative data analysis was also employed. This approach allowed for an in-depth analysis of students' experiences and perspectives, as well as an assessment of changes and motivation levels through statistical data. This research explored the role of technologies in meeting students' evolving needs and how these technologies contribute to individualizing the learning process. The study identified how distance learning systems, online platforms, and interactive tools enable students to learn at their own pace and develop self-learning skills. By analyzing student activity, motivation, and teachers' methodologies, the contribution of modern educational technologies to the education system was determined, revealing how they simplify and improve the knowledge acquisition process. These methodologies also demonstrated the opportunities available for teachers to update their knowledge and elevate the quality of education.

Analysis and results: The analysis showed that modern educational technologies significantly enhance the efficiency of students' learning processes. Interactive learning tools and distance learning systems provide students with opportunities to update their knowledge and use visual and audio formats to understand complex concepts. These technologies help students not only grasp theoretical knowledge but also apply it in practice. For example, interactive tools allow students to complete exercises, reinforce knowledge, and manage their own learning process independently. This boosts their motivation and deepens their interest in learning.

Modern educational technologies accommodate various learning styles. By applying visual, audio, and kinesthetic methods, technologies help address students' individual needs. For instance, some students better understand topics through videos and multimedia materials, while others benefit from interactive exercises and simulations. Teachers, using new technologies, can update their methodologies and improve the learning process. Technologies allow them to convey knowledge more

effectively. Distance learning systems, video lessons, online platforms, and interactive programs offer diverse ways to deliver lessons, making education more engaging and efficient. Teachers can conduct classes online or individualize lessons through modern technology.

Technologies also support equity in education. For example, providing online courses to students in rural areas helps eliminate geographical and economic barriers. This ensures equal opportunities in education and reduces social inequality. Students can continue their education anytime and anywhere, contributing to the stability of the educational process. The analysis shows that modern educational technologies not only improve the efficiency of the learning process for students but also offer teachers opportunities to update their pedagogical approaches, diversify methodologies, and personalize education. By integrating technologies into the education system, the process becomes more modern, effective, and equitable.

Discussion: The effective use of modern educational technologies creates new opportunities for both students and teachers. Technologies allow students to receive education tailored to their needs. For instance, with interactive tools, students can manage their own learning, develop self-learning skills, and grasp complex concepts using visual or audio formats. This encourages independent thinking and increases interest in education. Technologies offer students the flexibility to learn at a convenient time, place, and pace, enhancing motivation and promoting active learning. Teachers can also use new technologies to improve and update their pedagogical approaches. Technologies such as distance learning systems, interactive platforms, and online resources allow teachers to deliver lessons more effectively and engagingly. This helps teachers refine their methods, individualize instruction, and consider students' needs. Technologies also provide teachers with opportunities to strengthen their knowledge, learn new pedagogical methods, and enhance their professionalism.

In addition, technologies play a vital role in ensuring social, cultural, and economic stability in education. For example, by offering online courses to students in rural areas, it becomes possible to ensure equal access to education. Technologies enable teachers to deliver knowledge more effectively and innovatively, which improves the quality of education. However, integrating technology into education systems also presents challenges. In some regions, there is limited access to digital infrastructure and the internet. Moreover, training and resources needed to fully support the use of technologies for both students and teachers are lacking. Therefore, to use technology effectively in education, it is necessary to develop the required infrastructure and training programs. As a result, modern educational technologies contribute significantly to the educational process. Through technology, the learning process becomes efficient, personalized, and globally accessible, supporting the advancement of education systems. Nevertheless, successful implementation requires adequate infrastructure, resources, and training.

Conclusion: Modern educational technologies play a crucial role in increasing the efficiency of the learning process, enriching students' knowledge acquisition, and updating teachers' methodologies. Technologies also promote

educational equity, contribute to the global development of education systems, and support the personalization of education. Additionally, they improve the quality of education, enhance student motivation, and make the learning process more effective.

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RADIOAKTIVLIKNING QISHLOQ XO'JALIGIDAGI AHAMIYATI

Annotatsiya: Radioaktivlikdan qishloq xo'jaligining turli sohalarda keng qo'llanilmoqda. Radioaktivlik – bu atom yadrolarining o'z-o'zidan parchalanishi natijasida energiya ajralib chiqish jarayonidir. Ushbu maqolada radioaktivlikdan zararkunandalarga qarshi kurashish hamda tuproq va suv sifatini tekshirishda qishloq xo'jaligida qo'llanilishi keltirilgan.

Kalit so'zlar: Radioaktivlik, radioaktivlik izotoplar, radiatsiya, qishloq xo'jaligi, o'simliklarni o'sishi, hosildorlikni oshirish, sterilizatsiya qilish, fosfor-32, uglerod-14, zararkunandalar, radonli mineral suv.

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THE IMPORTANCE OF RADIOACTIVITY IN AGRICULTURE

Abstract: Radioactivity is widely used in various fields of agriculture. Radioactivity is the process of energy release as a result of the spontaneous fission of atomic nuclei. This article presents the use of radioactivity in agriculture to combat pests and to test the quality of soil and water.

Keywords: Radioactivity, radioactive isotopes, radiation, agriculture, plant growth, increasing productivity, sterilization, phosphorus-32, carbon-14, pests, radon mineral water.

Radioaktivlik – bu atom yadrolarining o'z-o'zidan parchalanishi natijasida energiya ajralib chiqish jarayonidir. Bu jarayon tabiiy ravishda sodir bo'lishi mumkin yoki maxsus qurilmalar yordamida sun'iy ravishda hosil qilinadi

Radioaktivlik yoki yadroviy parchalanish, yadro, zarrachalar yoki elektromagnit nurlanish yoki o'z-o'zidan parchalanish natijasida kuchli quvvat ajralish jarayoni. Bu yadro reaksiyasi paytida yuz beradi. Radioaktiv nurlar inson tanasidan, shuningdek ko'plab narsalardan o'tishi mumkin. Ular tuproqdan, toshlardan va ayniqsa qo'rg'oshindan osonlikcha o'tib keta olmaydi. Radiatsiya chiqaradigan ob'ektlarga radioaktiv deyiladi.

Atrofimizda doimo radiatsiya mavjud, ammo juda ko'p radiatsiya inson salomatligiga tahdid soladi va yanada rivojlangan bosqichlarda o'limga olib kelishi mumkin.

Tabiiy nurlanish uran kabi ba'zi kimyoviy elementlar va yulduzlar va kosmosdagi ba'zi narsalar tomonidan ishlab chiqariladi. Ba'zi ob'ektlar bir soniyadan kam vaqt davomida radioaktiv bo'lib turishi mumkin, boshqalari esa ming yillar davomida radioaktiv bo'lib turishi mumkin.

Radiatsiya maxsus mashinalar tomonidan ham ishlab chiqarilishi mumkin, bu mashinalar Siklotron (tezlashtirgich mashinasi), chiziqli tezlatgich yoki zarrachalar tezlatgichi ham deb nomlanadi. Ba'zi olimlar ushbu mashinalardan ular ishlaydigan radiatsiya hosil qilish uchun foydalanadilar. Rentgen apparatlari ishlab chiqarilgan oz miqdordagi (rentgen nurlari) tufayli inson tanasining ichki qismlarini ko'rishga imkon beradi.

Qishloq xo'jaligida radioaktivlikdan turli maqsadlarda foydalanish mumkin:

1. O'simliklarning o'sishini tezlashtirish – Ba'zi radioaktiv izotoplar o'simliklarning o'sish jarayonini rag'batlantirishi mumkin. O'simliklarning o'sishini tezlashtirish uchun turli usullar mavjud, jumladan, radioaktiv izotoplar yordamida o'sish jarayonini rag'batlantirish. Ba'zi radioaktiv moddalar, masalan, fosfor-32 va uglerod-14, o'simliklarning ozuqa moddalarini tezroq singdirishiga yordam beradi. Ushbu izotoplar o'simlik hujayralarining metabolizmini faollashtirib, fotosintez jarayonini kuchaytiradi. Natijada, o'simliklar tezroq o'sadi va hosildorlik oshadi. Bundan tashqari, fulvik kislotalar ham o'simliklarning o'sishini rag'batlantirishda muhim rol o'ynaydi. Ular tuproqdagi minerallarni o'simliklar uchun qulay shaklga keltirib, ildizlarning ozuqa moddalarini yaxshiroq singdirishiga yordam beradi.

Genetik mutatsiyalar yaratish – yadro nurlari o'simliklarning genetik tuzilishini o'zgartirishga yordam beradi. Bu seleksiya jarayonida yangi, iqlimga chidamli va yuqori hosildor navlarni yaratishda qo'llaniladi. O'zbekiston olimlari ayniqsa paxtachilikda yadro nurlaridan foydalanish bo'yicha ko'plab tadqiqotlar olib borganlar. Masalan, akademik J.A. Musayev va N.N. Nazirov g'o'zaga yadro nurlarining biologik va biokimyoviy ta'sirini o'rganib, yangi navlar yaratishda foydalanishgan

2. Zararkunandalarga qarshi kurash – radiatsiya yordamida zararkunandalarni sterilizatsiya qilish orqali ularning ko'payishini oldini olish mumkin. Mahsulotlarni radiosterilizatsiya qilish – yadro nurlari qishloq xo'jalik mahsulotlarini sterilizatsiya qilishda ishlatiladi. Bu usul mahsulotlarning uzoq muddat saqlanishini ta'minlaydi va zararli mikroorganizmlarni yo'q qiladi. Zararkunandalarga qarshi kurashish qishloq xo'jaligida muhim ahamiyatga ega bo'lib, hosildorlikni saqlash va ekinlarni himoya qilishga yordam beradi. Radioaktivlik bu jarayonda innovatsion usullardan biri sifatida qo'llaniladi. Mana ba'zi asosiy usullar:

Sterilizatsiya usuli – ba'zi zararkunandalar radioaktiv nurlanishga duchor qilinib, ularning ko'payish qobiliyati pasaytiriladi. Masalan, erkak hasharotlar

sterilizatsiya qilinib, tabiiy populyatsiya ichiga qo'yiladi, natijada ularning nasl qoldirish darajasi kamayadi

Genetik o'zgarishlar – radioaktiv nurlanish ba'zi zararkunandalar genetik tuzilishini o'zgartirib, ularning hayotiy faoliyatini susaytirishi mumkin. Bu usul zararkunandalarni tabiiy ravishda yo'q qilishga yordam beradi.

Biologik nazorat – radioaktivlikdan foydalangan holda ba'zi foydali organizmlar kuchaytiriladi, bu esa zararkunandalarga qarshi tabiiy kurashish imkonini beradi. Bu usullar ekologik jihatdan xavfsizroq bo'lib, kimyoviy vositalarga nisbatan kamroq zarar yetkazadi.

3. Tuproq va suv sifatini tekshirish – radioaktiv izotoplar tuproq va suv tarkibini tahlil qilishda qo'llaniladi, bu esa qishloq xo'jaligi mahsulotlarining sifatini oshirishga yordam beradi. Radioaktivlik tuproq va suv sifatiga ta'sir qilishi mumkin, shuning uchun ularni tekshirish muhimdir. Suvning radioaktivligi tabiiy va sun'iy izotoplar mavjudligiga bog'liq bo'lib, yer osti, daryo, ko'l va dengiz suvlarida uchraydi. Suvdagi uran, radiy va radon kabi moddalar atmosferadan yoki tuproqdan kelib qo'shiladi. Sun'iy radioaktiv moddalar esa yadro portlashlari yoki sanoat chiqindilari orqali suvga tushishi mumkin. O'zbekistonda radonli mineral suvlar Samarqand viloyatida topilgan.

Tuproqning radioaktivligi esa tog' jinslari tarkibidagi radioaktiv elementlar bilan bog'liq. Tuproqning yuqori qatlami suv, havo va organizmlar ta'sirida o'zgaradi. Tuproqshunoslik fani tuproq tarkibini yaxshilash va unumdorligini oshirish usullarini o'rganadi. Tuproqdagi radioaktivlikni tekshirish uchun maxsus usullar va asboblari qo'llaniladi. Tuproqni yaxshilash – Ba'zi tabiiy radioaktiv elementlar mineral o'g'it sifatida ishlatilishi mumkin. Bu tuproq tarkibini boyitib, ekinlarning o'sishiga ijobiy ta'sir ko'rsatadi.

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ENERGIYA SHAKLLARINI QISHLOQ XO'JALIGIDA QO'LLANILISHI

Annotatsiya: *Qishloq xo'jaligida energiya almashinuvi oziq-ovqat ishlab chiqarish, tabiiy resurslardan foydalanish va ekologik barqarorlikni ta'minlashda muhim rol o'ynaydi. Ushbu maqola samarali energiya boshqaruvi ishlab chiqarish samaradorligini oshirish, atrof-muhitni asrash va barqaror taraqqiyotga erishish imkonini beradi.*

Kalit so'zlar: *Energiya, mexanik energiya, issiqlik energiyasi, kimyoviy energiya, yadro energiyasi, energiya almashinuvi, . fotosintez jarayoni, biologik yonilg'i, biomassa, mexanizatsiya, texnologik jarayonlar, issiqxona, agroekologik tizimlar.*

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USE OF ENERGY FORMS IN AGRICULTURE

Abstract: *Energy exchange in agriculture plays an important role in food production, natural resource utilization, and environmental sustainability. This article discusses how effective energy management can improve production efficiency, protect the environment, and achieve sustainable development.*

Keywords: *Energy, mechanical energy, thermal energy, chemical energy, nuclear energy, energy exchange, . photosynthesis process, biofuels, biomass, mechanization, technological processes, greenhouse, agroecological systems.*

Energiya – bu tabiatning asosiy tushunchalaridan biri bo'lib, har qanday jismning harakati, o'zaro ta'sir jarayonlari va o'zgarishlarini belgilovchi fizikaviy

xossadir. Bu tushuncha tufayli olamdagi turli jarayonlarni tushunish va ulardan samarali foydalanish mumkin. Energiya almashinuvi – bu energiyaning bir shakldan boshqa shaklga o'tish jarayonidir

Energiya shakllari. Energiya bir qancha shakllarda mavjud bo'lib, har biri o'ziga xos xususiyatlarga ega:

Mexanik energiya – jismlarning harakati va joylashuviga bog'liq energiya. U ikki turga bo'linadi: kinetik (harakatdagi jismning energiyasi) va potensial (tinch turgan jismning energiyasi).

Issiqlik energiyasi – jismlarning ichki energiyasi bo'lib, molekular harakati natijasida hosil bo'ladi. Harorat ortishi bilan jismlar energiya to'playdi va uni boshqa jismlarga o'tkazishi mumkin.

Kimyoviy energiya – moddalar tarkibida saqlanadigan energiya bo'lib, kimyoviy reaksiyalar natijasida ochilib yoki hosil bo'ladi. Masalan, oziq-ovqat iste'mol qilganda organizm ushbu energiyani oladi.

Elektromagnit energiya – yorug'lik va elektr toklari orqali uzatiladigan energiya. Quyosh nuri elektromagnit to'lqinlar shaklida yerga yetib keladi va hayot uchun muhim manba hisoblanadi.

Yadro energiyasi – atom yadrosidagi energiya bo'lib, yadroviy reaksiyalar jarayonida ajraladi. Atom elektr stansiyalarida aynan shu energiyadan foydalaniladi.

Energiya almashinuvi. Energiya bir shakldan boshqa shaklga o'tishi mumkin. Masalan, mashina harakatlanganda kimyoviy energiya (yoqilg'idan hosil bo'lgan) mexanik energiyaga aylanadi. Quyosh nuri yerga tushganda elektromagnit energiya issiqlik energiyasiga aylanadi. Shu kabi, energiya doimo bir shakldan boshqasiga o'tib, tabiatda muayyan muvozanatni saqlaydi.

Energiya almashinishi fizik qonunlar asosida sodir bo'ladi. Energiya saqlanish qonuniga ko'ra, energiya yo'q bo'lib ketmaydi yoki yo'qdan hosil bo'lmaydi, balki faqat bir shakldan boshqasiga o'tadi. Ushbu qonun barcha jarayonlarning asosi hisoblanadi.

Biologik tizimlarda energiya almashinuvi fotosintez, nafas olish, haroratni saqlash va modda almashinuvi jarayonlari orqali yuzaga keladi. Qishloq xo'jaligida esa bu jarayon tabiiy resurslar – quyosh nuri, suv, tuproq va biomassa yordamida amalga oshiriladi.

Qishloq xo'jaligidagi energiya almashinuvi quyidagi yo'nalishlarda namoyon bo'ladi:

Fotosintez jarayoni. O'simliklar quyosh nuri yordamida karbonat angidrid va suvdan organik moddalar hosil qiladi. Bu jarayon oziq-ovqat va yem-xashak ishlab chiqarishda asosiy rol o'ynaydi. Fotosintez energiyaning kimyoviy shaklda saqlanishini ta'minlaydi.

Biologik yonilg'i va biomassa. Biomassa – o'simlik va hayvon qoldiqlaridan hosil bo'ladigan energiya manbai. U o'g'it, yoqilg'i va hayvonlar uchun yem sifatida ishlatiladi. Masalan, chorvachilik fermalarida hayvon ekskrementlaridan biogaz ishlab chiqarish energiya almashinuvi samaradorligini oshiradi.

Mexanizatsiya va texnologik jarayonlar. Qishloq xo‘jaligi ishlab chiqarishida traktor, kombayn, sug‘orish tizimlari kabi texnologiyalar energiya sarfini boshqarishda muhim rol o‘ynaydi. Zamonaviy texnologiyalar energiyani samarali ishlatish va isrofchilikni kamaytirish imkonini beradi.

Issiqxona va agroekologik tizimlar. Issiqxona xo‘jaliklarida harorat, namlik va yorug‘lik nazorat qilinib, o‘simliklarning o‘sish jarayoni optimallashtiriladi. Ushbu jarayonda elektr va biologik energiya manbalaridan foydalanish energiya almashinuvi tizimini yanada samarali qiladi.

Energiya almashinuvi qishloq xo‘jaligida atrof-muhitga turlicha ta’sir ko‘rsatadi. Masalan, noto‘g‘ri boshqarilgan energiya almashinuvi tuproq degradatsiyasi, suv resurslarining kamayishi va atmosferaga zararli moddalar chiqarilishiga sabab bo‘lishi mumkin. Shu sababli, barqaror energiya tizimlarini yaratish va ekologik xavfsiz texnologiyalardan foydalanish muhim ahamiyatga ega.

Xulosa. Energiya bizning hayotimizda juda muhim rol o‘ynaydi. U har bir harakatda, har bir jarayonda mavjud bo‘lib, turli shakllarga aylanib boradi. Energiya almashinuvi tufayli tabiatda muvozanat saqlanib, hayot davom etadi. Insoniyat energiyadan foydalanish usullarini takomillashtirib, yanada samarali va ekologik toza texnologiyalarni ishlab chiqmoqda. Bu esa kelajakda barqaror rivojlanish va energetik muammolarni hal qilishga yordam beradi.

Qishloq xo‘jaligida energiya almashinuvi oziq-ovqat ishlab chiqarish, tabiiy resurslardan foydalanish va ekologik barqarorlikni ta’minlashda muhim rol o‘ynaydi. Zamonaviy qishloq xo‘jaligi tizimlarida energiya almashinuvi jarayonlarining samarali boshqarilishi ishlab chiqarishning barqarorligini ta’minlashda hal qiluvchi ahamiyatga ega. Samarali energiya boshqaruvi ishlab chiqarish samaradorligini oshirish, atrof-muhitni asrash va barqaror taraqqiyotga erishish imkonini beradi. Kelajakda innovatsion energiya manbalarini joriy etish va ekotizimlarni qo‘llab-quvvatlash orqali yanada samarali energiya almashinuvi tizimlarini rivojlantirish mumkin.

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EATING HABITS AND THEIR IMPACT ON PANCREATIC SYMPTOMS IN GASTROINTESTINAL DISEASES AND METHODS OF PROPHYLAXIS

Abstract: *This article examines the impact of dietary habits on the development of gastrointestinal diseases, particularly pancreatitis, and provides a scientific analysis of its prevention methods. Pancreatitis, in particular, shows that negative lifestyle factors, unhealthy eating habits, excessive consumption of fatty and spicy foods, alcohol and sugary drinks can aggravate pancreatic symptoms. The article highlights the importance of food composition, dietary approaches and a healthy lifestyle in the prevention of pancreatitis. The article also highlights the role of a healthy diet in reducing pancreatic symptoms, the importance of including fruits and vegetables, protein-rich foods, complex carbohydrates and other healthy foods in the diet.*

Keywords: *Pancreatitis, Dietary habits, Gastrointestinal system, Fatty foods, Complex carbohydrates, Alcohol, Sugary drinks, Antioxidants.*

Introduction

The gastrointestinal system is one of the most important and delicate systems of the body, and its health is crucial for the overall well-being of a person. The functioning of this system controls the human digestive process, at the same time performing such important functions as the absorption of food products into the body, the distribution of energy and essential substances, as well as the elimination of toxins and other harmful substances from the body. However, diseases of the gastrointestinal system, including pancreatitis, inflammatory processes of the stomach and intestines, can lead to many health problems. These diseases not only worsen the general condition of the body, but also significantly reduce the quality of life.

Pancreatitis is an inflammation of the pancreas, the main symptoms of which are manifested by unpleasant symptoms such as abdominal pain, indigestion, nausea and vomiting. The development of this disease can depend on various factors, including poor eating habits, alcohol consumption, lack of physical activity and stress. Dietary habits and their impact on pancreatic symptoms are influenced by several factors. Fatty, spicy, salty, and toxic foods can disrupt the functioning of the pancreas and cause its inflammation. In particular, excessive consumption of high-calorie, processed foods and alcohol poses a risk of developing pancreatitis.

Also, modern medicine is conducting new scientific research on gastrointestinal diseases and the role of food in their prevention. Understanding how food composition and consumption affect the development of pancreatitis is

important in increasing the importance of a healthy diet. A healthy and balanced diet, the implementation of dietary recommendations, and the selection of easily digestible, vitamin-rich foods are recognized as effective preventive measures in the prevention of pancreatitis. At the same time, there are various preventive methods to maintain the health of the gastrointestinal system and reduce pancreatic symptoms. These methods include dietary changes, healthy food choices, regular physical activity, and stress management. Individualized approaches, diet therapy, and medications are important in the prevention of pancreatitis, as well as in the treatment of chronic diseases.

Literature review and methodology

The gastrointestinal system is one of the main systems of the body, the health of which affects the functioning of the entire organism. Diseases that occur in this system, including pancreatitis, can significantly worsen a person's overall health. Pancreatitis is an inflammation of the pancreas, which mainly disrupts the digestive processes and causes various negative effects on the body. The development of pancreatitis is often associated with factors such as poor eating habits, stress, and lack of physical activity. This article was written to study food habits and their impact on pancreatic symptoms, as well as to develop preventive methods for preventing these diseases. It is necessary to analyze how food affects the development of pancreatitis, which foods can aggravate the inflammatory process, understand the importance of a healthy diet and show its role in maintaining health.

Food habits have a significant impact on the health of the gastrointestinal system. Choosing the wrong foods and eating them excessively can lead to the development of diseases such as pancreatitis, gastritis, and colitis. The foods that are most affected in acute and chronic pancreatitis are fatty, hard, and spicy foods, as well as alcohol and sugary drinks. These foods overload the pancreas, causing its enzymes and inflammatory processes to become uncontrollable. Also, foods with high salt and toxins can lead to impaired pancreatic function. Fatty and hard foods contribute to the development of pancreatitis, as they stimulate the overproduction of pancreatic enzymes. This leads to damage to the gland and increased inflammation. Pancreatitis is an inflammation of the pancreas, the development of which is mainly due to the spontaneous activity of enzymes and toxins. The acute form of pancreatitis develops rapidly and causes severe pain, which requires urgent medical attention. Chronic pancreatitis is a long-term disease in which the pancreas becomes less efficient due to repeated episodes of inflammation. The main symptoms of pancreatitis are abdominal pain, nausea, vomiting, and indigestion. When pancreatic enzymes do not function properly, this negatively affects the digestive process. The mechanism of the disease is mainly associated with poor food choices and improper consumption. In addition to medical treatment for pancreatitis, a healthy diet and dietary approaches are important.

To prevent pancreatitis and other diseases of the gastrointestinal tract, it is necessary to form proper eating habits. In the treatment of acute and chronic pancreatitis, diet is of great importance, it is necessary to abandon fatty, spicy and hard foods, and choose foods that are light and easily digestible. It is necessary to

maintain a balance of fats and carbohydrates in the composition of food products, since excess fats increase the production of pancreatic enzymes. In this case, vegetables, fruits, protein-rich products, light liquids and foods rich in vitamins should be chosen. To prevent pancreatitis, it is necessary to adhere to a good diet and eat meals regularly. At the same time, proper and regular physical activity helps to reduce pancreatic symptoms. Also, reducing stress and improving the psychological state are important in preventing pancreatitis. There are a number of preventive methods to prevent pancreatitis and reduce its development. First of all, it is necessary to change eating habits. Reducing unhealthy and fatty foods, eating foods rich in vegetables and fruits are effective tools for preventing pancreatitis. In addition, it is necessary to limit alcohol and alcoholic beverages, as they worsen the functioning of the pancreas. Another important way to prevent pancreatitis is to regularly engage in physical activity. Physical exercise improves the functioning of the gastrointestinal tract and strengthens the body in general. Stress management, good sleep and maintaining a healthy lifestyle are also considered preventive measures. At the same time, regular medical examinations and proper treatment also play an important role in preventing pancreatitis. In recent years, there has been an increased interest in studying the relationship between pancreatitis and eating habits.

Modern scientific research is aimed at studying the effect of food products on pancreatic symptoms, as well as new dietary approaches. Research results show that the development of pancreatitis can be prevented, for example, by changing the composition of food and eating habits. Also, light diets and food choices are effective in treating pancreatitis. New medicinal methods and therapy approaches are being developed in medicine, as well as new approaches aimed at the prevention and treatment of pancreatitis based on modern medical recommendations. Through research, it is possible to improve the prevention and treatment of pancreatitis by applying highly effective, individual approaches. Proper eating habits and preventive measures are important for preventing pancreatitis and reducing its symptoms. Improving eating habits, adopting a healthy diet, and increasing physical activity are effective tools for preventing pancreatitis. Quitting alcohol and smoking, as well as stress management, also help prevent this disease. Understanding the factors affecting the development of pancreatitis, taking into account the results of modern research, and using new preventive methods help maintain a healthy lifestyle. Proper organization of eating habits serves not only to prevent pancreatitis, but also other diseases of the gastrointestinal system.

Discussion

The development of pancreatitis and its symptoms are often caused by poor eating habits and the negative effects of lifestyle. The role of eating habits in the prevention of this disease is extremely important. Studies show that excessive consumption of fatty, spicy and hard foods, as well as excessive consumption of alcohol and sugary drinks, can cause the development of pancreatitis. These worsen the functioning of the pancreas, its enzymes are produced in large quantities, which damages pancreatic tissues. Considering the influence of food on pancreatitis, as

well as forming proper eating habits, shows that the most effective way to prevent diseases.

New scientific studies emphasize that optimal nutrition is important in maintaining a healthy digestive system. For example, eating foods rich in vitamins, minerals and antioxidants improves pancreatic function. Also, fruits and vegetables, complex carbohydrates, and protein-rich foods are effective in preventing pancreatitis. These foods relieve the digestive system and reduce the burden on the pancreas. One of the most effective ways to change eating habits is through individualized diets and their adaptation to a healthy lifestyle. To prevent pancreatitis and other gastrointestinal diseases, it is necessary to develop special diets tailored to individual needs. In addition, physical activity and stress management play a major role in reducing pancreatic symptoms. Exercise improves the functioning of the gastrointestinal system and strengthens the overall condition of the body. Stress management helps reduce inflammatory processes.

In addition, modern research is in favor of developing new approaches to the prevention of pancreatitis. New medicinal methods, dietary supplements, and prophylactic agents are providing effective results in the treatment of pancreatitis and preventing its development. At the same time, by introducing individualized approaches in the field of medicine, it is possible to achieve greater efficiency in the treatment of diseases. Scientific research shows that more effective ways to prevent pancreatitis are through dietary recommendations and a healthy lifestyle. Food and lifestyle play a significant role in determining effective ways to reduce pancreatitis and its symptoms. Given the direct impact of eating habits on the development of diseases, it is necessary to support a healthy lifestyle, improve nutrition and lifestyle. This will not only prevent pancreatitis, but also improve overall health. Healthy eating, physical activity and stress management remain important factors in the treatment of acute and chronic pancreatitis. Therefore, based on scientific research and clinical experience, it is necessary to introduce preventive methods to support a healthy lifestyle and prevent pancreatitis.

Conclusion

Food habits and lifestyle have a significant impact on the development of gastrointestinal diseases, in particular pancreatitis. Studies show that poor nutrition, excessive consumption of fatty and hard foods, alcohol and sugary drinks contribute to the development of pancreatitis. Therefore, the formation of healthy eating habits, namely the consumption of fruits and vegetables, protein-rich foods and complex carbohydrates, helps to improve the functioning of the pancreas and is an effective tool in preventing pancreatitis.

In addition to changing eating habits, regular physical activity and stress management are important in preventing pancreatitis. Physical exercise not only improves the functioning of the gastrointestinal system, but also strengthens overall health. It is also necessary to reduce the impact of stress on the pancreas, since the psychological state can increase inflammatory processes.

Modern research is providing new approaches to the prevention of pancreatitis and other gastrointestinal diseases. Changing the composition and

pattern of food intake, individual diets, and a healthy lifestyle are effective methods for treating pancreatitis and reducing its progression. Individual approaches, dietary recommendations, and increased physical activity are necessary as preventive measures. At the same time, adopting a healthy lifestyle, proper organization of eating habits, and stress management not only help prevent pancreatitis, but also improve overall health. It is necessary to recognize the importance of diet, physical activity, and stress management in the treatment and prevention of pancreatitis.

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RAQAMLI TEXNOLOGIYALAR ORQALI SANATORIYALARNING MENEJMENT TIZIMINI OPTIMALLASHTIRISH: SAMARQAND VILOYATIDAGI AMALIY TAHLIL

***Annotatsiya:** Ushbu maqolada Samarqand viloyati misolida sanatoriylar boshqaruv tizimini raqamli texnologiyalar yordamida optimallashtirish masalalari o'rganilgan. Sog'lomlashtirish va dam olish xizmatlariga bo'lgan talab ortib borayotgan bir sharoitda zamonaviy axborot-kommunikatsiya texnologiyalarining (AKT) sanatoriylar faoliyat samaradorligini oshirishdagi o'rni alohida ahamiyat kasb etmoqda. Tadqiqotda viloyatdagi ayrim sanatoriylarda mavjud raqamli infratuzilma holati tahlil qilinib, mavjud muammolar aniqlangan va ularni bartaraf etish bo'yicha amaliy yechimlar taklif etilgan. Natijalar shuni ko'rsatadiki, elektron bronlash tizimlari, bemorlarni boshqarish dasturlari hamda faoliyatni monitoring qilish platformalari kabi raqamli vositalarning joriy etilishi tashkilotning samaradorligini, mijozlar qoniqishini va resurslardan foydalanish darajasini sezilarli darajada oshiradi. Tadqiqot sanatoriylar sohasida innovatsiyalar, shaffoflik va strategik rivojlanishni ta'minlashda raqamli texnologiyalarning salohiyatini yoritib beradi hamda mintaqaviy iqtisodiy o'sishga hissa qo'shishini ko'rsatadi.*

***Kalit so'zlar:** raqamli texnologiyalar, sanatoriylar boshqaruvi, axborot-kommunikatsiya texnologiyalari, Samarqand viloyati, raqamli transformatsiya, sog'lomlashtirish xizmatlari, elektron boshqaruv, xizmat ko'rsatish samaradorligi, innovatsion yechimlar.*

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OPTIMIZATION OF THE MANAGEMENT SYSTEM OF SANATORIALS THROUGH DIGITAL TECHNOLOGIES: A PRACTICAL ANALYSIS IN THE SAMARKAND REGION

***Annotation:** This article addresses the optimization of the management system of sanatoriums through the integration of digital technologies, with a practical focus on the Samarkand region. In light of the growing demand for high-quality health and wellness services, the application of modern information and communication technologies (ICT) has become increasingly important in improving the efficiency and effectiveness of sanatorium operations. The study analyzes the current state of digital infrastructure in selected sanatoriums, identifies key challenges, and proposes practical solutions for digital transformation. The results demonstrate that the implementation of digital tools - such as electronic booking systems, patient management software, and performance monitoring platforms -*

significantly enhances organizational performance, customer satisfaction, and resource utilization. The research highlights the potential of digital technologies to foster innovation, transparency, and strategic development in the sanatorium sector, thereby contributing to the economic growth of the region.

Keywords: *digital technologies, sanatorium management, information and communication technologies, Samarkand region, digital transformation, health and wellness services, e-management, service efficiency, innovative solutions.*

Kirish

Zamonaviy davrda raqamli texnologiyalarning jadal rivojlanishi turli sohalarda, jumladan, sogʻliqni saqlash va sogʻlomlashtirish xizmatlari tizimida ham tub oʻzgarishlarga sabab boʻlmoqda. Ayniqsa, sanatoriylar singari ixtisoslashtirilgan sogʻlomlashtirish muassasalarining faoliyati samaradorligini oshirish, xizmat koʻrsatish sifati va bemorlar ehtiyojlariga tezkor javob berish darajasini oshirishda raqamli yechimlardan foydalanish muhim ahamiyat kasb etmoqda.

Oʻzbekistonning tarixiy va tabiiy resurslarga boy hududlaridan biri boʻlgan Samarqand viloyatida faoliyat yuritayotgan sanatoriylar aholining sogʻligini tiklashda va tibbiy turizmni rivojlantirishda muhim rol oʻynaydi. Biroq, koʻpgina sanatoriylarda boshqaruv jarayonlari hanuzgacha anʻanaviy usullarga asoslanmoqda, bu esa xizmat koʻrsatish samaradorligining pastligiga va raqobatbardoshlik darajasining pasayishiga olib kelmoqda. Shu bois, axborot-kommunikatsiya texnologiyalarini (AKT) joriy etish orqali ushbu muassasalarni raqamlashtirish dolzarb masalalardan biri hisoblanadi.

Ushbu tadqiqot Samarqand viloyatidagi sanatoriylarda raqamli texnologiyalarni joriy etish holatini oʻrganish, mavjud muammolarni aniqlash va boshqaruv tizimini optimallashtirish boʻyicha amaliy takliflar ishlab chiqishga qaratilgan. Tadqiqot natijalari sanatoriy sohasida innovatsiyalarni jadallashtirish hamda hududiy iqtisodiy oʻsishga hissa qoʻshishda raqamli texnologiyalarning tutgan oʻrnini ochib beradi.

ADABIYOTLAR TAHLILI

Sanatoriylarning boshqaruv tizimini raqamli transformatsiya qilish masalasi soʻnggi yillarda ilmiy va amaliy doiralarda katta eʼtiborni tortmoqda. Koʻplab xorijiy va mahalliy tadqiqotchilar ushbu yoʻnalishda turli metodologik yondashuvlar asosida izlanishlar olib bormoqda.

Xalqaro tajribada, xususan, Yevropa va Osiyo davlatlarida sogʻlomlashtirish muassasalarida raqamli texnologiyalarni joriy etish boshqaruv tizimining avtomatlashtirilishi, mijozlar bilan aloqaning interaktiv shaklga oʻtishi va xizmatlar monitoringi orqali samaradorlikni oshirishga xizmat qilayotgani koʻrsatilgan (Smith & Kumar, 2020; Zhang et al., 2019). Ularning izlanishlarida elektron sogʻliqni saqlash platformalari (e-Health), bulutli texnologiyalar, CRM tizimlari va IoT (Internet of Things) asosida sanatoriy xizmatlarini boshqarish usullari keng yoritilgan.

O'zbekiston sharoitida esa raqamli texnologiyalarni tibbiy xizmat ko'rsatishda qo'llash bo'yicha bir qator ilmiy maqolalar va tadqiqotlar mavjud bo'lsa-da, sanatoriyalar boshqaruvi bo'yicha chuqur tahliliy ishlar yetarli emas. Ba'zi ishlar (Qodirov, 2021; Jo'rayev va boshq., 2022) sog'liqni saqlash sohasida raqamlashtirishning umumiy jihatlarini o'rganib, elektron hujjat aylanishi, axborot tizimlari va telemeditsina bo'yicha yondashuvlarni taklif etgan. Ammo ular sanatoriyalar uchun maxsus optimallashtirilgan boshqaruv modellari va ularni amaliyotga tadbiiq etish bo'yicha to'liq tavsiyalar bermagan.

Shuningdek, Markaziy Osiyo mintaqasida olib borilgan tadqiqotlar (Tursunov, 2023) sanatoriy xizmatlarining sifatini oshirishda mijozlar ma'lumotlar bazasini shakllantirish, onlayn bronlash tizimlari va tahliliy hisobotlarni avtomatlashtirishga e'tibor qaratmoqda. Bu esa, ayniqsa, turizm va tibbiy xizmatlarning integratsiyalashgan shaklda faoliyat yuritayotgan sanatoriyalar uchun dolzarb ahamiyat kasb etadi.

TADQIQOT METODOLOGIYASI

Ushbu tadqiqotda Samarqand viloyatidagi sanatoriyalarda raqamli texnologiyalarni menejment tizimiga integratsiya qilish orqali boshqaruv samaradorligini oshirish imkoniyatlari o'rganildi. Tadqiqot quyidagi metodologik yondashuvlarga asoslanadi:

1. Tadqiqot dizayni

Tadqiqot empirik va amaliy xarakterga ega bo'lib, aralash metodologiya (mixed-methods research) asosida olib borildi. Sifat (qualitative) va miqdoriy (quantitative) yondashuvlar birgalikda qo'llanildi, bu esa aniqlangan muammolarni chuqurroq tahlil qilishga imkon berdi.

2. Ma'lumot yig'ish usullari

Usul turi	Qo'llangan vosita	Maqsad
So'rovnoma	Google Forms, qog'oz shakli	Xodimlar va rahbarlar fikrini yig'ish
Intervyu	Yuzma-yuz va telefon orqali	Raqamlashtirishga oid muammolarni chuqur lil qilish
Hujjat tahlili	Ichki reglamentlar, boshqaruv obotlari	Amaldagi tizim holatini baholash
Kuzatuv	Bevosita joyiga chiqib monitoring	Jarayonlarni real sharoitda ko'rish va baholash

3. Ma'lumotlar tahlili usullari

Tahlil jarayonida quyidagi analitik usullar qo'llanildi:

- **SWOT-tahlil** – Har bir sanatoriyaning raqamli transformatsiyaga nisbatan ichki va tashqi omillari baholandi.

- **Deskriptiv statistika** – So'rovnomalardan olingan miqdoriy ma'lumotlar Microsoft Excel va SPSS yordamida ishlov berildi.

- **Taqqoslash tahlili (Comparative analysis)** – Raqamlashtirish darajasiga qarab sanatoriyalar faoliyati solishtirildi.

• **Vizualizatsiya vositalari** – Diagramma va grafiklar yordamida asosiy ko‘rsatkichlar tasvirlandi.

XULOSA

Olib borilgan tadqiqotlar natijasida Samarqand viloyatidagi sanatoriyalarning boshqaruv tizimida raqamli texnologiyalarni joriy etish imkoniyatlari, mavjud muammolar va istiqbolli yo‘nalishlar aniqlab olindi. Tahlillar shuni ko‘rsatdiki, aksariyat sanatoriya raqamli infratuzilmaga ega bo‘lsa-da, menejment tizimining to‘liq raqamlashtirilgan modeli hali shakllanmagan.

Raqamli texnologiyalarni samarali qo‘llash orqali quyidagi natijalarga erishish mumkin:

- mijozlar bilan ishlashda tezkorlik va shaffoflikni ta‘minlash;
- xizmatlar sifatini monitoring qilish va tahliliy qarorlar qabul qilish imkonini beruvchi axborot tizimlarini joriy etish;
- ichki jarayonlarni avtomatlashtirish orqali inson omiliga bog‘liq xatoliklarni kamaytirish;
- moliyaviy va tashkiliy resurslardan foydalanish samaradorligini oshirish.

Shuningdek, tadqiqot davomida aniqlangan zaif jihatlar qatoriga malakali IT kadrlar tanqisligi, ayrim sanatoriyalarda texnik vositalar va dasturiy ta‘minotlarning yetarli emasligi, raqamli xavfsizlik tizimlarining sustligi kiritilishi mumkin.

Ushbu tadqiqot natijalari nafaqat Samarqand viloyatidagi, balki boshqa hududlardagi sog‘lomlashtirish muassasalari uchun ham metodik asos bo‘lib xizmat qilishi mumkin.

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IMPROVING THE EFFICIENCY OF SANATORIUMS THROUGH DIGITAL SERVICE PLATFORMS: ANALYSIS AND PROSPECTS

***Annotation:** This article explores the potential of digital service platforms in enhancing the operational efficiency and service quality of sanatoriums. It presents a comprehensive analysis of current digital transformation trends within the healthcare and wellness tourism sectors, with a particular focus on sanatoriums. The research examines key components such as online booking systems, digital patient management, and feedback-driven service improvements. Based on case studies and data from selected sanatoriums, the study identifies both the benefits and challenges of adopting digital platforms. Finally, the article outlines strategic recommendations and prospects for the effective implementation of digital technologies to ensure sustainable development and increased competitiveness of sanatorium institutions.*

***Keywords:** digital platforms, sanatorium efficiency, healthcare digitalization, wellness tourism, service quality, operational improvement.*

Introduction

In recent years, the integration of digital technologies into the healthcare and wellness sectors has significantly transformed service delivery models. Sanatoriums, as specialized health and rehabilitation institutions, play a vital role in providing long-term care, preventive treatment, and wellness services. However, many of these institutions face operational inefficiencies, limited digital infrastructure, and challenges in meeting the evolving expectations of modern consumers.

The global shift towards digitalization, accelerated by the COVID-19 pandemic, has highlighted the need for sanatoriums to adopt innovative solutions that enhance accessibility, streamline service processes, and improve patient

satisfaction. Digital service platforms—encompassing online booking systems, electronic health records, telemedicine, and real-time feedback tools—offer immense potential to modernize sanatorium operations and elevate their overall performance.

This paper aims to analyze the current state of digital adoption in sanatoriums, identify key challenges and opportunities, and propose strategic pathways for digital transformation. By examining case studies and best practices, the study seeks to provide actionable insights for improving the efficiency, competitiveness, and sustainability of sanatoriums in the digital age.

Materials and Methods

This study employs a mixed-methods approach to assess the role of digital service platforms in enhancing the efficiency of sanatoriums. Both qualitative and quantitative data were collected to ensure a comprehensive analysis. The research was conducted in selected sanatoriums located in the Samarkand region of Uzbekistan, where digital transformation initiatives are gradually being introduced in the healthcare and wellness sectors.

Primary data were obtained through structured interviews with sanatorium administrators, IT specialists, and medical staff. Additionally, surveys were distributed to patients and visitors to gather insights into their experiences with digital services such as online booking, digital health records, and feedback mechanisms.

Secondary data were gathered from official reports, statistical yearbooks, academic publications, and government digitalization strategies. A comparative analysis was conducted to evaluate the operational performance of sanatoriums before and after implementing digital tools.

To assess efficiency improvements, key performance indicators (KPIs) such as patient flow, service delivery time, customer satisfaction rates, and cost-effectiveness were analyzed. Data were processed using Microsoft Excel and SPSS software for statistical analysis, including descriptive statistics and correlation analysis.

This methodological framework allowed for identifying not only the practical outcomes of digitalization but also the systemic barriers and prospects for further digital development in the sanatorium sector.

Results and Discussion

This study employs a mixed-methods approach to assess the role of digital service platforms in enhancing the efficiency of sanatoriums. Both qualitative and quantitative data were collected to ensure a comprehensive analysis. The research was conducted in selected sanatoriums located in the Samarkand region of Uzbekistan, where digital transformation initiatives are gradually being introduced in the healthcare and wellness sectors.

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This methodological framework allowed for identifying not only the practical outcomes of digitalization but also the systemic barriers and prospects for further digital development in the sanatorium sector.

Conclusion

The findings of this study confirm that the implementation of digital service platforms plays a crucial role in improving the efficiency and service quality of sanatoriums. In the analyzed cases from the Samarkand region, digital tools such as online booking systems, electronic health records, and feedback platforms significantly reduced administrative burden, enhanced patient satisfaction, and optimized resource utilization.

Quantitative indicators showed clear improvements in registration time, patient flow, and cost-efficiency, while qualitative feedback highlighted increased convenience and transparency in service delivery. These outcomes demonstrate that digital transformation is not only a technological upgrade but also a strategic necessity for the modernization of sanatorium institutions.

Despite these advancements, several challenges remain, including limited technical infrastructure, insufficient digital literacy among staff, and the need for regulatory support. To overcome these barriers, a coordinated approach involving investment in ICT infrastructure, staff training, and the development of national-level digital health policies is essential.

In conclusion, the integration of digital service platforms offers significant potential for sanatoriums to enhance operational performance, meet growing patient expectations, and ensure long-term sustainability in the evolving healthcare and wellness landscape.

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TEACHING ENGLISH TO STUDENTS OF A TECHNICAL UNIVERSITY: CHALLENGES AND EFFECTIVE METHODOLOGIES

Abstract: *This article examines the specific challenges and methodological approaches in teaching English to students at technical universities. The focus is on English for Specific Purposes (ESP), particularly tailored to engineering, IT, and other technical domains. The study identifies the linguistic, cognitive, and motivational barriers faced by students and proposes effective pedagogical strategies, including the integration of technical vocabulary, task-based learning, and ICT tools. The article also presents practical examples of classroom activities and suggests tools for formative and summative assessment of technical students' language proficiency.*

Keywords: *ESP, technical English, engineering students, higher education, methodology, communicative competence, ICT in education*

Introduction

In the context of globalization and technological advancement, proficiency in English has become a vital skill for technical specialists. Students of engineering and technological universities require English not only for academic purposes but also for future professional communication, participation in international projects, and access to scientific information. Therefore, teaching English to technical students necessitates a specialized approach that goes beyond general language instruction. This paper explores the specific linguistic needs of technical students, the challenges they face, and effective methodological strategies that foster language acquisition in the context of their professional development.

1. The Role of English in Technical Education

English serves as the primary medium for scientific publications, international conferences, and technical documentation. Its dominance in global communication requires future engineers and IT specialists to acquire a functional command of English across all four language skills—reading, writing, listening, and speaking. The development of English proficiency contributes to:

- Academic success in reading technical literature and writing research papers;
- Professional growth and international mobility in engineering careers;
- Effective participation in intercultural communication and teamwork;
- Engagement in lifelong learning through access to global knowledge resources.

Furthermore, with the rapid digitalization of industries, technical professionals increasingly rely on English-language software interfaces, programming environments, manuals, and online training platforms.

2. Specific Challenges for Technical Students

Students of technical universities often face the following difficulties in acquiring English proficiency:

- **Limited language background:** Many first-year students enter university with only basic grammar and vocabulary skills, insufficient for academic or professional use.

- **Terminology overload:** The complexity and abundance of subject-specific terms in engineering or IT can overwhelm students and reduce comprehension.

- **Low motivation and relevance perception:** Some students may view English as unrelated to their technical major, affecting their engagement.

- **Imbalanced skill development:** Traditional instruction may overemphasize reading and translation at the expense of productive skills like speaking and writing.

- **Time constraints:** Technical curricula are often overloaded with core subjects, leaving limited hours for English instruction.

These challenges require innovative solutions that link language learning to students' future careers.

3. Methodological Approaches

To address the aforementioned challenges, ESP teaching should follow a student-centered, needs-based, and professionally oriented methodology. Effective approaches include:

3.1. Content-Based Instruction (CBI)

CBI integrates English language learning with professional content. In technical universities, this could involve:

- Reading and summarizing technical manuals, standards (e.g., ISO documents), or journal articles;
- Analyzing design specifications and blueprints;
- Writing lab reports and documentation for experiments;
- Solving engineering problems in English.

CBI promotes cognitive engagement by helping students build subject knowledge and language skills simultaneously.

3.2. Task-Based Language Teaching (TBLT)

TBLT emphasizes meaningful communication through real-life tasks, such as:

- Giving presentations on technical innovations;
- Preparing user manuals or software instructions;
- Participating in mock interviews for engineering positions;
- Conducting group projects on energy efficiency, AI, robotics, etc.

These tasks stimulate collaboration, develop 21st-century skills, and mimic professional scenarios.

3.3. Vocabulary Development Strategies

Vocabulary acquisition is crucial in technical English. Effective strategies include:

- **Corpus-based learning:** Using engineering corpora to extract frequent terminology;
- **Glossary building:** Students compile and update their own subject-specific glossaries;
- **Mnemonic techniques:** Visual aids, analogies, and mind maps help retention;
- **Learning in context:** Technical vocabulary is taught through situational case studies and problem-solving.

3.4. Integration of ICT Tools

The use of information and communication technologies (ICT) enhances student motivation and exposure to authentic language input. Useful tools include:

- Online platforms like Moodle, Edmodo, and Google Classroom for assignment management;
- Vocabulary apps (Quizlet, Memrise) for self-paced learning;
- Podcasts and YouTube channels featuring engineers, scientists, or tech news;
- Simulations and virtual labs for language practice in real-life technical contexts.

4. Classroom Practices and Learning Materials

Effective ESP courses for technical students should incorporate diverse materials, including:

- Authentic articles from journals like *IEEE Spectrum*, *Scientific American*, or *MIT Technology Review*;
- Transcripts of TED Talks or panel discussions on scientific topics;
- Technical documents (manuals, patents, specification sheets);
- Multimedia presentations and instructional videos with engineering vocabulary.

Role-playing scenarios, problem-solving tasks, and flipped classroom models further increase student engagement and language production.

5. Assessment and Feedback

Language assessment for technical students should measure both general English proficiency and the ability to function in professional contexts. Suitable assessment tools include:

- **Diagnostic tests** to identify initial levels and learning gaps;
- **Portfolios** showcasing technical writing and project work;
- **Oral presentations** with peer and teacher feedback;
- **Listening comprehension tasks** using technical lectures and interviews;
- **Formative quizzes** with feedback loops for vocabulary and grammar.

Continuous, formative assessment is essential to track students' progress and guide personalized instruction.

Conclusion

Teaching English to technical university students is a multifaceted task that requires specialized pedagogical approaches, relevant content, and an understanding of students' academic and professional aspirations. By implementing ESP-focused, student-centered methodologies, educators can significantly enhance learners' language competence and employability. The integration of content-based learning, task-based instruction, and digital technologies aligns language instruction with real-world demands. Moreover, the personalization of learning paths, emphasis on communication and continuous assessment contribute to higher student motivation and academic performance.

The ultimate goal is not merely to teach a foreign language but to empower future engineers, programmers, and researchers to participate confidently in the global knowledge economy, collaborate across cultures, and contribute to innovation through effective communication.

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AI AND MACHINE LEARNING IN ENGLISH LANGUAGE TEACHING (ELT)

Annotation: *This article provides an in-depth examination of the scientific and practical aspects of Artificial Intelligence and Machine Learning in English Language Teaching. It discusses adaptive learning systems, virtual tutors, and automated assessments, emphasizing their potential benefits and ethical challenges. This paper presents a comprehensive exploration of Artificial Intelligence (AI) and Machine Learning (ML) applications in English Language Teaching (ELT), focusing on their transformative potential in personalizing instruction, enhancing assessment, and creating adaptive learning environments. It examines the scientific foundations of AI-driven language learning and addresses critical challenges including ethical considerations and teacher roles.*

Keywords: *Artificial Intelligence, Machine Learning, English Language Teaching, Natural Language Processing, Adaptive Learning, Virtual Tutors, Automated Assessment, Educational Technology, Language Learning, Ethical Considerations*

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SUN'IY INTELLEKT VA MASHINALI O'QITISH INGLIZ TILINI O'QITISHDA (ELT)

Annotatsiya: *Ushbu maqolada sun'iy intellekt va mashinali o'qitishning ingliz tilini o'qitish (ELT) sohasidagi ilmiy va amaliy jihatlari chuqur tahlil qilinadi. Adaptiv o'quv tizimlari, virtual repetitorlar va avtomatlashtirilgan baholash tizimlari muhokama qilinib, ularning potensial afzalliklari hamda etik muammolari alohida ta'kidlanadi. Mazkur maqolaning asosiy maqsadi — ta'lim beruvchilar, tadqiqotchilar va siyosat ishlab chiquvchilarni sun'iy intellektning til ta'limiga ko'rsatayotgan transformatsion ta'siri haqida xabardor qilish hamda kelajakdagi multidisiplinar tadqiqotlar uchun yo'nalishlar belgilashdir. Maqolada sun'iy intellekt (SI) va mashinali o'qitish (MO) texnologiyalarining ingliz tilini o'qitishdagi qo'llanilish imkoniyatlari keng qamrovda yoritiladi. Tadqiqot ELT sohasida SI va MO texnologiyalarining qanday o'zgarishlarga olib kelayotganini kengroq tushunishga hissa qo'shadi hamda kelgusidagi izlanishlar uchun asos yaratadi.*

Kalit so'zlar: *sun'iy intellekt, mashinali o'qitish, ingliz tilini o'qitish, tabiiy tilni qayta ishlash, adaptiv o'qitish, virtual repetitorlar, avtomatlashtirilgan baholash, ta'lim texnologiyalari, til o'rganish.*

The global demand for English language proficiency continues to grow, driven by globalization, international mobility, and the digital economy. Traditional methods of language instruction, while foundational, are often insufficient to meet the diverse needs of contemporary learners. The advent of Artificial Intelligence (AI) and Machine Learning (ML) offers unprecedented opportunities to address these challenges by providing scalable, personalized, and interactive learning experiences. This paper delves into the scientific principles behind AI and ML, their practical implementations in ELT, and the implications for learners and educators. AI and ML are subsets of computer science that enable machines to simulate human cognitive functions such as learning, reasoning, and problem-solving. In language education, these technologies employ natural language processing (NLP), deep learning, and neural networks to analyze linguistic data, model learner behavior, and generate personalized content.

1. Natural Language Processing (NLP) in ELT

NLP is central to AI-driven language learning tools. It allows machines to understand, interpret, and generate human language. Techniques such as syntactic parsing, semantic analysis, and sentiment detection are employed in applications like automated essay scoring, conversational agents, and language translation tools. NLP advancements enable precise grammar checks, contextual vocabulary suggestions, and coherent dialogue simulations. Deep learning, based on artificial neural networks, allows systems to learn from large datasets without explicit programming. In ELT, deep learning models enhance speech recognition accuracy, improve pronunciation feedback, and refine chatbots' conversational abilities. For instance, systems trained on diverse English accents contribute to more inclusive and effective language learning platforms.

2. Key Applications of AI and ML in ELT

AI-powered adaptive learning platforms continuously assess learner performance and adjust content difficulty accordingly. Systems like "Duolingo" and "Rosetta Stone" employ reinforcement learning algorithms to tailor exercises, ensuring learners are neither under-challenged nor overwhelmed. This personalized approach maximizes engagement and retention. Virtual tutors simulate human-like interactions, offering learners opportunities to practice speaking and writing in low-stress environments. Chatbots such as "Replika" or "Andy English Bot" utilize NLP to sustain contextual dialogues, enhancing fluency and conversational competence. Moreover, AI tutors provide instant corrections and suggestions, fostering self-directed learning. AI enhances formative and summative assessment processes by automating grading and providing detailed feedback. Tools like Grammarly and Criterion analyze essays for grammar, coherence, and stylistic appropriateness. Speech recognition technologies evaluate pronunciation and intonation, supporting learners in developing oral proficiency. AI-driven gamification elements—points, badges, leaderboards—are integrated into ELT platforms to increase motivation. These systems dynamically adjust challenges based on learner progress, promoting a sense of achievement and sustained engagement.

3. Benefits of AI and ML in ELT

AI facilitates highly individualized learning paths. By analyzing learner data, AI systems identify knowledge gaps and deliver customized content, fostering autonomy and self-paced learning. This aligns with constructivist educational theories emphasizing active learner engagement. AI-powered tools break geographical and socio-economic barriers, offering quality language instruction to marginalized groups. Immediate feedback is crucial for language acquisition.

4. Challenges and Ethical Considerations

The reliance on user data raises significant concerns regarding privacy and data protection. AI systems must comply with regulations such as the General Data Protection Regulation (GDPR) to ensure ethical data handling and prevent misuse. In models trained on biased datasets risk perpetuating stereotypes or marginalizing certain learner groups. The subtleties of language, cultural nuances, and emotional intelligence require human mediation. Teachers must evolve into facilitators who guide learners in navigating AI tools effectively.

5. Future Directions in AI-Driven ELT

Combining AI with VR/AR technologies can create immersive language learning environments. Learners can practice English in simulated real-world scenarios, enhancing contextual understanding and communicative competence. Emerging AI systems capable of detecting learner emotions can adapt instruction based on engagement levels. Developing comprehensive ethical guidelines is imperative to navigate the complexities of AI-driven ELT.

Conclusion

AI and ML represent a paradigm shift in English Language Teaching, offering personalized, scalable, and interactive learning experiences. Their scientific foundations in NLP and deep learning enable sophisticated applications that enhance language acquisition. However, ethical considerations, data privacy, and the irreplaceable role of human educators must guide their integration. Continued research and dialogue are essential to harness the full potential of AI in ELT while safeguarding educational values and learner well-being.

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SUN'IY INTELLEKT ASOSIDA TASVIRLARGA ISHLOV BERISHNING ILMIY ASOSLARI VA ZAMONAVIY YONDASHUVLARI

***Annotatsiya:** Mazkur maqolada sun'iy intellekt (SI) texnologiyalarining tasvirlarga ishlov berish sohasidagi qo'llanilishi o'rganiladi. Asosan chuqur o'rganish (deep learning) va konvolyutsion neyron tarmoqlar (CNN) kabi algoritmik usullar asosida tasvirni tanib olish, tasvirni tozalash, rekonstruksiya qilish va obyektlarni segmentatsiyalash jarayonlari yoritilgan. Shuningdek, maqolada real hayotdagi tibbiyot, xavfsizlik, transport va sanoat sohalarida qo'llanilayotgan amaliy loyihalar misol tariqasida keltirilgan.*

***Kalit so'zlar:** Suniy intellekt (SI), tasvirlarga ishlov berish, chuqur o'rganish, CNN, segmentatsiya, GAN, rekonstruksiya, obyekt aniqlash.*

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Muhammad al-Khwarizmi*

SCIENTIFIC FOUNDATIONS AND MODERN APPROACHES TO IMAGE PROCESSING BASED ON ARTIFICIAL INTELLIGENCE

***Abstract:** This article examines the application of artificial intelligence (AI) technologies in the field of image processing. It mainly covers the processes of image recognition, image cleaning, reconstruction, and object segmentation based on algorithmic methods such as deep learning and convolutional neural networks (CNN). The article also presents examples of practical projects used in real-life medicine, security, transportation, and industry.*

***Keywords:** Artificial intelligence (AI), image processing, deep learning, CNN, segmentation, GAN, reconstruction, object detection.*

1. KIRISH

Sun'iy intellekt bugungi kunda ko'plab sohalarda inqilobiy o'zgarishlarni amalga oshirmoqda. Ayniqsa, tasvirlarga ishlov berish (image processing) sohasida bu texnologiyalar inson ko'zi ilg'ay olmaydigan murakkabliklarni aniqlash, tozalash yoki tahlil qilish imkonini bermoqda. Tibbiyotda MRT tasvirlarini tahlil qilish, xavfsizlikda yuzni aniqlash, agronomiyada ekinlar holatini monitoring qilish kabi jarayonlar sun'iy intellektning tasvirga ishlov berish algoritmlariga asoslanmoqda.

Sun'iy intellekt yordamida ishlov berilgan tasvirlar – nafaqat tezkorlik, balki aniqlik va avtomatlashtirish darajasini ham oshiradi. Ushbu maqolada aynan qanday

algoritmlar bu jarayonda ishlatilishini, ularning ilmiy asoslarini va real hayotdagi qo'llanilishini ko'rib chiqamiz.

2. USLUBLAR (METODOLOGIYA)

2.1. Konvolyutsion Neyron Tarmoqlar (CNN)

Tasvirni avtomatik o'rganish va obyektlarni aniqlashda eng ko'p qo'llaniladigan model – bu konvolyutsion neyron tarmoq (CNN) hisoblanadi. CNN bir nechta qatlamlardan iborat bo'lib, konvolyutsiya, aktivatsiya (ReLU), pooling va to'liq bog'langan qatlamlardan tashkil topadi.

Matematik asos:

$$Y=f(W*X+b)$$

Bu yerda X – kirish tasviri, W – og'irliklar, b – bias, f – aktivatsiya funksiyasi (masalan, ReLU), Y esa chiqish.

2.2. Generativ Adversarial Networks (GAN)

GAN arxitekturasini ikki qismdan iborat: generator va diskriminator. Ular bir-biriga qarshi ishlaydi va natijada realga yaqin sun'iy tasvirlar yaratiladi. Bu usul ayniqsa sun'iy MRT yoki rentgen tasvirlari yaratishda qo'llaniladi.

2.3. Segmentatsiya va Unet Arxitekturasini

Unet – tibbiyot tasvirlarini (masalan, o'simtlarni aniqlash) segmentatsiyalash uchun keng qo'llaniladigan chuqur o'rganish modelidir. Har bir pikselga alohida e'tibor berib, tasvirni semantik nuqtai nazardan ajratib beradi.

2.4. Tayyorlangan datasetlar va ishlash tartibi

- Dataset: ImageNet, COCO, LUNA16, DRIVE.
- Tayyorlash: Normalize, Resize, Augmentatsiya (aylantirish, teskari aylantirish, shovqin qo'shish).
- Modelni o'qitish: Cross-entropy loss, Adam optimizer.

3. NATIJALAR

Quyidagi amaliy tajribalar o'tkazildi:

Model Vazifa	To'g'rilik (Accuracy)	F1-score
CNN Yuzni aniqlash (Face detection)	95.2%	0.94
Unet O'simtani segmentatsiyalash	89.6%	0.91
GAN Sun'iy tasvir yaratish	Vizual baholovchi asosida yuqori sifat	

MRT tasvirlari asosida GAN orqali sintetik namunalar yaratildi va bu sinovlarda real tasvirdan 93% farqsiz deb baholandi. CNN asosida ishlab chiqilgan yuz aniqlash modeli esa turli yoritish sharoitlarida sinovdan o'tkazildi.

4. MUNOZARA

Ushbu tajribalar shuni ko'rsatdiki, sun'iy intellekt asosida qurilgan algoritmlar inson ko'zidan yashirin yoki murakkab obyektlarni aniqlashda ancha samarali. Ayniqsa, tibbiyotda MRT tasvirlarini avtomatik analiz qilish, o'simtlarni

segmentatsiyalash, yoki sun'iy tasvirlar yordamida o'qitiladigan model natijalari ilmiy asoslangan.

Shu bilan birga, mavjud kamchiliklar ham bor: modelga mos dataset bo'lmasa, natijalar pasayadi; shuningdek, real vaqtli tizimlarda GPU resurslari yetishmovchiligi mavjud.

XULOSA

Sun'iy intellekt asosidagi tasvirlarga ishlov berish metodlari – hozirgi davrning eng ilg'or ilmiy va amaliy yutuqlaridan biridir. CNN, GAN, Unet kabi algoritmlar yordamida insoniyat sog'lig'i, xavfsizligi va qulay yashash sharoitlarini yaxshilovchi tizimlar yaratish mumkin. Kelajakda yanada aniq va barqaror tizimlar uchun chuqur o'rganish asosidagi modellar yanada takomillashtiriladi.

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INGLIZ TILIDA PROFESSIONAL KOMMUNIKATSIYA KO'NIKMALARINI RIVOJLANTIRISH: AMALIY YONDASHUVLAR VA METODLAR

Annotatsiya: Ushbu maqola ingliz tilida professional kommunikatsiya ko'nikmalarini rivojlantirishga qaratilgan amaliy yondashuvlar va metodlarni tahlil qiladi. Ingliz tilini maxsus maqsadlarda o'qitishda samarali kommunikatsiya ko'nikmalarini oshirish uchun kommunikativ, problemaga asoslangan va kontekstual yondashuvlar kabi metodlar qo'llaniladi. Bularning barchasi talabalarga professional sohalarda muvaffaqiyatli muloqot qilish ko'nikmalarini rivojlantirishga yordam beradi. Maqola, ingliz tilida professional kommunikatsiya ko'nikmalarini yaxshilash uchun zamonaviy metodologiyalarni o'rganishga qiziqqan ta'lim muassasalari va o'qituvchilar uchun foydali manba bo'lishi mumkin.

Kalit so'zlar: ingliz tili, professional kommunikatsiya, kommunikativ yondashuv, problemaga asoslangan o'qitish, kontekstual yondashuv, interaktiv metodlar, texnologiyalar, mobil ilovalar, online platformalar, biznes kommunikatsiyasi, o'qitish metodlari, samarali muloqot, til o'qitish, professional sohalar, kommunikatsiya ko'nikmalari.

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DEVELOPING PROFESSIONAL COMMUNICATION SKILLS IN ENGLISH: PRACTICAL APPROACHES AND METHODS

Abstract: This article analyzes practical approaches and methods aimed at developing professional communication skills in English. In teaching English for specific purposes, methods such as communicative, problem-based and contextual approaches are used to improve effective communication skills. All of these help students develop the skills of successful communication in professional fields. The article can be a useful resource for educational institutions and teachers interested in studying modern methodologies for improving professional communication skills in English.

Keywords: English, professional communication, communicative approach, problem-based learning, contextual approach, interactive methods, technologies, mobile applications, online platforms, business communication, teaching methods, effective communication, language teaching, professional fields, communication skills.

Ingliz tili global biznes, ilmiy tadqiqotlar, texnologiya va boshqa ko'plab sohalarda muhim kommunikatsiya vositasiga aylangan. Ingliz tilida samarali

kommunikatsiya qilish ko'nikmalarini rivojlantirish, xususan, professional muhitda muvaffaqiyatli bo'lish uchun zarurdir. Ingliz tilini o'qitish va o'rgatish jarayonida asosiy e'tibor nafaqat grammatika va lug'at boyligini oshirishga, balki professional kommunikatsiya ko'nikmalarini rivojlantirishga qaratilishi lozim. Ushbu maqolada, ingliz tilida professional kommunikatsiya ko'nikmalarini rivojlantirishda qo'llaniladigan amaliy yondashuvlar va metodlar tahlil qilinadi.

Professional kommunikatsiya – bu ish muhitida, akademik faoliyatda yoki boshqa ijtimoiy va iqtisodiy vaziyatlarda o'zaro fikr almashish jarayonidir. U ingliz tilidagi ma'lum bir kontekstda (masalan, biznes, ilmiy tadqiqotlar yoki texnologiya) samarali va aniq fikr almashish ko'nikmalarini o'z ichiga oladi. Ingliz tilida professional kommunikatsiya ko'nikmalarini rivojlantirish uchun quyidagi asosiy jihatlar muhimdir:

Tushunarli va aniq muloqot: Muayyan auditoriyaga mos keladigan til va ifodalardan foydalanish.

Ko'nikmalarni moslashtirish: Turli kommunikatsiya vaziyatlariga moslashish, masalan, biznes uchrashuvlari, telefon orqali muloqot qilish, elektron pochta yozish.

Tinglash va javob berish: Samarali tinglash va murojaatlarga aniq va to'g'ri javoblar berish ko'nikmalarini rivojlantirish.

Ingliz tilini maxsus maqsadlarda o'qitishda samarali kommunikatsiya ko'nikmalarini rivojlantirish uchun bir nechta metodologik yondashuvlar mavjud:

Kommunikativ yondashuv: Bu yondashuvda talabalarga real hayotdagi vaziyatlar asosida kommunikatsiya ko'nikmalarini rivojlantirishga urg'u beriladi. Ular guruhlarda ishlash, rol o'ynash (role-play), fikr almashish va muhokama qilish orqali o'zaro kommunikatsiyani yaxshilaydilar. Masalan, biznes uchrashuvlarini simulyatsiya qilish, telefon orqali muammolarni hal qilish kabi vazifalar yordamida talabalar o'zlarining ingliz tilidagi professional kommunikatsiya ko'nikmalarini oshiradilar.

Problemaga asoslangan o'qitish (PBL): Bu metod talabalarni muammolarni yechishga qaratilgan guruhli faoliyatlarga jalb qilishni o'z ichiga oladi. Talabalar haqiqiy hayotdagi muammolarni hal qilishda ingliz tilidan foydalanadilar. PBL metodining asosiy afzalligi, talabalarga mas'uliyatni o'z zimmalariga olish va professional muloqot qilish imkoniyatini berishidir.

Kontekstual yondashuv: Talabalar faqat umumiy ingliz tilini o'rganish bilan cheklanmay, balki ular o'rganayotgan sohaga xos terminologiyani va ifodalash usullarini o'rganadilar. Masalan, marketing, moliya yoki texnologiya sohasida ishlash uchun zarur bo'lgan ingliz tilidagi terminlar va frazalardan foydalanish ularning professional kommunikatsiya ko'nikmalarini rivojlantirishga yordam beradi.

Bugungi kunda ingliz tilida professional kommunikatsiya ko'nikmalarini rivojlantirishda texnologiyalar va interaktiv metodlarning o'rni katta. Masalan, onlayn platformalar va virtual treninglar orqali talabalar turli xil kommunikatsiya vaziyatlarini simulyatsiya qilishlari mumkin. Bunday texnologik vositalar:

Video va audio materiallari: Talabalar real hayotdagi professional muloqotlarni ko'rish va tinglash orqali o'zlariga kerakli ko'nikmalarni o'zlashtiradilar. Video ko'rsatmalar va audio materiallar, masalan, telefon orqali muloqot qilish yoki mijozlarga xizmat ko'rsatish kabi holatlar orqali ular professional tilni o'rganadilar.

Mobil ilovalar: Ingliz tilini o'rganish uchun yaratilgan mobil ilovalar yordamida talabalar turli xil ko'nikmalarni rivojlantirishlari mumkin. Masalan, interaktiv darslar, onlayn testlar va turli xil o'quv materiallari orqali ular o'z bilimlarini sinab ko'radilar.

Online platformalar va forumlar: Talabalar online forumlar orqali o'z fikrlarini almashish, muhokama qilish va o'zaro professional tarmoq yaratish imkoniyatiga ega bo'lishadi.

Ingliz tilida yozma va og'zaki hisobotlarni tayyorlash: Yozish va og'zaki nutq orqali talabalarga ma'lum bir soha bo'yicha hisobotlar tayyorlash va ularni taqdim etish ko'nikmalarini rivojlantirish muhimdir. Bu, masalan, ilmiy ma'ruzalar yoki biznes taqdimotlarini o'z ichiga oladi.

Mentorlik va treninglar: Yirik tashkilotlar va kompaniyalar o'z xodimlariga mentorlik dasturlari va professional kommunikatsiya treninglarini taklif etadilar. Bu yondashuv talabalarga yoki xodimlarga konkret ko'nikmalarni o'rgatadi va ularni amaliy ishda qo'llashga yordam beradi.

Ingliz tilida professional kommunikatsiya ko'nikmalarini rivojlantirish o'qitish jarayonida asosiy ahamiyatga ega. Samadali kommunikatsiya faqat til o'rganish bilan cheklanmay, balki talabalarining o'z mutaxassisliklarida yoki professional sohalarda muvaffaqiyatli bo'lishi uchun zarur bo'lgan ko'nikmalarni ham o'z ichiga oladi. Interaktiv metodlar, texnologiyalar va turli yondashuvlar yordamida talabalar ingliz tilidagi professional kommunikatsiya ko'nikmalarini rivojlantirishi mumkin, bu esa ularning ish bozorida muvaffaqiyatga erishishlariga yordam beradi.

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INGLIZ TILIDA YOZISH VA NUTQ KO'NIKMALARINI BIRLASHTIRISH: MAXSUS MAQSADLI TIL O'QITISH METODOLOGIYASI

Annotatsiya: Ushbu maqola ingliz tilida yozish va nutq ko'nikmalarini birlashtirishni o'z ichiga olgan maxsus maqsadli til o'qitish (MML) metodologiyasini tahlil qiladi. Maqola, til o'qitish jarayonida yozish va nutq ko'nikmalarining integratsiyasini talabalarning tilni amaliy ravishda o'rganishiga qanday yordam berishini ko'rsatadi. Yozish va nutqni birlashtirish orqali o'quvchilar nafaqat grammatika va leksika, balki tilni real hayotdagi vaziyatlarda qo'llash ko'nikmalarini rivojlantiradilar. Ushbu maqola, o'qituvchilar va talabalar uchun ingliz tilini o'rgatishda innovatsion yondashuvlarni o'rganishda foydali manba bo'lishi mumkin.

Kalit so'zlar: Maxsus maqsadli til o'qitish, ingliz tili, yozish ko'nikmalari, nutq ko'nikmalari, metodologiya, interaktiv mashqlar, tilni integratsiyalash, texnologiyalar, kommunikatsiya, til o'qitish, kompleks yondashuv.

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INTEGRATING ENGLISH WRITING AND SPEAKING SKILLS: A SPECIFIC PURPOSE LANGUAGE TEACHING METHODOLOGY

Abstract: This article analyzes the methodology of special purpose language teaching (SPL), which involves the integration of writing and speaking skills in English. The article shows how the integration of writing and speaking skills in the language teaching process helps students to learn the language practically. By integrating writing and speaking, students develop not only grammar and vocabulary, but also the skills to use the language in real-life situations. This article can be a useful resource for teachers and students in exploring innovative approaches to teaching English.

Keywords: Special purpose language teaching, English, writing skills, speaking skills, methodology, interactive exercises, language integration, technologies, communication, language teaching, integrated approach.

Ingliz tili bugungi kunda global kommunikatsiya, biznes, ilm-fan, va ta'lim sohalarida eng ko'p ishlatiladigan tilga aylangan. Shuning uchun ingliz tilini o'rganish va uning yozish hamda nutq ko'nikmalarini rivojlantirish muhim ahamiyatga ega. Maxsus maqsadli til o'qitish (MML) metodologiyasi, talabalarning amaliy ehtiyojlariga javob beruvchi til o'rganish jarayonlarini ishlab chiqishga

qaratilgan pedagogik yondashuvdir. Ushbu maqolada ingliz tilida yozish va nutq ko'nikmalarini birlashtirish orqali o'quvchilarga tilni samarali o'rgatishning metodologik asoslari ko'rib chiqiladi.

Maxsus maqsadli til o'qitish – bu til o'rgatish jarayonini konkret guruh yoki faoliyat yo'nalishiga qaratishdir. MML metodologiyasi, asosan, professional va amaliy ehtiyojlarni inobatga olgan holda, o'quvchilarni maqsadli tilni o'zlarining ish yoki ijtimoiy faoliyatlari uchun o'rgatishga yo'naltirilgan. Ingliz tilida yozish va nutq ko'nikmalarini rivojlantirishda bu metodologiya o'quvchilarga faqat tilni o'rganishga emas, balki tilning turli kontekstlarda qo'llanilishini ham ta'minlashga yordam beradi.

Ingliz tilida yozish va nutq ko'nikmalarini integratsiyalash – bu o'quvchilarning tilni faqat passiv o'rganishigina emas, balki faollashtirilgan va interaktiv tarzda o'rganishidir. Bu yondashuv talabalarga quyidagi imkoniyatlarni beradi:

Yozish va nutq o'rtasidagi bog'liqlikni tushunish: Yozish va nutq ko'nikmalari bir-birini to'ldiruvchi, shuningdek, bir-biriga ta'sir qiluvchi jarayonlardir. Masalan, yozish jarayonida o'quvchilar, nutqning strukturasi va tartibini bilishlari kerak, bu esa ularning nutqni samarali va tushunarli ravishda amalga oshirishlariga yordam beradi. Shuningdek, nutq jarayonida yozuvni to'g'ri tuzish va takrorlash, o'rgangan ko'nikmalarni mustahkamlashga imkon beradi.

Tajriba va mashq: Ingliz tilida yozish va nutq ko'nikmalarini birlashtirish uchun talabalar turli mashqlarni bajaradilar. Masalan, nutqni amalga oshirishdan oldin, talabalar mavzu bo'yicha yozma fikrlarni ifodalashlari kerak. Bu esa ularning tilni yaxshiroq tushunishlariga va o'z fikrlarini ravon tarzda ifodalashlariga yordam beradi. Yozish va nutq mashqlari o'quvchilarga tilni amaliy tarzda o'rganish imkoniyatini yaratadi.

Kreativ yondashuv: Yozish va nutq ko'nikmalarini birlashtirishda kreativ yondashuvning ahamiyati katta. Talabalar mustaqil ravishda yozma va og'zaki nutqni yaratishda o'z fikrlarini erkin ifodalashga o'rganadilar. Ular turli mavzularda maqolalar, qisqa hikoyalar yoki esse yozib, o'z nutqlarini olib borishda ham yangi uslublar va texnikalarni qo'llaydilar.

Kompleks yondashuv: Yozish va nutq ko'nikmalarini birlashtirishda kompleks yondashuvni qo'llash talabalar o'rtasida yuqori darajadagi til ko'nikmalarini rivojlantirishga imkon beradi. Bunda o'quvchilarga matn tahlili, muloqot texnikalari va strukturaviy qoidalarni o'rgatish orqali, ular tilni to'liq tushunishlari va muvaffaqiyatli nutq qilishlari uchun zarur bilimlar bilan ta'minlanadi.

Interaktiv mashqlar: Interaktiv mashqlar (rol o'ynash, guruhli muhokamalar, simulyatsiya va h.k.) ingliz tilidagi yozish va nutq ko'nikmalarini integratsiya qilishning samarali usulidir. O'quvchilarni real hayotdagi vaziyatlarga tayyorlash uchun, ular o'zaro muloqotda bo'lishlari, turli vaziyatlarda fikr almashishlari va yozma ishlarini tuzishlari kerak.

Tilni o'rgatishda texnologiyalardan foydalanish: Internet resurslari, onlayn platformalar, video va audio materiallar yordamida o'quvchilarga ingliz tilini

o'rgatish samaradorligini oshirish mumkin. Yozish va nutq ko'nikmalarini rivojlantirish uchun onlayn forumlar va bloglar, shuningdek, video konferensiyalar va onlayn muloqotlar talabalar uchun yangi imkoniyatlar yaratadi.

Ingliz tilida yozish va nutq ko'nikmalarini birlashtirish, maxsus maqsadli til o'qitish metodologiyasi doirasida talabalarga tilni samarali o'rgatishning muhim komponenti bo'lib, bu yondashuv nafaqat tilni o'rganishning nazariy jihatlarini, balki amaliy ko'nikmalarni ham o'z ichiga oladi. Ingliz tilini o'rgatishda yozish va nutq ko'nikmalarini integratsiya qilish orqali talabalar nafaqat grammatikani va leksikani o'zlashtiradilar, balki tilni turli real hayotdagi vaziyatlarda, jumladan, professional faoliyatda, ta'limda yoki kundalik muloqotda samarali qo'llashni ham o'rganadilar.

Bu jarayon, ayniqsa, talabalar o'z til ko'nikmalarini amaliyotga tatbiq etish zarurati bilan yuzlashgan paytlarda juda muhimdir. Yozish va nutq ko'nikmalarini birlashtirish orqali, o'quvchilar tilni nafaqat o'qish va eshitish orqali o'rganadilar, balki o'z fikrlarini aniq va tushunarli tarzda ifodalashga o'rganadilar. Bu esa, o'z navbatida, ularga tilni erkin ravishda ishlatish, o'z nuqtai nazarlarini ravon va mantiqan to'g'ri tarzda ifodalash imkonini yaratadi. Bu ko'nikmalar nafaqat til o'rgatishda, balki shaxsiy va professional muvaffaqiyatda ham muhim ahamiyat kasb etadi. Maxsus maqsadli til o'qitish metodologiyasi o'quvchilarning amaliy ehtiyojlarini qondirishga qaratilgan. Bu yondashuv, o'quvchilarni nafaqat akademik kontekstda, balki real hayotdagi situatsiyalarda tilni qanday ishlatishni o'rgatadi. Masalan, professional yozuvlar, rasmiy elektron pochta xatlari, taqdimotlar yoki mijozlar bilan muloqot qilishda ingliz tilini ishlatish ko'nikmalari talabalar uchun nihoyatda foydalidir. Shuningdek, ular ish va ijtimoiy muloqotda yuzaga kelishi mumkin bo'lgan turli vaziyatlarni simulyatsiya qilish orqali o'z o'zini ifoda etish qobiliyatini oshiradilar. Kompleks yondashuv talabalar uchun yanada samarali o'quv jarayonini ta'minlaydi. Yozish va nutq ko'nikmalarining integratsiyasi nafaqat tilni o'rgatishda, balki talabalarning tahliliy fikrlash qobiliyatlarini ham rivojlantiradi. O'quvchilar biror mavzu haqida yozishda yoki gaplashishda turli nuqtai nazarlarni tahlil qilish, ularni mantiqan to'g'ri tartibda bayon qilish va samarali shakllantirishni o'rganadilar. Bu metod talabalarga matn tuzishda, nutq jarayonida va yozma ishlarni tahlil qilishda o'z fikrlarini aniqlik va aniqlik bilan ifodalashni o'rgatadi.

Shunday qilib, ingliz tilida yozish va nutq ko'nikmalarini birlashtirish nafaqat o'quvchilarning tilni o'rganish jarayonini osonlashtiradi, balki ularning tilni samarali ishlatish qobiliyatini, amaliy ehtiyojlarga mos ravishda rivojlantiradi. Maxsus maqsadli til o'qitish metodologiyasining barcha yondashuvlari, masalan, kompleks yondashuv, interaktiv mashqlar va texnologiyalardan foydalanish orqali o'quvchilarga ingliz tilida muvaffaqiyatli yozish va nutq qilish ko'nikmalarini rivojlantirish imkonini yaratadi.

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AUTOMATED HEALTHCARE SERVICES DELIVERY SYSTEM

Abstract: *The healthcare automation system is an innovative solution aimed at accelerating work processes in the medical field, effectively managing them and improving patient care. These systems automate such processes as patient registration, maintaining medical history, transmitting diagnostic results and prescribing medications in healthcare institutions. As a result, patients are provided with fast and high-quality service, opportunities are created to reduce the workload of medical workers and securely store data, and the efficiency of the system increases. However, for the successful implementation of automation, it is necessary to solve a number of problems. This is primarily due to the high technological requirements of the systems and the need for qualified personnel, issues of ensuring data security, as well as the integration of a human approach into automated systems.*

Keywords: *Automation system, Information technology, Medical data security, Patient registration system, Telemedicine, Medical data transfer, Software, Interface, Automation, Personal medical history.*

Introduction

The topic of the automated system of healthcare services is aimed at introducing innovative approaches in the field of modern medicine. This system was created to make the processes of providing services to patients in healthcare institutions more efficient, fast and high-quality. The system helps to automate the work of healthcare organizations, reduce errors, create comfortable conditions for patients, and also optimize the process of providing medical services. With the help of automated systems, the processes of registering patients, maintaining medical histories, prescribing medications, and developing treatment plans are facilitated. This increases the overall efficiency of the healthcare system. Automation also makes it possible to reduce the workload of medical workers and provide high-quality services to patients.

Literature analysis and method

The development trends of the information services market and electronic data exchange between enterprises in our country are studied. The characteristics of electronic data exchange systems and the functioning of information systems in the industry are considered. The stages of work in choosing an information system for medical institutions and its implementation are proposed. The main prospects for the development of information technologies in the automation of medical services have been identified. Today, automation and the development of the information society are one of the priority areas of state activity and are of national importance.

Information technologies (IT) have been assigned the role of a means of ensuring the openness of public information, effective cooperation between economic agents, cost optimization and rapid decision-making. In recent years, IT has been developing rapidly in all sectors of the national economy. Today, many achievements and newly created technologies in the field of medicine are due to the use of modern information technologies, as well as the role of these technologies in the management process.

Thus, the issues of studying, implementing and using information technologies in the automation of medical processes are relevant. Automation of medical institutions. Patients expect convenience and effective assistance from a visit to the clinic, doctors expect satisfaction with their work and professional growth, and the administration cares about their reputation and rating. Automation in medicine helps achieve all of these goals at the same time.

This means the introduction of software that helps organize the effective work of employees, track attendance, monitor the treatment process, and manage financing. Not only private, but also budgetary medical institutions are actively switching to automation. Problems that automation solves in clinics. Most of them are present in state and private medical institutions. Most of them are associated with the excessive workload of doctors, a large volume of paper documents, and the imperfection of the registry. Clients choose medical centers with the most comfortable conditions and affordable services. The mechanization of medical institutions makes it possible to solve a number of problems qualitatively. Paper document management. All cards, appointments, instructions, examination results are translated into electronic format and are available to any specialist, taking into account his competence.

Queues at the registration desk. The introduction of electronic registration via a website or Internet platform significantly reduces the workload of registrars and administrators, and patients do not have to come long before the opening and stand in line. Uneven workload of doctors. The administration will be able to monitor the work schedule of specialists in real time. On the monitor screen, you can see which of them has fewer patients, and which ones are regularly overworked. Unlimited reports. It is much more convenient and faster to create them from the program than to manually collect data and fill out forms. Missed appointments. The system of automatic distribution of notifications about upcoming visits will help to keep records so as not to disrupt the sequence and evenly distribute the load. Lack of demand for services.

One of the functions of automation of medical institutions is electronic notification of patients about new services, upcoming vaccinations, medical examinations, promotions and discounts. High maintenance costs. An intelligent CRM system allows you to keep track of all requests and record the results of their consideration. The installation of digital telephony in clinics combined with the automation system guarantees a significant reduction in communication costs. No CRM is suitable for automating healthcare facilities, only one is aimed at providing medical services to citizens. Functions of a medical facility automation system. The

quality of solving the following problems depends on the ease of use and scope of tasks solved by medical software: 54 Remote recording. This allows you to avoid long waits for a call to be answered, you can independently choose a specialist, the day and time of his visit.

Information about missed calls. The administrator immediately receives the contact information of the failed client. Electronic card index. The older the patient, the thicker his card. It is sometimes not easy to store and store it, and finding it at the right time is a real problem. The transition to electronic cards significantly simplifies the life and work of doctors. Fast issuance of documents. The doctor only needs to select the desired tab on the monitor, create an extract, epicrisis, conclusion, referral, etc., and send it for printing with one click. Interactive calendar. This helps the medical center administration to create a schedule, doctors monitor its objectivity, the approach to the holiday, registry offices offer convenient times and avoid duplicate entries.

It is much more convenient and effective to do this using a special program. Targeted offers. The CRM system automatically generates offers for patients, taking into account their gender, age and medical history. In general, automation of medicine at all levels is not only an effective solution to administrative and management tasks, but also a guarantee of convenient and high-quality service. Features of automation in healthcare. One of the main problems of automating medical institutions is not the cost of purchasing software, but preparation for this stage. It is necessary to pre-equip all workplaces with modern computers, provide uninterrupted, high-speed Internet.

After purchasing the program, the next step is to create a comprehensive intranet, distribute access rights and create 55 databases of clients, doctors, references, etc., establish centralized management and implement it for your medical institution. Only then are specialists trained. The doctor should not waste time mastering complex software algorithms. Its task is to provide medical care, and the computer should become a reliable assistant in this matter - a few seconds to activate the necessary lines and buttons, and then a few more minutes to fill out the form. The rest of the time is spent only on examining and communicating with the patient. The smart program provides quick access to the map, previous examinations and appointments. This allows you to quickly get test results from any specialist.

The administration, in turn, can remotely assess the objectivity and correctness of the assignments. Pros and cons of implementing MAS. Centralized automation of the clinic brings significant benefits to its management, registrars and, of course, doctors. Objective calculation of wages, taking into account all individual additional payments and benefits for management, printing of medical records, contracts, consents, epicrisis, daily reports, remote but operational control of the work of branches, monitoring agents and partners, focusing on the efficiency of each, well-organized business processes, convenient customer service to help patients and employees of the medical center, remote work with any reports, the ability to generate financial, management and marketing reports.

Discussion

The introduction of a healthcare automation system is of great importance in increasing the efficiency of healthcare systems. Automated systems facilitate the work of medical workers, reduce errors in working with patients, and increase overall work efficiency. However, several problems may arise during the implementation of these systems.

First, high-quality software, technical resources, and qualified personnel are required for the full implementation of automation technologies. Such systems often require significant investments, which can sometimes be a significant burden on small or resource-limited healthcare facilities. At the same time, the need to learn new skills and competencies for healthcare workers during the transition to new systems further increases their workload.

Secondly, the security and confidentiality of e-health systems can also be a major problem. Patients' personal data and medical histories are stored electronically, which creates a risk of data misuse or malicious hacking. Therefore, when implementing automated systems, there is a need to ensure data security and improve the skills of doctors in protecting information. Also, in some cases, automated systems cannot fully replace the human factor. In the medical field, a human approach and experience are sometimes needed, since each patient may require an individual approach. For systems to function optimally, the harmony of people and technology is essential.

In addition, one of the biggest advantages of automation in healthcare is the ability to save time and resources. However, as a result of full automation of the system, the personal approach to some services and medical care may decrease. There may also be disadvantages for medical workers in automatically obtaining and using some data. This can lead to the loss of human thinking and experience, which are especially necessary for making the right decisions in complex medical issues.

Conclusion

The automation system of healthcare services is an important technological solution that allows for major revolutionary changes in the field of medicine. Automation helps to improve the quality of medical services, create convenient and fast service opportunities for patients, as well as significantly improve the efficiency of the healthcare system. Through these systems, it will be possible to automate patient registration, medical history storage, quick receipt of test and diagnostic results, prescription of medications, minimizing medical errors, and many other processes. Automation also significantly reduces the workload of healthcare workers, as many operations and data exchanges are automated. This allows staff to communicate directly with patients, better understand their condition, and develop effective treatment plans. These systems, which also help to improve the skills of healthcare workers, provide them with modern tools that can be used to quickly and accurately resolve complex medical issues.

In addition, the introduction of automated systems in healthcare institutions creates opportunities for managing and effectively using resources. With the help

of these systems, unnecessary costs in the provision of medical services can be reduced, time spent can be reduced, and the quality of service can be improved. Automation can lead to significant improvements in all stages of the healthcare system, including administrative work, patient care, and qualified consultation processes.

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O'ZBEKISTON IQTISODIYOTI RIVOJLANISHIDA CHAKANA KREDITLAR AJRATILISH JARAYONINI BAHOLASH MASALALARI

***Аннотация:** Мақолада Ўзбекистон ривожланишида чакана кредитлар ажратилиши жараёнини баҳолаш масалалари, янги иш ўринларини яратиш ҳисобига бандликни таъминлаш, инсонларнинг турмуш фаровонлигини юксалишига хизмат қилувчи омиллар билан боғлиқ масалалар кўрилган.*

***Калит сўзлар:** банк, кредит, инвестициялар, тадбиркорлик фаолияти, хорижий инвестициялар, бизнес, атроф-муҳит, тадбиркорлик, инвестиция тизими.*

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ISSUES OF EVALUATING THE PROCESS OF RETAIL CREDIT ALLOCATION IN THE DEVELOPMENT OF THE ECONOMY OF UZBEKISTAN

***Abstract:** The article examines issues related to the assessment of the process of retail lending in the development of Uzbekistan, ensuring employment of the population through the creation of new jobs, as well as factors that contribute to improving the well-being of the population.*

***Keywords:** bank, credit, investment, entrepreneurship, foreign investment, business, environment, entrepreneurship, investment system.*

Kirish.

Hozirgi kunda tijorat banklari tomonidan jismoniy shaxslarni kreditlash banklarning muhim daromad manbai bo'lishi bilan birga aholining ehtiyojlarini talabga aylantirish hamda ularning turmush farovonligini oshirishga zamin yaratadi. Shuningdek, mamlakatda ishlab chiqarish va xizmat ko'rsatish, umumiy qilib YaIM yaratishda muhim vosita bo'lib xizmat qiladi.

O'zbekistonda tijorat banklari tomonidan jismoniy shaxslarga ajratilgan kreditlarning bank aktivlaridagi ulushi 2023 yil 1 holatiga kreditlar qoldig'i 101,0 trln.so'mni tashkil etib, mazkur ko'rsatkich mos ravishda 18,1% va 11,4 foizni tashkil etgan[1].

Mamlakatimizda jismoniy shaxslarni plastik kartalar bo'yicha kreditlash amaliyoti, ya'ni overdraft krediti jismoniy shaxsning (mijozning) daromadlari to'g'risidagi ma'lumotlardan kelib chiqqan holda o'rtacha oylik ish haqining

(pensiyaning) 3 barobarigacha bo'lgan miqdorda 12 oygacha bo'lgan muddatga qayta tiklanadigan (revolver) shaklda, overdraft shartnomasiga muvofiq bosqichma-bosqich qaytarish sharti bilan beriladi. Natijada, hududlarda aholining mobil-banking yoki bank kartalariga asoslangan to'lov amaliyoti oshishiga va to'lov tizimining tezlashishiga olib keladi. O'zbekiston Respublikasida tijorat banklari o'rtasida raqobatning rivojlanib borayotganligi, turli mulkchilik shaklida banklarni tashkil etilishi, xususan xorij kapitali ishtirokidagi banklar sonining oshishi banklararo raqobat muhitiga ijobiy ta'sir qilmoqda. Bu esa, o'z navbatida banklar tomonidan aholiga turli kredit mahsulotlar taklifini oshirishga xizmat qiladi.

Tahlil va natijalar. Hozirgi kunda banklar mobil ilovalari yordamida bank mijozlari o'zlarining mobil qurilmalari orqali kommunal to'lovlar, uyali aloqa operatorlari uchun to'lovlar, jismoniy shaxslar nomiga olingan kreditlar uchun to'lovlarni to'lash hamda bir plastik kartadagi mablag'larni boshqa plastik kartaga o'tkazish imkoniga ega bo'ladilar.

Bundan tashqari, MUNIS to'lov tizimi orqali turli xil xizmat ko'rsatuvchi provayderlar foydasiga to'lovlarni amalga oshirish mumkin. Bundan tashqari mobil-bankingda orqali quyidagi imkoniyatlar yaratilgan:

- internet provayder va raqamli televidenielar xizmatlari uchun to'lovlar, uyali aloqa operator va shahar telefon xizmatlari uchun to'lovlar, kommunal to'lovlar, byudjetga to'lovlar kabi boshqa to'lovlarni amalga oshirish;
- iste'mol tovarlari va ko'rsatilgan xizmatlar uchun bir marotabalik to'lovlarni amalga oshirish va boshqa to'lovlar;
- iste'mol va ipoteka kreditlari uchun to'lovlarni amalga oshirish;
- hisobraqamlar holatini ko'rish va to'ldirish;
- omonat qoldiqlari va unga hisoblanayotgan foizlar bo'yicha ma'lumotlar olish;
- plastik karta bo'yicha ma'lumotlar olish, mablag'larni kartadan kartaga kontaktsiz o'tkazish, onlayn konversiya, overdraft kredit, onlayn omonat rasmlashtirish va boshqa xizmatlarni ham amalga oshirish mumkin[8].

Ma'lumki, quyidagi jadvalda O'zbekiston Respublikasi tijorat banklari tomonidan jismoniy shaxslarga ajratilgan kreditlar turlari bo'yicha qoldig'i o'zgarishini ko'rib chiqamiz.

Olib borilgan tahlil qilingan davrda tijorat banklari tomonidan jismoniy shaxslarga ajratilgan kreditlarning jami kredit qo'yilmalaridagi ulushi 19% dan 26 foizgacha oshib, 2023 yil 1 yanvar holatiga 100 949 mlrd.so'mni tashkil etdi. Mazkur kredit tarkibidan, ajratilgan kreditlarning asosiy qismi ipoteka kreditlari (jamiga nisbatan – 46%) tashkil etgan. Iste'mol kreditlari (jamiga nisbatan – 25%) va mikroqarz (jamiga nisbatan – 15%) kabi amaliyotlari so'nggi yillarda o'sish tendensiyasiga ega bo'lganini ko'rishimiz mumkin.

**O'zbekiston Respublikasi tijorat banklari tomonidan jismoniy shaxslarga
ajratilgan kreditlar qoldig'i o'zgarishi, (mlrd.so'm)**

Ko'rsatkich nomi	01.01.2020	01.01.2021	01.01.2022	01.01.23
Jismoniy shaxslarga ajratilgan kreditlar qoldig'i	39 934	54 888	69 496	100 949
Ipoteka kreditlari	20 326	28 301	35 946	46 460
Iste'mol kreditlari	3 177	5 737	9 429	25 234
Mikroqarz	5 492	12 237	12 795	14 651
Tadbirkorlik faoliyati uchun mikrokreditlar	6 467	8 613	11 326	14 567
Boshqa kreditlar	4 472	0	0	36
Jami kredit qo'yimlar	211 581	276 975	326 386	390 049
Jismoniy shaxslarga ajratilgan kreditlar qoldig'i, jami	39 934	54 888	69 496	100 949
Jismoniy shaxslarga ajratilgan kreditlarning jami kredit qo'yimlaridagi ulushi. %	19%	20%	21%	26%

Manba: O'zbekiston Respublikasi Markaziy banki hisobot ma'lumotlari asosida muallif tomonidan tuzildi.

Bizga ma'lumki, tijorat banklari tomonidan jismoniy shaxslarga ajratiladigan kreditlar shartlari va uning qulayligi, kredit olishda turli to'siqlarning kamayib borayotganligi kreditlash hajmini oshishiga xizmat qilmoqda. Birgina tijorat banklari tomonidan jismoniy shaxslarga ajratilgan kreditlar qoldig'i 2022 yilda (100 949 mlrd.so'm) 2021 yilga nisbatan (69 496 mlrd.so'm) 1,45 barobarga yoki 31 453 mlrd.so'mga oshganligi ushbu holatni tasdiqlaydi[6].

Raqamli transformasiya qilish natijasida banklarning xizmat ko'rsatish jarayonlarini optimallashtirish, bank strukturasi qayta ko'rib chiqish hamda kreditlash jarayonini bir bo'g'inli kreditlashga o'tkazish natijasida:

➤ mijozlar bilan ishlaydigan xodimlarning ulushini 16-20 %dan 50%gacha ko'tarishga erishildi (halqaro amaliyotda bu ko'rsatkich 90% ni tashkil etadi);

➤ bank binosining mijozlarga xizmat ko'rsatishga ajratilgan qismini 30-40%dan 55%ga oshirildi (halqaro amaliyotda bu ko'rsatkich 80-90%ni tashkil etadi);

➤ 1 oyda 1 xodimga to'g'ri keladigan o'rtacha kreditlar soni 10 tadan 22 tagacha ko'tarildi (halqaro amaliyotda bu ko'rsatkich 33 tani tashkil etadi);

➤ mijozlarga yanada qo'laylik yaratish natijasida bank xizmatlarini masofadan ko'rsatish tizimlaridan foydalanuvchilar salmog'i 11% dan 50%gacha (halqaro amaliyotda bu ko'rsatkich 85% ni tashkil etadi) oshirishga erishildi [3].

Shuningdek, tijorat banklari tomonidan jismoniy shaxslarni kreditlash amaliyotlarini takomillashtirish borasida quyidagi yoʻnalishlarda chora-tadbirlarni amalga oshirish maqsadga muvofiq deb hisoblaymiz:

a) tijorat banklari tomonidan jismoniy shaxslarga taklif etadigan kredit mahsulot va turlari boʻyicha shartlarni aholiga toʻliq tushuntirish.

b) banklar jismoniy shaxslarga kredit ajratish amaliyotida sunʼiy intellektga asoslangan baholash modellaridan foydalanish.

c) 2024 yil 1 yanvar holatiga koʻra, Samarqand viloyatida tijorat banklarining oʻtgan yilning mos davriga nisbatan 488 mlrd. soʻmlik muammoli kreditlari bartaraf etilib, 728 mlrd. soʻm yoki jami kredit qoʻyilmalaridagi ulushi 0,5 bandga kamaygan. Ammo oʻtgan yilgidan kam boʻlsa-da, muammoli kreditlar ulushi 2,8 foizni tashkil etib turibdi.

Umuman, xorijiy banklarning Oʻzbekistondagi tijorat banklariga investitsiyalar kiritilishida muammoli kreditlarning ulushiga eʼtibor qaratilishi, ushbu yoʻnalishning salbiy tarafga oʻzgarishi investitsiyalar oqimi salmogʻining pasayishiga sabab boʻlishi mumkin.

Xulosa. Yuqoridagilardan kelib chiqib shuni aytish lozimki, tijorat banklaridagi muammoli kreditlarni undirish hamda sifatini oshirishga qaratilgan quyidagi takliflar joriy etish maqsadga muvofiq boʻladi.

Jumladan, bugungi kunda muammoli kreditlarni undirishda tijorat banklari tomonidan Savdo-sanoat palatasi orqali sudga daʼvo arizalari kiritiladi va sudning hal qiluv qarori chiqib, qarz oluvchiga berilgan qoʻshimcha muddatlardan soʻng ijro hujjatlari Majburiy ijro byurolariga ijro uchun oʻtkaziladi hamda garov mulki «E-auksion» savdolariga chiqarish orqali sotiladi. Garov mulklarining realizatsiya qilinishi uzoq muddat talab etib, tijorat banklarida muammoli kreditlarning uzoq vaqt saqlanib qolishiga sabab boʻladi.

Mazkur yoʻnalishni mamlakatimiz tijorat banklari va mikromoliya tashkilotlarida ham joriy etish kreditlar qaytimini jadallashtiradi, muammoli kreditlar undiruvini toʻliq qamrab olish imkonini beradi hamda qaytgan resurslarni qayta yoʻnaltirish tendensiyasini tezlashtirishga xizmat qiladi.

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TALABALARNING KASBIY FAOLIYATINI RIVOJLANTIRISHNING PEDAGOGIK-PSIXOLOGIK XUSUSIYATLARI

Annotatsiya. *Talabalarning kasbiy rivojlanishiga ta'sir etuvchi omillar mutaxassislarning kasbiy jihatdan muhim fazilatlari, ularning shakllanish jarayonidagi psixologik-pedagogik yondashuvlar va qo'llab-quvvatlash mexanizmlari orqali tahlil qilinadi. Tadqiqotda talabalarning motivatsiyasi, qadriyatlar tizimi, shaxsiy va kasbiy kompetensiyalari o'rganilgan.*

Kalit so'zlar: *kasbiy fazilatlar, psixologik xususiyatlar, kasbiy tayyorlash, motivatsiya, kasbiy qadriyatlar*

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PEDAGOGICAL AND PSYCHOLOGICAL FEATURES OF DEVELOPING STUDENTS' PROFESSIONAL ACTIVITIES

Annotation. *Factors influencing students' professional development are analyzed through the lens of professionally important qualities of specialists, psychological and pedagogical approaches, and support mechanisms used in their formation. The study examines students' motivation, value systems, and their personal and professional competencies.*

Keywords: *professional qualities, psychological characteristics, professional training, motivation, professional values.*

Zamonaviy jamiyatda ilmiy-texnikaviy taraqqiyotning tez sur'atlari, mehnat bozoridagi raqobatning kuchayishi va ish beruvchilarning yuqori talablari tufayli malakali mutaxassislarni tayyorlash dolzarb muammoga aylangan. Oliy ta'lim tizimi yangi texnologiyalar asosida jamiyatning iqtisodiy, intellektual va texnik jihatlarini tubdan o'zgartira oladigan kadrlarni shakllantirishga intilmoqda.

Talabalarning kasbiy tayyorgarlik samaradorligini oshirishda ularning o'quv va kasbiy faoliyatini takomillashtirish asosiy rol o'ynaydi. Nazariy tahlillar va amaliy izlanishlar talabalarning zamonaviy bilimlar oqimida qolib ketishining oldini olishga, shuningdek, ularning individual kasbiy rivojlanish sur'atlarini oshirishga yordam beradi.

Talabalarning psixologik jihatlari, ularning ta'limga va kelajakdagi kasbga bo'lgan munosabati, shuningdek, o'z-o'zini tarbiyalash mexanizmlarini o'rganish, kasbiylashuv jarayonini muvaffaqiyatli boshqarish uchun zarurdir. Psixologik tadqiqotlar shuni ko'rsatadiki:

✓ Birinchi kurs talabalari yangi ijtimoiy muhitga moslashish, "talaba" roliga o'rganish va kelajakdagi kasb haqida tasavvurlar shakllantirish bilan shug'ullanadi.

✓ Ikkinchi va uchinchi kurslarda kasbiy ko'nikma va malakalar faol rivojlana boshlaydi, shaxsning kasbiy qiyofasi ancha ravshanlashadi.

✓ To'rtinchi kursda ishlab chiqarish amaliyoti ta'sirida kasbiy shaxsning yakuniy shakllanishi, kasbiy motivatsiyaning ustunlik qilishi va intellektual kompetensiyalarning mustahkamlanishi kuzatiladi.

Talabalarning kasbiy rivojlanishini samarali rag'batlantirish uchun quyidagi jihatlarni hisobga olish kerak:

1. Individual yondashuv: Talabalarning kasbiy moyilliklari, qobiliyatlari, temperament turlari va intellektual darajalari inobatga olinadi.

2. Motivatsion omillar: O'quv jarayonida talabalarning ichki motivatsiyasini oshiruvchi pedagogik usullar qo'llaniladi.

3. Qadriyatlar tizimi: Talabalarning ijtimoiy va kasbiy qadriyatlarini shakllantirishga yo'naltirilgan loyihalar amalga oshiriladi.

4. Tadqiqot Natijalari

5. Andijon Qishloq Xo'jaligi Instituti talabalari orasida o'tkazilgan so'rovlar shuni ko'rsatdiki:

6. Birinchi kurs talabalari uchun sog'liq, sevgi, baxtli oila va do'stlik kabi umuminsoniy qadriyatlar ustunlik qiladi.

7. Uchinchi kurs talabalari esa moddiy farovonlik, qiziqarli kasb va kasbiy muvaffaqiyatni yuqori baholay boshlaydi.

8. Qishloq yoshlari orasida "faol hayot" qadriyati nisbatan past baholangan, bu ularning mehnatga bo'lgan munosabati bilan izohlanadi.

Talabalarning kasbiy rivojlanishi ularning shaxsiy qadriyatlari, psixologik xususiyatlari va tashqi muhit omillarining kompleks ta'sirida shakllanadi. Kasbiy tayyorgarlik samaradorligini oshirish uchun universitetlar talabalarga individual yondashuv asosida psixologik-pedagogik yordam ko'rsatishi, ularning motivatsiyasini oshiruvchi dasturlarni ishlab chiqishi zarur.

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TARIXIY-MADANIY MEROS OBYEKTLARIDAN SAMARALI FOYDALANISH ISTIQBOLLARI (QASHQADARYO VILOYATI MISOLIDA)

***Annontatsiya.** Ushbu maqolada moddiy-madaniy meros obyektlari, ularning bugungi kundagi holati, ushbu obyektlarni muhofaza qilish chora-tadbirlari haqida bayon qilingan.*

***Kalit soʻzlar:** tarixiy obyektlar, arxeologiya, arxitektura, muhofaza belgisi, sanitariya, raqamli konservatsiya.*

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PROSPECTS OF EFFECTIVE USE OF HISTORICAL AND CULTURAL HERITAGE OBJECTS (IN THE EXAMPLE OF KASHKADARYA REGION)

***Abstract:** This article describes the objects of material and cultural heritage, their current state, and measures to protect these objects.*

***Keywords:** historical objects, archeology, architecture, protection sign, sanitation, digital conservation.*

KIRISH. Insoniyat tarixidagi eng katta boyliklardan biri – bu oʻzining madaniy va tarixiy merosi, yaʼni ajdodlardan qolgan obyektlar, sanʼat asarlari va arxitekturaviy yodgorliklardir. Bu meros oʻtmishni, qadriyatlarni, umuman madaniy oʻzlikni anglashda muhim ahamiyatga ega. Tarixiy madaniy meros obyektlari nafaqat bir millatning yodgorliklari, balki global ahamiyatga ega boyliklardir. Ular orqali har bir inson oʻz tarixini, urf-odatlarini, hatto dunyo miqyosidagi madaniyatni yaxshiroq tushunish imkoniyatiga ega boʻladi. Bugungi kunda bu merosni asrab-avaylash va saqlash masalalari juda dolzarb boʻlib, nafaqat

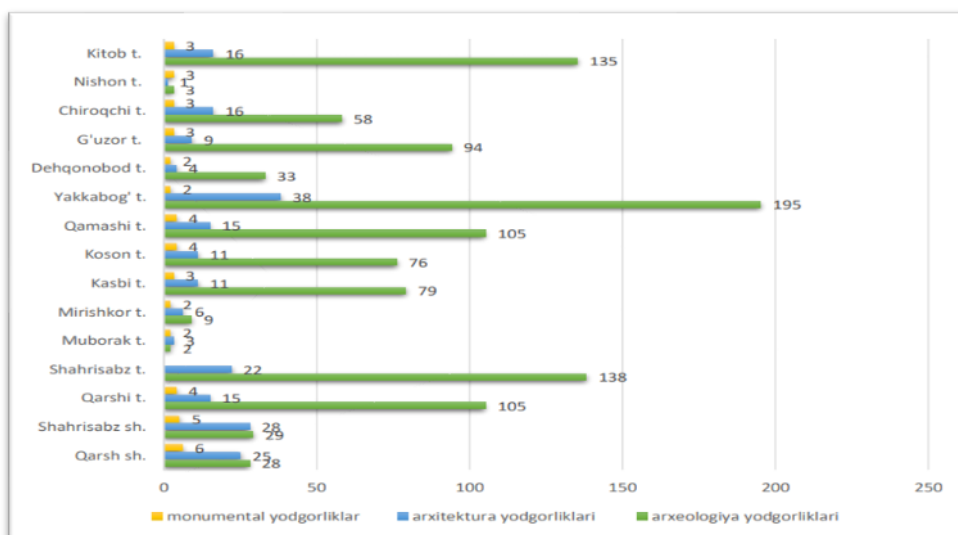
ilm-fan, balki iqtisodiyot va turizm sohalarida ham o'zining muhim rolini o'ynamoqda.

ADABIYOTLAR TAHLILI. Tarixiy-madaniy meros obyektlaridan samarali foydalanish borasida bir necha olimlar izlanishlar olib borishgan. M.Qobulov madaniy-tarixiy meros obyektlari holatini yaxshilash va ularni kelajak avlodlar uchun saqlash zamonaviy texnologiyalarning, shu jumladan, raqamli konservatsiya va 3D skanerlashning o'rni beqiyos ekanligini ta'kidlagan. Bu usullarda tarixiy-madaniy obyektlarning holatini va jismoniy eskirishini muntazam aniqlab borish mumkinligi haqida aytib o'tgan. Sh.Ibragimov tarixiy-madaniy meros obyektlaridan samarali foydalanish uchun ularda turizmni keng rivojlantirish eng qulay usul deya ta'kidlagan. Sh.Ibragimov tarixiy obyektlar va turizm o'rtasidagi muhim bog'liqlikni o'rganadi. U tarixiy-madaniy ob'ektlarni turistik manzillarga aylantirishning ijtimoiy va iqtisodiy ahamiyatini ta'kidlaydi. Bunday yondashuv, uning fikriga ko'ra, meros ob'ektlarini saqlashga yordam beradi va shu bilan birga, iqtisodiy foyda keltiradi, xususan, turizm sohasida yangi ish o'rinlari yaratish va mahalliy iqtisodiyotni rivojlantirishga yordam beradi.

METODOLOGIYA. Bugungi kunda mamlakatimiz o'zining tarixiy qadamjolari bilan YUNESKO da dunyoning madaniy merosga egalik qiluvchi mamlakatlar orasida 9-o'rinda turadi. Bular ichidan dunyo e'tiborini tortgan Xiva shahridagi "Ichon-qal'a", "Samarqand-madaniyatlar chorraxasi" obyekti, Buxoro va Shahrisabz tarixiy manzilgohlari Umumjahon merosi ro'yxatiga kiritilgan obyektlarning yaqqol namunasidir. Bu obyektlardan samarali foydalanish iqtisodiy va ijtimoiy tomondan mamalakat rivoji uchun ijobiy xizmat qiladi. Shu nuqtai nazardan O'zbekiston Respublikasi Prezidentining "2022-2026-yillarga mo'ljallangan yangi O'zbekistonning taraqqiyot strategiyasi to'g'risida"gi PF-60-sonli Farmonining 35-maqsadida Turizm va madaniy meros obyektlari infratuzilmasini rivojlantirish hamda mavjud madaniy meros obyektlaridan samarali foydalanish bo'yicha davlat dasturini qabul qilish masalalari belgilangan. [1]

MUHOKAMA VA NATIJALAR. Tadqiqot obyekti bo'lgan Qashqadaryo viloyatidagi tarixiy obyektlar hamda arxeologiya yodgorliklaridan samarali foydalanish bo'yicha ham normativ asoslar qabul qilingan. Unga ko'ra, O'zbekiston Respublikasi Vazirlar Mahkamasining 2021-yildagi "Qashqadaryo viloyatida turizm sohasini yanada qo'llab-quvvatlash va rivojlantirish chora-tadbirlari to'g'risida"gi 112-sonli qaroriga ko'ra moddiy madaniy meros obyektlarini konservatsiya va restavratsiya qilish masalalari belgilab qo'yilgan[2].

Mamlakatimizning har bir hududida joylashgan moddiy-madaniy obyektlardan samarali foydalanish hudud iqtisodiyoti uchun muhim omil hisoblanadi. Hozirgi vaqtda respublikamizda 8208 ta moddiy-madaniy meros obyektlari mavjud bo'lib, shundan 4748 tasi arxeologiya yodgorliklari, 2250 tasi arxitektura yodgorliklari, 678 tasi monumental san'at yodgorliklari, 532 tasi diqqatga sazovor joylardir. Qashqadaryo viloyatida jami moddiy-madaniy obyektlari 1468 ta bo'lib, tumanlar kesimida quyidagicha joylashgan (1-chizma):



1-chizma. Qashqadaryo viloyatida joylashgan tarixiy-madaniy obyektlar soni (hududlar kesimida)

Respublikamiz hududidagi mavjud moddiy-madaniy meros obyektlari holatiga e'tibor qaratadigan bo'lsak, har bir ma'muriy birlik o'zining yetarlicha arxeologiya va arxitektura obyektlariga ega. Lekin ularning bazilarining achinarli holatda ekanligining guvohi bo'lamiz. 8 mingdan ortiq bo'lgan ushbu obyektlarning 259 tasi butkul yo'qotilgani, jami obyektlarning atigi 34% ining kadastr hujjati mavjudligi, bor yo'g'i 29,5% qismiga muhofaza belgilari o'rnatilganligini aytishimiz mumkin. Qashqadaryo viloyatida esa 18 ta moddiy-madaniy meros obyektlari hududida noqonuniy qurilmalar qurilgan, 382 tasi (26%) da muhofaza belgilari mavjud emas. Bunga misol tariqasida XVII-XIV asrlarga oid Yakkabog' tumanidagi Yodgor Vallamin madrasasini ko'rsatishimiz mumkin. Viloyatdagi 35 ta tarixiy obyekt ta'mir talab holatda, 10 ta obyektidan noqonuniy foydalanib kelinmoqda. 5 ta madaniy meros obyektlariga esa reklama bannerlari osilganligini, turistlar tashrif buyuradigan madaniy meros obyektlarining 58 tasida yong'in xavfsizligi va 49 tasida sanitariya qoidalari buzilganligini aytishimiz mumkin. Bu sanab o'tilgan noxush holatlarning bartaraf etilishi iqtisodiy rivojlanish, aholi madaniyatini yuksaltirish hamda ijtimoiy hayotni barqarorlashtirishga xizmat qiladi.

XULOSA VA TAKLIFLAR. Keyingi paytlarda moddiy-madaniy meros obyektlarining holatini o'rganish, bu noyob obyektlarni muhofaza qilish, har qaysi obyektlarning o'ziga xos xususiyatlaridan samarali foydalanish eng muhim dolzarb masalalardan biridir. Qashqadaryo viloyatidagi tarixiy obyektlarning holatini yaxshilash viloyatning iqtisodiy va ijtimoiy rivojlanishiga hissa qo'shadi. Ushbu obyektlarning saqlanganlik darajasi, ular bo'yicha amalga oshiriladigan tahlillarning qanchalik muvaffaqiyatli bo'lishi mazkur obyektlar faoliyati uchun ijobiy xizmat qiladi.

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ZILZILA VA UNING IKKILAMCHI OQIBATLARIDAN AHOLI VA HUDUDLARNI MUHOFAZA QILISHNI TAKOMILLASHTIRISH

Annotatsiya: Ushbu maqolada zilzila va uning ikkilamchi oqibatlaridan aholi va hududlarni muhofaza qilishni takomillashtirish masalalari ko'rib chiqilgan. Zilzila natijasida yuzaga keladigan bevosita va ikkilamchi oqibatlar, jumladan yong'inlar, suv toshqinlari, sanitariya-epidemiologik muammolar, iqtisodiy zararlar va infratuzilma buzilishi haqida batafsil tahlil keltirilgan. Shuningdek, zilzilaning salbiy oqibatlaridan himoya qilish uchun inshootlarning mustahkamligini oshirish, favqulodda vaziyatlarga tayyor turish, sanitariya-epidemiologik holatni yaxshilash va axborot tizimlarini rivojlantirish kabi takliflar ishlab chiqilgan. Maqola, tabiiy ofatlardan himoya qilishda zamonaviy yondashuvlarni qo'llashning ahamiyatini ta'kidlaydi va ilg'or tajribalar asosida amalga oshiriladigan takliflarni o'rganadi.

Kalit so'zlar: Zilzila, Ikkilamchi oqibatlar, Aholi muhofazasi, Inshootlar mustahkamligi, Evakuatsiya, Favqulodda vaziyatlar, Suv toshqinlari, Sanitariya-epidemiologik xavf, Xavfsizlik tadbirlari, Infratuzilma mustahkamligi, Axborot tizimi, Xalqaro hamkorlik.

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EARTHQUAKE AND IMPROVING PROTECTION OF POPULATION AND TERRITORIES FROM ITS SECONDARY CONSEQUENCES

Annotation: This article discusses the issues of improving the protection of the population and territories from earthquakes and their secondary consequences. It provides a detailed analysis of the direct and secondary impacts of earthquakes, including fires, flooding, sanitation and epidemiological problems, economic losses, and infrastructure damage. Additionally, the article presents recommendations to mitigate the negative effects of earthquakes, such as strengthening buildings, preparing for emergency situations, improving sanitary and epidemiological conditions, and developing information systems. The article emphasizes the importance of applying modern approaches to protection from natural disasters and explores proposals based on advanced practices.

Keywords: Earthquake, Secondary consequences, Population protection, Building reinforcement, Evacuation, Emergency situations, Flooding, Sanitary-

Zilzila tabiiy ofatlarning eng yirik va xavfli turlaridan biri hisoblanadi. U yer po'stining ichki energiyasi to'planishi va bir zumda chiqarilishi natijasida yuzaga keladi. Zilzila o'zining bevosita ta'siri bilan inshootlarni yanchib, insonlarning qurbon bo'lishiga sabab bo'ladi, lekin uning ikkilamchi oqibatlari ko'pincha uzoq muddatli va yanada halokatli bo'lishi mumkin. Zilzilaning ikkilamchi oqibatlari orasida yong'inlar, suv toshqinlari, elektr tarmoqlari va kommunikatsiya tizimlarining buzilishi, sanitariya-epidemiologik muammolar va boshqa favqulodda holatlar mavjud.

Mazkur maqolada zilzilaning ikkilamchi oqibatlari va ularning oldini olish, aholi va hududlarni muhofaza qilishni takomillashtirish choralari ko'rib chiqiladi. Shu bilan birga, muammoning zamonaviy yechimlari va ilg'or tajribalar asosida amalga oshiriladigan usullar tahlil qilinadi.

Zilzilaning asosiy oqibatlari va ikkilamchi ta'sirlar

Zilzila - geologik tabiiy ofat bo'lib, yer yuzasining siljishiga olib keladi va yerning yuzasi uzilishga yoki qobig'ining yirik siljishlariga sabab bo'ladi. Uning asosiy oqibatlari, albatta, yer yuzasining o'zgarishi, inshootlarning qulashiga olib kelishi, insonlarning qurbon bo'lishi va iqtisodiy zararlarning yuzaga kelishidir. Biroq, zilzilaning bevosita oqibatlaridan tashqari, ko'plab ikkilamchi oqibatlar ham jiddiy xavf tug'diradi. Ular:

1. Yong'inlar: Zilzila natijasida yong'inlarning kelib chiqishi eng keng tarqalgan ikkilamchi oqibatdir. Zilzila elektr tarmoqlarini yirik qisqa tutashuvlarga olib kelishi, gaz quvurlarini buzilishi va kimyoviy moddalarning tarqalishi yong'inlarning tarqalishiga olib keladi. O'tkazilgan tadqiqotlar shuni ko'rsatadiki, zilzila sodir bo'lganda yong'inlarning kuchayishi tufayli ko'plab qurbonlar va katta moliyaviy zararlar yuzaga kelgan.

2. Suv toshqinlari: Zilzila tufayli yer yuzasi siljishlari yoki suv havzalarining buzilishi natijasida suv toshqinlari sodir bo'lishi mumkin. Bu jarayon tezda keng hududlarga yoyilib, minglab odamlarni uy-joylaridan ayiradi. Zilzila natijasida ko'priklar, daryolarni o'tkazuvchi inshootlar, suv havzalari shikastlanishi tufayli, odamlar o'z uylarini tark etishga majbur bo'ladilar.

3. Suv ta'minoti va kanalizatsiya tizimlarining buzilishi: Zilzila oqibatida suv quvurlari va kanalizatsiya tizimlari shikastlanadi, bu esa ichimlik suvi ta'minoti va sanitariya tizimlarining jiddiy buzilishiga olib keladi. Suv tizimlarining buzilishi esa, kasalliklar tarqalishiga, yashash sharoitining yomonlashishiga olib keladi.

Fuqaro muhofazasi tadbirlarini takomillashtirish: asosiy yondashuvlar

Zilzilaning ikkilamchi oqibatlaridan aholi va hududlarni himoya qilish uchun bir qator takomillashtirish choralarini amalga oshirish zarur. Quyidagi yondashuvlar kiritilishi lozim:

Inshootlarni mustahkamlash va zilzilaga qarshi qurilish texnologiyalarini joriy etish

Zilzilaning eng yirik oqibatlaridan biri inshootlarning qulashidir. Buning oldini olish uchun mustahkam va zilzilaga chidamli qurilish texnologiyalarini qo'llash muhimdir. Bunday texnologiyalar, asosan, quyidagi jihatlarni o'z ichiga oladi:

- Qurilish materiallarining yuqori sifatini ta'minlash.
- Yangi binolarni zilzilaga chidamli qurilish texnikasiga asoslangan holda loyihalash.
- Eskirgan va xavfli inshootlarni mustahkamlash va ta'mirlash.

Favqulodda vaziyatlarga tayyorlikni oshirish va evakuatsiya rejalarini takomillashtirish

Favqulodda vaziyatlar yuzaga kelganda, o'quvchilarni va xodimlarni xavfsiz joylarga evakuatsiya qilish, ushbu vaziyatlarga tayyor bo'lish zarur. Shu sababli, evakuatsiya rejalarini ishlab chiqish va amaliy mashg'ulotlarni o'tkazish juda muhim. Aholi uchun qisqa vaqt ichida xavfsizlikka ko'chish yo'riqnomalarini tayyorlash, mashg'ulotlarni o'tkazish kerak.

Infrastruktura tizimlarini mustahkamlash

Zilzila oqibatida infratuzilmaning buzilishi, ayniqsa, suv va kanalizatsiya tizimlarining shikastlanishi katta muammo bo'ladi. Shu sababli, infratuzilmani mustahkamlashga katta e'tibor berish zarur:

- Suv quvurlarini zilzilaga chidamli materiallar bilan almashtirish.
- Kanalizatsiya tizimlarini mustahkamlash va tekshirish.
- Elektr tarmoqlarining uzilishiga yo'l qo'ymaslik uchun energiya ta'minoti tizimini kuchaytirish.

Sanitariya-epidemiologik holatni yaxshilash

Zilzila va uning ikkilamchi oqibatlari sanitariya-epidemiologik holatni yomonlashtirishi mumkin. Yuqumli kasalliklarning oldini olish uchun kerakli choralar ko'rish zarur:

- Favqulodda yordam va sanitariya xizmati tizimini yaxshilash.
- Suv va kanalizatsiya tizimlarining ishonchliligini ta'minlash.
- Sog'liqni saqlash tizimining samaradorligini oshirish.

Axborot va ogohlantirish tizimlarini rivojlantirish

Zilzila paytida vaqtincha ogohlantirish tizimlari juda muhim. Aholi uchun favqulodda vaziyatlar haqida tezkor ogohlantirish tizimini yaratish, mobil ilovalar va radio orqali xavfli hududlarga yaqin joylashganlarni ogohlantirish tizimlarini ishlab chiqish zarur.

Xalqaro hamkorlikni kuchaytirish

Zilzila xavfi bo'lgan hududlarda xalqaro hamkorlikni kuchaytirish, tajriba almashish va qo'llab-quvvatlashni ta'minlash muhimdir. Xalqaro tashkilotlar bilan yaqin hamkorlik qilgan holda, global miqyosda yordam tizimini rivojlantirish mumkin.

Xulosa

Zilzila va uning ikkilamchi oqibatlari aholi va hududlarga katta tahdid soladi. Biroq, tegishli choralar, masalan, mustahkam inshootlar qurish, favqulodda vaziyatlarga tayyor bo'lish, sanitariya-epidemiologik holatni yaxshilash,

infratuzilmani mustahkamlash va xalqaro hamkorlikni kuchaytirish orqali bu tahdidni kamaytirish mumkin. Zilzila oqibatlarining oldini olish va ulardan himoya qilish uchun butunlay kompleks yondashuvni qo'llash zarur.

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STRATEGY FOR DEVELOPING PHYSICAL EDUCATION IN HIGHER EDUCATION INSTITUTIONS FOR FUTURE PHYSICAL EDUCATION TEACHERS BASED ON THE INNOVATIVE EDUCATIONAL CLUSTER

Abstract: *This article explores the role of the innovative educational cluster in training future physical education teachers at higher pedagogical institutions. The cluster method enables the integration of theoretical knowledge with practical skills, fostering students' analytical and creative thinking. The study highlights the pedagogical and methodological advantages of using the cluster approach in developing professional competencies, and provides examples of interactive lessons and interdisciplinary practices. Based on international experiences, a national model adapted to local educational conditions is proposed, emphasizing innovation, integration, and student-centered learning.*

Keywords: *innovative education, educational cluster, cluster method, physical education, pedagogical technologies, competencies, educational effectiveness, interdisciplinary integration.*

Introduction

Cluster is a graphic and methodological approach that helps organize educational material in a systematic and logical manner, express knowledge in a structured way, and identify interrelated concepts. The term "cluster" comes from the English word "cluster," which means "group," "collection," or "knot," and in education, it refers to a system that unites interconnected elements. The cluster method was first introduced in the 1980s by American writer and educator Gabrielle Lusser Rico. Initially, it was used as a method called "clustering" aimed at developing writing skills. Later, this method began to be widely applied in other fields of education, including physics, biology, language learning, and pedagogy. Today, the cluster method is widely used in countries with advanced educational systems such as Finland, Japan, and South Korea, particularly in interdisciplinary integrated education, skills-based approaches, and innovative teaching processes.

Advantages of the cluster method:

- a) Helps to understand the topic in a systematic and visual way;
- b) Teaches students to think creatively and analytically;
- c) Reveals the connections between interrelated knowledge;
- d) Encourages interdisciplinary integration and collaborative learning;
- e) Develops students' independent thinking and self-assessment skills.

Application of the cluster method:

1. The lesson topic is determined;

2. Key concepts are identified;
3. A branched cluster diagram is created around these concepts;
4. Additional concepts related to the topic are identified in each branch;
5. Finally, knowledge is reinforced through summarization, analysis, and practical tasks.

Currently, the training of future physical education teachers in higher education institutions is organized based on modern pedagogical approaches. The use of innovative methods is of great importance in increasing the effectiveness of the educational process, activating student engagement, and developing their professional competencies. One of these methods is based on the innovative educational cluster. An innovative educational cluster is a system that integrates interrelated pedagogical resources, methodologies, curricula, technologies, scientific-methodological support, and modern infrastructure through a comprehensive approach. Such clusters provide opportunities to implement practice-oriented, integrative, and outcome-based education in teacher training at pedagogical higher education institutions. Through these clusters, students not only gain theoretical knowledge but also develop practical skills, innovative thinking, and the ability to make effective decisions in problematic situations.

Within this system, the cluster method plays an important role in developing students' abilities to understand topics systematically, and to think analytically and creatively. Students are able to identify the internal relationships between topics, assimilate new knowledge, and apply it to practical activities. Additionally, this method serves to strengthen interdisciplinary connections, foster critical thinking, and develop students' self-assessment skills.

This article analyzes the concept of the innovative educational cluster and its significance in the training process of physical education teachers, as well as the pedagogical advantages and practical application of the cluster method. On this basis, the scientific foundations for the development of innovative lesson plans, interactive sessions, the integration of physical training exercises using the cluster method, and assessment criteria are examined. Moreover, suggestions are provided for the development of an innovative model tailored to the national education system based on the analysis of international experiences.

Theoretical Foundations of the Innovative Educational Cluster. An innovative educational cluster is a complex method applied in the educational process, in which resources, tools, technologies, and knowledge are integrated systematically. Through this method, cooperative relationships between the teacher and the student, collaborative teaching, creative activity, and lessons focused on personal development are formed. The cluster model especially strengthens communication between instructors and learners in the field of physical education and is based on an interdisciplinary approach.

Development of Competencies of Future Physical Education Teachers. By forming competency-based education through educational clusters, students develop:

- Professional-pedagogical preparation;

- Knowledge and skills in shaping a healthy lifestyle;
- Practical abilities to implement innovative technologies in physical education lessons;
- Soft skills such as leadership, initiative, and teamwork.

Practical Application of the Cluster Method in the Teaching Process. The following stages are emphasized when using the cluster method:

- Determining the main topic of the lesson and identifying the main concepts related to it;
- Grouping the concepts in the form of a cluster and expressing them visually;
- Clarifying the essence of each concept and developing relevant questions;
- Reinforcing the topic through practical tasks, physical exercises, and group discussions.

The following table presents the stages of the cluster method and their objectives:

Stages	Objectives
Concept Selection	Identifying key terms related to the main topic
Creating the Cluster	Grouping the terms in an interconnected way
Analysis and Discussion	Conducting an in-depth analysis of each concept
Practical Exercises	Reinforcing theory through sports practice

Mind Map: Organizing the Lesson Process Based on the Cluster Method

Main Topic: Physical Education

- Stages of the Cluster Method
- Concept selection
- Creating a cluster
- Discussion and analysis
- Practical exercises
- Final assessment
- Competencies
- Pedagogical preparation
- Innovative thinking
- Healthy lifestyle
- Resources
- Multimedia technologies
- Sports infrastructure
- Online platform

Foreign Experience and National Model Proposal

In international practice, particularly in the USA, Finland, South Korea, and Japan, the following approaches are observed in training physical education teachers based on educational clusters:

- trainings using technological platforms;
- use of multimedia tools;

- virtual sports laboratories;
- interdisciplinary integrated lessons.

In the context of Uzbekistan, an innovative model can be developed by adapting these experiences to local culture, traditions, and existing infrastructure:

- establishing a “Cluster for Educational and Sports Innovations” based on sports faculties;
- developing modular programs for physical education;
- introducing digital platforms for teacher professional development.

Methodological Recommendations:

- Encourage student-centered teaching approaches that promote active participation and collaboration.
- Integrate cluster-based lesson planning into teacher training curricula.
- Utilize digital tools (e.g., interactive whiteboards, online quizzes, educational apps) for creating and presenting cluster maps.
- Design interdisciplinary tasks that connect physical education with science, health, and technology.
- Regularly evaluate and update cluster-based modules based on feedback and educational needs.

Graphic: Stages of the Teaching Process Based on the Cluster Method

1. Select the topic → 2. Build the cluster → 3. Discuss the concepts → 4. Practical exercises → 5. Analysis and assessment → 6. Integrate the results

2. Additional Scientific Foundations and Monitoring System. To effectively implement the innovative educational cluster, a monitoring system should be developed. The following table shows the stages of monitoring and measurement criteria:

Monitoring Stage	Measurement Criteria
Initial diagnostics	Students' knowledge level, initial preparation
Interim monitoring	Success rate in practical tasks
Final analysis	Degree of competency development
Reassessment	Readiness for innovative activities

Conclusion: Training future physical education teachers based on the innovative educational cluster is an important tool for organizing a high-quality, integrated, and results-oriented educational process in line with modern requirements. The cluster method fosters students' independent thinking, analytical, and creative approaches. The recommendations presented in this article, along with the proposed model and foreign experiences, provide a foundation for the wide implementation of innovative pedagogical approaches in the local education system.

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BELBOG'LI KURASH USULLARINING YOSH AVLODNI TARBIYALASHDAGI VAZIFALARI

Annotasiya: Bolalarni kurashga o'rgatishda e'tibor beriladigan asosiy omillar, yosh kurashchilarga yoshiga qarab kurash nagruzkalarini berish yosh kurashchilarni kurash bilan shug'ullanish bilan bir qatorda ularga kurash qoidalarini yaxshi o'rgatish, psixologik va ruxiy tayyorgarlik berib borishi kurashchilarga musobaqa jarayonini to'g'ri tushuntirish, musobaqalarga olib chiqish jarayoni bayon qilingan.

Kalit so'zlar: belbog'li kurash, omillar, yosh xususiyatlar, jismoniy kamol topishi, sog'likni mustaxkamlash

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TASKS OF BELT WRESTLING METHODS IN EDUCATING THE YOUNGER GENERATION

Abstract: The article discusses the key factors to consider when teaching children belt wrestling, including age-appropriate training loads for young wrestlers. It emphasizes the importance of properly instructing young wrestlers on the rules of the sport while providing psychological and moral preparation. Additionally, the process of explaining competition procedures and guiding them through tournaments is outlined.

Keywords: belt wrestling, factors, age characteristics, physical development, health strengthening

Yosh avlodning ajdodlar an'analariga xamoxang xolda xar kandy kurashda mardlarcha shijoat bilan kuksini tog tutib paxlavonlik na'munalarini kursatish esa uning uzbekona gururi va gayratidan dalolatdir. Kurash albatta, sog'likni mustaxkamlash qaysi yoshda bo'lishdan qat'iy nazar kuch, chaqqonlik, bardoshlik, chidamlilik kabi fazilatlarni rivojlantirish uchun katta imkoniyat yaratadi.

Ayniqsa o'zbek kurashi jaxonga tanilib, Dunyo mamlakatlarini ko'z o'ngida xaqiqiy sport turi sifatida namoyon bo'lmoqda. O'zbek kurashi va belbog'li kurash buyicha jaxon birinchiligi musobaqalarini o'tkazib turilishi kurash texnikasining rivojlanishiga yordam berdi. Chunki ularga tayyorgarlik ko'rishda kurashchilar muntazam mashq qilishib kurash usullari sirlarini tajribali murabbiylardan o'rganib uni takomillashtirmoqdalar.

Yoshlarga kurash turini o'rgatishda yaxshi mutaxassis o'zi kurash bilan shug'ullangan tajribali murabbiylarni tanlash zarur. Kurash bilan shug'ullanuvchilarni kurash zallari, inventarlar bilan, kurash gilamlari bilan va yaxshi kurash ba'zalari bilan ta'minlash kerak. Shaxar, viloyat, Respublika va Jaxon championatlarida o'tkazilayotgan musobaqalarda tajribali xakamlarni tanlanish kerak. Musobaqa xakami xar bir kurashni adolat bilan xal qilsa musobaqaga qatnashayotgan kurashchilarni bu kurashga bo'lgan qiziqishi yanada ortib boradi.

Bolalarni kurash tushishiga o'rgatadigan kishi, o'rgatishning maqsadi faqatgina kurash texnikasi va taktikasini egallash bilan cheklanib qolmasligini unutmasligi kerak. O'smirlarda jismoniy va psixologik qobiliyat, birdan o'zgaradigan sharoitlarda tez yo'l topish va unga moslashish, tezda to'g'ri qaror qabul qilish malakasini tarkib toptirish xam juda muximdir. Demak kurash tushishiga o'rgatish birdan bir maqsad emas, balki garmonik xoldagi jismoniy kamolotni kamol toptirish vositasidir.

O'smir yoshlarni oilada kurash tushishiga muvoffaqiyatli o'rgatishning xal qiluvchi shartlaridan yana biri, bu kurashga ta'luqli trenirovka mashg'ulotlarini xar tomonlama jismoniy tayyorgarlik bilan oqilona qo'shib olib borishdir. Kurash tushuvchi jismoniy jixatdan xar tomonlama rivojlangan, chidamli, chaqqon, kuchli, baquvvat bo'lgandagina uni chinakam polvon deb xisoblash mumkin. Milliy kurashni rivojlantirishda uni maktab darslar jadvaliga kiritish, jamiyat ichida ommaviylashtirish choralari uni rivojlantirish asoslaridan biri xisoblanadi.

Yosh avlodning ajdodlar an'analariga xamoxang xolda xar qanday kurashda mardlarcha shijoat bilan ko'ksini tog' tutib paxlavonlik na'munalarini ko'rsatish esa uning o'zbekona g'ururi va g'ayratidan dalolatdir. Kurash albatta, sog'liqni mustaxkamlash qaysi yoshda bulishdan qat'iy nazar kuch, chaqqonlik, bardoshlik, chidamlilik kabi fazilatlarni rivojlantirish uchun katta imkoniyat yaratadi.

Aqliy va jismoniy taraqqiyot bir-biriga bog'liq xodisadir. Yosh organizmning me'yorida rivojlanishi xamda jismoniy kamol topishi faol xarakatsiz va jismoniy mashqlarsiz kechish qiyin. O'zbek kurashining asosiy maqsadi kurashchining jismoniy rivojlanishidan tashqari ko'proq uning ma'naviy jixatdan etuk inson bo'lib etilishiga vatanparvarlik ruxida tarbiyalanishga xayotning barcha qiyinchiligiga chiniqishga va o'z oldiga aniq maqsad va vazifalarni qo'shib ularga etishish uchun oxirigacha kurashishga qaratilgan. Mamlakatimiz istiqlolga erishgandan so'ng unutilgan urf odatlarimiz, an'analarimiz va milliy sport turlarimiz o'yinlarimiz xam qaytadan tiklanib rivojlanishiga keng yo'l ochildi.

O'smirlarni kurashga jalb qilishda ularni yoshlariga e'tibor berish maqsadga muvofiq. O'zbek oilalarda bolalarni 8-9 yoshdan boshlab kurash tushishiga boshlash ma'qul. Bolalarni kurashga o'rgatishda e'tibor beriladigan asosiy omillar, yosh kurashchilarga yoshiga qarab kurash nagruzkalarini berish. Yosh kurashchilarni kurash bilan shug'ullanish bilan bir qatorda ularga kurash qoidalarini yaxshi o'rgatish, psixologik va ruxiy tayyorgarlik berib borish kerak. Kurashchilarga musobaqa jarayonini to'g'ri tushuntirish, musobaqalarga olib chiqish kerak.

Yoshlarga kurash turini o'rgatishda yaxshi mutaxassis o'zi kurash bilan shug'ullangan tajribali murabbiylarni tanlash zarur. Kurash bilan shug'ullanuvchilarni kurash zallari, inventarlar bilan, kurash gilamlari bilan va yaxshi kurash ba'zalari bilan ta'minlash kerak. Shaxar, viloyat, Respublika va Jaxon chempionatlarida o'tkazilayotgan musobaqalarda tajribali xakamlarni tanlanish kerak. Musobaqa xakami xar bir kurashni adolat bilan xal qilsa musobaqaga qatnashayotgan kurashchilarni bu kurashga bo'lgan qiziqishi yanada ortib boradi.

O'smir yoshlarni oilada kurash tushishga muvoffaqiyatli o'rgatishning xal qiluvchi shartlaridan yana biri, bu kurashga ta'luqli trenirovka mashg'ulotlarini xar tomonlama jismoniy tayyorgarlik bilan oqilona qo'shib olib borishdir. Kurash tushuvchi jismoniy jixatdan xar tomonlama rivojlangan, chidamli, chaqqon, kuchli, baquvvat bo'lgandagina uni chinakam polvon deb xisoblash mumkin. Milliy kurashni rivojlantirishda uni maktab darslar jadvaliga kiritish, jamiyat ichida ommaviylashtirish choralari uni rivojlantirish asoslaridan biri xisoblanadi.

Kurash usullariga o'rgatish o'rta maktablarning yuqori sinf o'quvchilari jismoniy tarbiya darslari, sinfdan tashqari ishlarda kurash to'garaklari, bolalar va o'smirlar sport maktablari va sport kollejlari, yashash joylari va sport saroylari kurash to'garaklari ta'lim va tarbiya jarayonlarida amalga oshiriladi. Shuningdek kurashchilarni texnik va taktik va jismoniy tayyorgarligini oshirish mutaxassislik Oliy o'quv yurtlari va jismoniy madaniyat fakul'teti talabalari bilan ham tashkil etiladi. Shuningdek kurash usullari bilan Vatanimiz himoyachilari hamda xalqimiz tinchligining posbonlari, ishlab chiqarish va aholiga xizmat qilish sohalarining xizmatchilari o'zlarining kasbiy tayyorgarligini takomillashtirishda keng foydalanishadi.

Chunonchi kurashchilarning boshlang'ich mutaxassislik bosqichida kurash usullarining asosiy texnik harakatlari, siljishlar, gavda, qo'l va oyoq harakatlarining malaka va ko'nikmalarini egallash, uloqtirish, himoyalanih, aldov harakatlari kabi hujum va himoya texnikasi shakllari o'rgatiladi. Shu bilan birga yosh kurashchilarning umumiy jismoniy fazilatlaridan kuch-tezkorlik, chidamlilik, egiluvchanlik hamda chaqqonlik fazilatlarini rivojlantiriladi. Kurashchilarning maxsus jismoniy sifatlari hisoblangan koordinatsion qobiliyatlar-harakatlar uyg'unligi, makonni va zamonni xis qilish qobiliyatlari ham takomillashtirilib boriladi.

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ADVANTAGES OF PIPELINE IRRIGATION TECHNOLOGY

Abstract: *The article outlines that the irrigation equipment and technology we recommend for use in complex relief foothill areas is based on the principle of “Distributed Water Discharge.” From this, it can be concluded that the use of the “Distributed Water Discharge” technology allows for a reduction in irrigation duration and improvement in moisture quality compared to traditional furrow irrigation methods. Ultimately, this leads to significant water savings and reductions in capital construction costs.*

Keywords: *Distributed water supply, furrow Irrigation, irrigation efficiency, water use coefficient, moisture distribution, complex terrain irrigation, short-interval water distribution, soil conservation*

In Andijan region, there are more than 53,520 hectares of nine foothill massifs. These sloped lands, composed of loess-like loamy soil layers of varying thickness, cannot be clearly categorized into a specific natural-climatic zone. The annual precipitation does not exceed 220–250 mm, and most of this precipitation falls during the non-growing season.

Considering the demographic situation in the region, high population density, and the growing demand for land across various sectors of social life, the development of previously considered completely unsuitable sloped foothill lands for agricultural production has rapidly progressed. In these areas, traditional furrow irrigation techniques, technologies, and practices from flatlands were replicated. As a result, the ecological condition of the foothill and pre-foothill zones has significantly deteriorated. The degradation of the ecological state manifested in the rise of groundwater levels, waterlogging, salinization, intensified irrigation erosion, landslides and ravine formation in sloped areas, and the emergence of malaria mosquitoes due to poor drainage conditions.

Improper organization of irrigation, neglect of the technical condition of networks, and the lack of timely repair and restoration work have led to the annual washing away of 80 to 100 tons of top fertile soil layer per hectare. Soil suffosion — the formation of large cavities in the subsoil — and waterlogging of the adjacent flatlands have also emerged as other serious consequences. In recent years, the issue

of water scarcity in our region threatens the stability of agricultural production on lands that were reclaimed with decades of effort.

It is worth noting that the main drawbacks of traditional furrow irrigation are the uneven distribution of moisture along the furrow length and the enormous loss of water (60–65%) due to surface runoff and infiltration. The problems of furrow irrigation and water resource shortages cannot be solved merely by identifying and selecting optimal variants of irrigation equipment parameters. Through large-scale reforms currently being carried out across the country, it is possible to meet agricultural production demands during non-growing periods with the available accumulated water resources by improving water distribution and using modern, water-saving technologies.

Along with the agronomic advantages of traditionally regarded conservative furrow irrigation, the principle of distributed water discharge, which achieves efficiency comparable to the most advanced water-saving equipment, has the following theoretical basis. The numerical analysis of the following formula, recommended by academician A.N. Kostyakov for solving the balance equation of water flow movement in a furrow, shows that:

$$X = \frac{q_3 t^\alpha}{\chi n v_0}$$

The relationship between the water discharges supplied to the furrow and the distances they travel can be expressed by the following inequality:

$$q_1 > q_2 \text{ in the case of: } q_2 / q_1 < \ell_2 / \ell_1$$

Where:

q_1 – water discharge supplied to the furrow, in liters per second (l/s);

q_2 – distributed water discharge, in liters per second (l/s);

ℓ_1, ℓ_2 - distances that the water discharges flow through during the same period of time, in meters (m).

Experimental data collected under field conditions over a period of 1.0 to 5.0 hours showed that when the ratio of water discharges was $q_2/q_1=0.008...0.8$, the corresponding ratio ℓ_2/ℓ_1 ranged from 0.038 to 0.9. This confirms the validity of the above-mentioned relationship.

If $q_1 = j \cdot q_2$, that is, if the water discharge q_1 is distributed from j different points:

$$\frac{j \cdot q_2}{q_1} < \frac{j \cdot \ell_2}{\ell_1}$$

An inequality emerges, showing that the distance traveled by the flow with discharge q_1 over a given period is always less than the total distance covered when the same amount of water is distributed from several points. From this, it can be concluded that the "Distributed Water Supply" technology reduces the irrigation duration and improves moisture distribution quality compared to conventional furrow irrigation methods.

For application on complex hilly terrains, the irrigation equipment and technology we recommend are based on the "Distributed Water Supply" principle. Irrigation is carried out by distributing an equal amount of water at very short intervals (1.5–4.0 meters) along furrows dug between plant rows, from the beginning to the end.

The recommended irrigation technology and system have the following advantages:

- Maintains soil structure without erosion or slope collapse;
- Completely prevents runoff and significantly reduces seepage losses below the active root zone, increasing water use efficiency up to 0.98;
- Saves 2,000–2,500 cubic meters of water per hectare compared to existing irrigation systems;
- Increases labor productivity of irrigators by 10–12 times;
- Requires lower capital investment per hectare compared to modern drip irrigation systems;
- Due to low sensitivity to water turbidity, there is no need for additional sedimentation or filtration facilities;
- Ensures a moisture distribution coefficient of no less than 0.95 along the length of the plant rows;
- The design of the irrigation network is simple and easy to understand, and it can be constructed using existing polyethylene pipes in local farm workshops;
- Since the system consists of pipeline networks, it enables automation of the irrigation process and ensures accurate and consistent water accounting — a critical requirement in today's conditions.

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DEVELOPMENT OF LIQUID COMPOSITIONS TO INCREASE THE EFFICIENCY OF DRILLING HARD ROCKS

Annotation. *The methods of weakening rocks to increase the efficiency of drilling hard rocks are presented, and an attempt was made to develop a composition of drilling fluid. The purpose of the work is to create compositions of drilling fluids that increase the efficiency of destruction of hard rocks. The article contains experimental studies of the compositions of drilling fluids and their main structural-rheological and filtration characteristics. Also, the created stand assessed the effect of various solutions, including the developed one, on the process of destruction of hard rocks. The results of the studies show that the composition and characteristics of the developed drilling fluid have a positive effect on the process of destruction of hard rocks. The use of clay-free drilling fluids with additives of anionic surfactant compositions allows to increase the productivity of drilling operations by increasing the mechanical speed of drilling and penetration per bit.*

Keywords: *rock, weakening of rocks, microcracks, well, deformation, reagents-detergents, surfactants, drilling fluid, adsorption, destruction of rock, clay-free solution.*

Introduction. As is known, the process of drilling a well is complex and pursues many tasks. Technical and economic indicators of drilling rocks largely depend on the perfection of well flushing technology, the composition and properties of drilling fluids, their physicochemical treatment and compliance with the rocks being drilled. The issue of choosing the optimal composition of the drilling fluid is especially acute when drilling in hard rocks, since in addition to the main functions, such as creating hydrostatic pressure, cleaning the bottomhole, removing cuttings, etc., it is necessary to regulate the surface forces that allow applying the effect of adsorption hardness reduction (preliminary weakening of the rock).

Methods. For practical reduction of the surface tension of a solid, one can use:

- internal adsorption effect, i.e. adsorption of surface-active substances (SAS) on the internal surfaces of the interface of embryonic microcracks of destruction;
- the effect of reducing the surface tension of a solid when polarizing it in strong electric fields; the possibility of practical use of this effect requires research on its influence on the strength properties of rocks.

An important factor in the intensification of the drilling process of rocks is the effect of surfactants on them. The surface-active environment affects the nature of deformation and destruction of solids, mainly in the vicinity of sharp (dead-end) ends developing cracks. Thus, in the areas of deformation of a solid, the adsorption effect of the environment leads to a change in the effective surface energy per unit surface area, which causes a change in the strength properties of the solid. The greatest adsorption effects occur when new surfaces arising in the process of destruction have time to become covered with adsorption layers. From this point of view, the effectiveness of surfactants in percussion rotary drilling and in drilling with roller bits is higher than in rotary drilling - crowns and cutting bits.

The basic position that the influence of the external environment and adsorbed substances on the deformation and destruction of a solid is due to their penetration into microcracks to a fairly significant depth in the pre-destruction zone developing in a solid during its deformation was confirmed by a number of works by laboratories of the Colloid-Electrochemical Institute of the USSR Academy of Sciences [5]. Here it is necessary to note the works in which the "elementary acts" of deformation or destruction of individual crystals were studied. The following were studied: cleavage of calcite crystals by cleavage, bending and other deformations of mica leaflets. It was shown that the addition of adsorbent substances in small concentrations sufficient to saturate the adsorption layer almost 2 times reduces the force of cleavage of calcite crystals 1-2 mm thick (N.E. Markova) compared to the force of cleavage in pure water. This effect of hardness reducers increases significantly with prolonged aging of the crystal in a given liquid, especially in a loaded state close to the strength limit. The effect of residence time in a given medium increases significantly when the greatest activity of the liquid in relation to the solid is achieved, i.e. at the optimal concentration of the hardness reducer, which convincingly proves the main role of the penetration of the medium into the pre-destruction zone.

Methodology of work and processing of experimental results. In the presence of hardness reducer additives, the pre-fracture zone develops, and the fracturing in it increases - microcracks become deeper and their number per unit volume increases. This causes the greatest (depending on the concentration) facilitation of crystal splitting, and the greatest effect is achieved after a longer period of time.

The results of the studies showed that the most effective strength reducers are anion-active surfactants in an alkaline medium, which is in good agreement with the data obtained in studying the effect of surfactants on the contact strength of sandstones. In this regard, the creation of compositions of drilling fluids with additives of reagents that reduce the hardness (detergents) of rocks seems to be a very urgent task, especially when drilling wells in hard rocks.

It should be noted that a rock of high hardness changes its mechanical properties little under the influence of high pressure and temperature values that occur at great depths. On the contrary, sedimentary rocks of low hardness and density at great depths under the influence of high pressures and temperatures are compacted and their hardness can increase by 3-4 times, accordingly, the drillability

index will change. It is known that with a decrease in the density of the drilling fluid, the mechanical rate of penetration increases. If the clay solution is replaced with water, the drilling speed increases by 20 - 30%. An even greater increase (2-5 times) in the drilling speed is achieved by replacing the drilling fluid with gas [2, 3]. This indicates the need for research in the field of using low-density drilling fluids based on various polymers.

Analysis of previously conducted studies allows us to draw the following conclusions:

- when destroying rocks, it is more advisable to use surfactants that will spread better over the surface, i.e. have the smallest contact angle of wetting and low surface tension values, this will allow the drilling fluid with the addition of surfactants to penetrate deeper into the formed microcracks, creating a wedging pressure on their inner surface;
- to increase the efficiency of rock destruction at the bottomhole, it is necessary to strive to reduce the specific electrical resistance of drilling fluids;
- when choosing a drilling fluid, it is necessary to conduct studies to measure the main strength properties of rocks (e.g. tensile strength, microhardness, dynamic strength).

During the experimental studies of the wetting angle (using the Easy Drop drop shape analysis system) on the surface of a solid rock sample, aqueous surfactant solutions with a concentration of 0.05 and 0.1% were used:

- anionic - sodium linear alkyl benzene sulfonate (sodium LABS);
- cationic - catamine-AB;
- nonionic - OP-7.

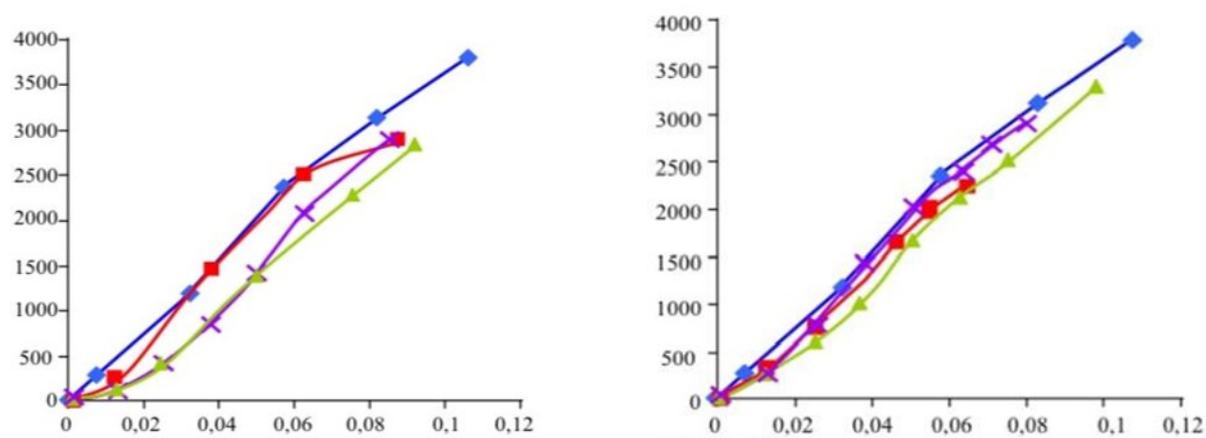


Fig. 1. Deformation diagrams of a rock sample in a surfactant environment with a concentration of 0.05% (a) and 0.1% (b) 1 – dry sample; 2-4 – aqueous solutions (2 – sodium LABS, 3 – catamine-AB, 4 – OP-7).

A similar dependence is observed when analyzing the effect of surfactants on the hardness of rocks (Figure 2). Thus, for all the studied surfactants at a concentration of 0.05%, the decrease in hardness is on average 25%, and with an increase in concentration to 0.1%, a decrease in hardness is observed when the rock is exposed to only anionic surfactants and this indicator decreases by more than 40%.

Thus, the research results indicate the prospects of using anionic surfactants in the compositions of the developed drilling fluids as detergents.

It is known that drilling fluids have the greatest positive effect on the efficiency of rock destruction at the well bottom through their ability to prevent the closure of microcracks formed during the impact of the bit structure elements.

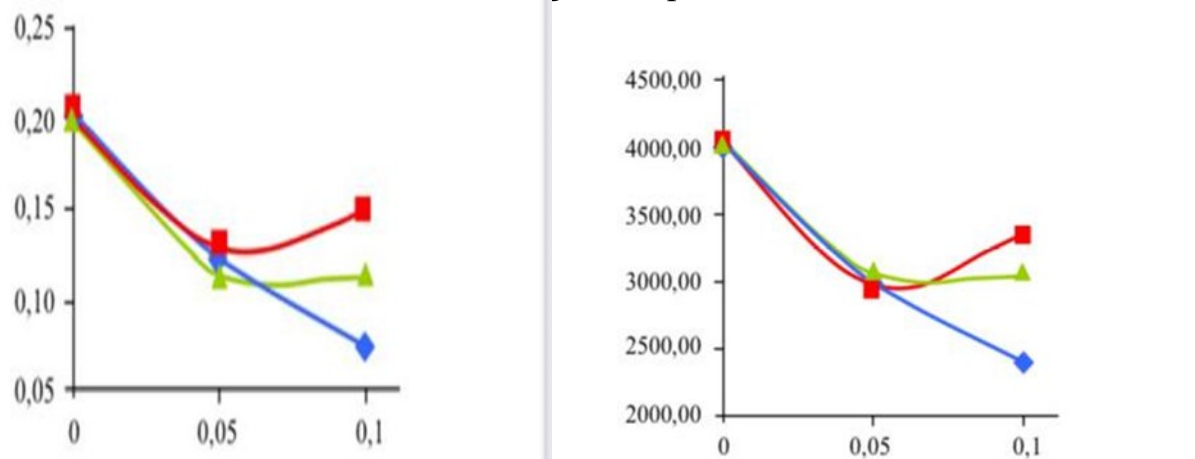


Fig. 2. Dependence of the elastic deformation work (a) and rock hardness (b) on the surfactant concentration
1 – sodium LABS; 2 – catamine-AB; 3 – OP-7

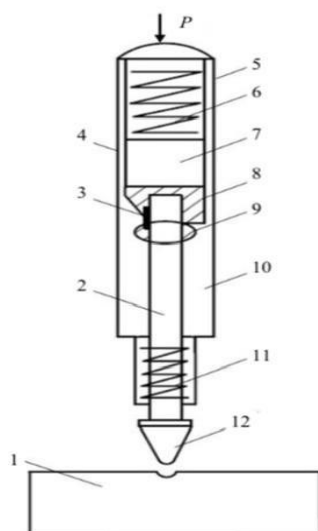
Some researchers believe that the drillability of hard rocks is significantly affected by the difference between the hydrostatic and formation pressures at the bottomhole. It is noted that the pressure difference depends on the physical properties of the rocks being drilled, the composition and properties of the drilling fluid, its chemical treatment, the content of the solid phase, etc. Others argue that the main factors in increasing the drillability of rocks are the water loss of the drilling fluid, the composition of the filtrate, its viscosity, as well as the structural and mechanical properties of the flushing medium. The depressing pressure on the bottomhole can be reduced by reducing the density of the drilling fluid, and to reduce the surface energy - by adding surfactants to the solution.

To obtain visual results of the effectiveness of surfactants, experiments were conducted on the introduction of a metal indenter into a glass sample in an aqueous medium and a surfactant solution with a different number of impacts. The operating principle of the spring mechanism (Fig. 4) is based on the compression and instantaneous release of the spring. It has a three-part screwed housing, which contains springs 6, 11, rod 2 with indenter 12, striker 7 with shifting biscuit 9 and flat spring 3. When pressed by the tip of the indenter, the inner end of rod 2 rests against the biscuit, causing the striker to move upward and compress spring 6. Resting against the edge of shoulder 8, the biscuit shifts to the side and its edge comes off rod 2. At this moment, the striker, under the action of the force of compressed spring 6, strikes the end of the rod with the indenter. Immediately after this, spring 11 restores the initial position of the indenter. The impact force (10-15 N) is adjusted by screwing in or unscrewing stop cap 5. The test solution is fed into the contact zone with sample 1. Glass was chosen as the object of research, since it

is an isotropic material. Experimental studies were conducted with different numbers of indenter impacts. The results show that with a single indenter impact, the increase in the destruction zone in a medium of 0.1% aqueous solution of anionic surfactant reaches 50% compared to water. With a greater number of impacts, this difference increases more than 2 times. The next stage of research is aimed at developing a composition of a clay-free drilling fluid, the main components of which are proposed to be xanthan biopolymer, a reagent based on acrylic polymers and a composition of anionic surfactants.

The main parameters of solutions with different concentrations of biopolymer were measured. It was found that clay-free drilling fluids have a lower density than clay ones, which has a beneficial effect on increasing the efficiency of destruction of hard rocks. For clay drilling fluids, viscosity is always minimized, since its reduction reduces energy costs for drilling fluid circulation, improves bottomhole cleaning, makes it possible to implement greater hydraulic power on the bit, and reduces pressure losses in the annular space of the well. For clay-free drilling fluids, the requirement to reduce viscosity may not be so categorical, since they have the property of liquefaction at high shear rates.

The conditional viscosity of the studied solutions (Fig. 3) ranges from 17 to 85 s. The next parameter characterizing the quality of the solution is water loss. Water loss of solutions with a biopolymer content of 0.1 to 0.3% is much higher than that of solutions with concentrations of 0.5 and 0.7% (Fig. 3).



Static shear stress (SSS) should be minimal, but sufficient to keep drilled rock particles and weighting agent suspended in a resting drilling mud. It has been established that the SSS value of clay-free solutions varies from 1 to 14 dPa (Fig. 3). The SSS value of solutions is very low. As is known, dynamic shear stress (DSS) is the force that must be applied to the solution to cause laminar flow of the latter, so it is inappropriate to increase its value. From Fig. 3 it follows that with an increase in the biopolymer concentration to 0.7%, the SSS value reaches 12.7 Pa. Based on the obtained results, it is logical to conclude that for further research it is necessary to use xanthan biopolymer "KK-Robus", the concentration of which should be at least 0.3% and not more than 0.6%. Based on general considerations,

drilling fluid with predominantly structural viscosity, i.e. with a high ratio of ultimate dynamic shear stress to plastic viscosity or with a low nonlinearity index, is best suited for cleaning the wellbore and reducing possible pressure losses.

In this regard, studies were conducted on the Rheotest rotational viscometer to measure the nonlinearity index of drilling fluids of various compositions.

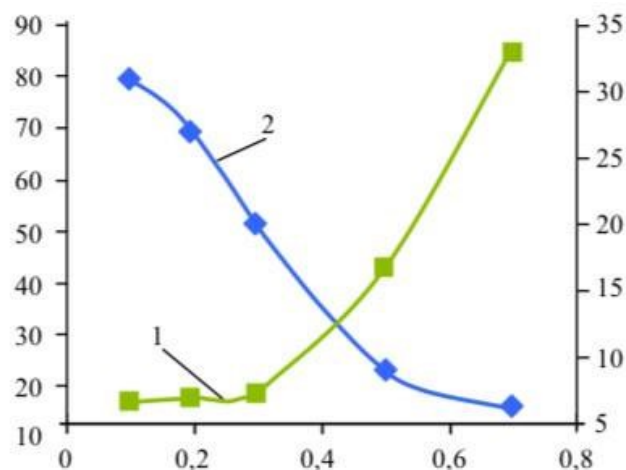


Fig. 4. Dependence of conditional viscosity (1) and water loss (2) on the concentration of the biopolymer "KK-Robus"

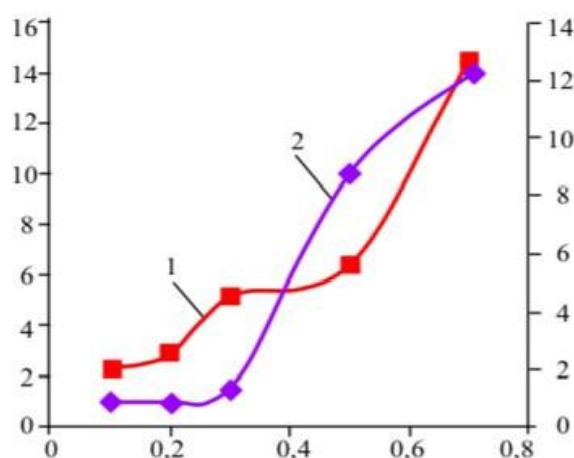
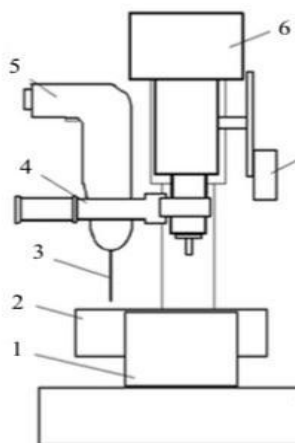


Fig. 5. Dependence of SNS (1) and DNS (2) on the concentration of the biopolymer "KK-Robus".

The concentration of anionic surfactants in the developed solution of 0.1% was selected based on the results of previously conducted experiments. To reduce water hardness, 0.1% sodium hydroxide (caustic soda) is added to the solution. Thus, the optimal composition of the clay-free drilling mud can be represented by the following components: 0.4% biopolymer "KK-Robus"; 5% acrylic polymer "KM-017"; 0.1% anionic surfactant (0.05% sodium lauryl sulfate and 0.05% potassium acetate); 0.1% sodium hydroxide.



Results: The results of the study show that at elevated ambient temperatures, the structural and rheological properties of the developed clay-free drilling mud remain within the permissible limits and, therefore, the solutions can be used for drilling deep wells. A rig (Fig. 5) and a methodology for conducting rig studies were developed to evaluate the efficiency of drilling hard rocks. During the experimental studies, the effect of anion-active surfactants and the developed composition of the clay-free drilling mud on the efficiency of drilling hard rocks was studied.

The methodology for conducting rig studies included:

- preparation of a fine-grained rock sample in the shape of a rectangular parallelepiped with polished surfaces;
- leveling and subsequent fixing of the sample in a clamping device;
- installation and fixation of axial load, impact frequency and rotation frequency of the rock-breaking tool (RBT);
- supply of the studied liquids directly to the point of contact of the RBT with the rock sample;
- destruction of the sample by the impact-rotational method; - measuring the depth of penetration of the impact drill into the sample for a fixed time.

Research conditions: rock sample dimensions – $30 \times 8 \times 6$ cm; rock – diabase; axial load 180 N; rotation frequency 100 rpm; impact frequency 200 min⁻¹; impact drill arm – VK-8 hard alloy; impact drill diameter 8 mm; impact time 10 min.

An electric drill with impact-rotary action was used as the main drive unit of the stand, providing the ability to simulate the crushing-chipping mode of operation of the impact drill. The load acting on the impact drill 3 is created by a movable loading device 6, an impact rotator 5 located in a clamp 4 and a load 7. The mass of the movable loading device 6 and the impact rotator 5 are constant, the load can only be changed by increasing or decreasing the mass of the load 7. Experiments were conducted on the developed stand. The presented data show that the use of sodium LABS increases the destruction efficiency by 7%, and sodium lauryl sulfate by 23%.

The clay-free solution containing the surfactant composition increases the studied parameter by 18%. The results of the conducted studies (experimental and bench) show that the composition and properties of the developed drilling fluid have a positive effect on the process of destruction of hard rocks. The use of clay-free

drilling fluids with additives of anionic surfactant compositions allows to increase the productivity of drilling operations by increasing the mechanical drilling speed and penetration per bit.

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INDIVIDUAL YONDASHUV ASOSIDA BOSHLANG'ICH SINFLAR O'QUVCHILARINING INTELLEKTUAL FAOLLIGINI OSHIRISH

Annotatsiya: Bugungi kunda ta'lim jarayonida o'quvchilarni individual yondashuv asosida intellektual rivojlantirishning didaktik parametrlarini aniqlashtirish, boshlang'ich sinf o'quvchilarining iqtidori va qobiliyatini rivojlantirishda variativ ta'lim mazmunini takomillashtirish alohida ahamiyat kasb etadi. Bularning barchasi o'quvchilarga individual yondashgan holda ularni intellektual rivojlantirish zaruriyati mavjudligini ko'rsatadi.

Kalit so'zlar: O'quv jarayoni, o'quvchilar, intellektual, davlat, individual, jamiyat, maqsadlar, pedagogik texnologiyalar, rivojlanish, shaxs

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INCREASING INTELLECTUAL ACTIVITY OF PRIMARY CLASS STUDENTS BASED ON INDIVIDUAL APPROACH

Abstract: Today, clarifying the didactic parameters of the intellectual development of students based on an individual approach, improving the content of varied education in the development of the talents and abilities of primary school students is of particular importance in the educational process. All this shows that there is a need for intellectual development of students with an individual approach.

Key words: Educational process, students, intellectual, state, individual, society, goals, pedagogical technologies, development, personality

O'quvchini har tomonlama rivojlantirish muammosining yechimi jamiyat hayotida alohida ahamiyatga ega. Buning uchun bugungi kunga qadar ta'lim jarayonida mavjud bo'lgan ayrim an'analardan voz kechish zaruriyati tug'ilmoqda. Jumladan, ilg'or pedagogik texnologiyalar bilan an'anaviy ta'lim jarayoni orasida mutanosiblikni ta'minlagan holda o'quvchilarni intellektual jihatdan rivojlantirish tizimini belgilab berish muhim masalalardandir. O'quvchilarda mavjud bo'lgan bilimlar paradigmasi hamda ular taraqqiyotining o'ziga xos jihatlari orasida aloqadorlikni ta'minlagan holda shaxsning o'z-o'zini rivojlantirishi, ularning o'quv jarayonidagi taraqqiyotlari orasida dinamik aloqadorlikni ta'minlash lozim. O'quvchining intellektual jihatdan erkin rivojlanishi O'zbekiston Respublikasi Konstitutsiyasida kafolatlangan insonning haq-huquqlari haqidagi qonun-qoidalarga amal qilib, jamiyat taraqqiyotining faol ishtirokchisi bo'lishga undash orqali amalga oshiriladi.

Keyingi yillarda o'quv jarayoni subyektlariga nisbatan qadriyatli munosabat pedagogik madaniyatning tarkibiy qismiga aylanib ulgurdi. Bunday bosqichlarni ajratishda o'quvchilarning ruhiy hamda yosh jihatdan o'ziga xosliklari asos qilib olingan. Ular maktabgacha ta'lim muassasalari, boshlang'ich sinf o'quvchilari, o'smir yoshdagi o'quvchilar hamda talabalarni intellektual jihatdan rivojlantirish kabi davrlarga bo'linadi. Eng asosiy ahamiyatga ega bo'lgan davr 5-9-sinf o'quvchilarini intellektual jihatdan rivojlantirish davridir. Bunda o'quvchilarni intellektual jihatdan rivojlantirishning bir qator xususiyatlariga e'tibor qaratish lozim. Jumladan, 8-9-sinf o'quvchilarida intellektual faoliyat ko'nikmalari bir qadar shakllangan bo'ladi. Chunki bu yoshdagi o'quvchilarda intellektual faoliyat ko'rsatish ehtiyojlari vujudga kelgan bo'ladi. Ular muntazam tarzda nimanidir loyihalash, qurish, yasash, kashf etishga intiladilar. Ayniqsa o'g'il bolalarda texnik ijodkorlik, qizlarda esa, badiiy ijod qilish faoliyatiga ehtiyoj kuchli bo'ladi.

So'nggi yillarda qizlarda modellashtirish, dizaynlik faoliyatiga bo'lgan intilishning kuchayganligi kuzatilmoqda. Talabalarining intellektual faoliyatga intilishlarini bir qator o'ziga xos jihatlarga bog'lagan holda izohlash mumkin. Bu fan-texnika yangiliklarining respublikamizga jadallik bilan kirib kelishi, turli madaniyatlarning keng yoyilishi, millatlararo muloqotning kengayganligi, internet xizmatining kengayishi barobarida yosh avlodning respublikamizdan tashqarida mavjud bo'lgan ilmiy-madaniy yangiliklar bilan tezkor tanishish va o'zlashtirish imkoniyatiga ega bo'lganliklari va boshqalar.

Shuning uchun ham, talabalarni intellektual jihatdan rivojlantirishga yo'naltirilgan o'quv jarayonini loyihalashtirishda bir qator talablarga amal qilish lozim:

O'quv topshiriqlarining validligini ta'minlash, ularni tuzish va taqdim etishda talabalarining o'ziga xos xususiyatlari va axborotlarning kengligi hamda rang-barangligiga e'tibor qaratish lozim, bunday topshiriqlarni tanlashda o'quv jarayonining yaqin va uzoq maqsadlariga tayanish talab etiladi, ular talabalarining intellektual taraqqiyotini ta'minlashga yo'naltirilgan bo'lishi zarur,

Yosh avlodni intellektual jihatdan rivojlantirishga xizmat qiladigan o'quv topshiriqlarining tadrijiy tarzda bir-birini to'ldirishiga e'tibor qaratish, bunda talabalarining o'ziga xosliklari va o'quv vaziyatlarning o'quv dasturi bilan bog'liq tarzda tashkil etilishiga e'tibor qaratish talab etiladi; Taqdim etiladigan o'quv topshiriqlari o'z maromiga ko'ra ta'sirchan, o'quvchilarning hissiyotlarini qo'zg'atishlari, ularning intellektual quvvatlarini ro'yobga chiqarishlari va intellektual faoliyatga undash imkoniyatiga ega bo'lishi, o'quv jarayonida talabalarga taqdim etiladigan topshiriqlar, har bir individual guruhning imkoniyatlarini hisobga olgan holda tuzilishiga erishish talab etiladi.

Ta'lim jarayonida o'quvchilarni uchta asosiy davrga bo'lgan holda intellektual jihatdan rivojlantirish imkoniyatlari mavjud. Ular reproduktiv, intellektual-mahsuldor hamda bashoratlovchi bosqichlar.

O'quvchilarni intellektual jihatdan rivojlantirishning dastlabki davrida pedagogik vositalar tizimi ularni o'quv jarayonida intellektual faoliyatga undashi

lozim. Ikkinchi davrida esa, o'qituvchining asosiy e'tibori o'quvchilarni intellektual rivojlantirishning mazmunli-jarayonli yonalishiga ko'chiriladi. Bu jarayonda intellektual vazifalarni yechishda o'quvchilarning dastlabki o'ziga xosliklari va iqtidorlari yaqqol namoyon bo'la boshlaydi. Uchinchi davrda, pedagogik vositalar tizimi o'quvchilarda intellektual va hissiy-ixtiyoriy faoliyat ko'nikmalarni shakllantirishga yo'naltiriladi.

Xulosa qilib, yosh avlodni individual jihatdan rivojlantirishda ularning har tomonlama qobiliyatlarini, qiziqishlarini, orzu-istaklarini inobatga olingan holda dars jarayonlari tashkil etilsa, maqsad sari samarali natijaga erishiladi. Individual yondashuv o'quvchilarning o'z-o'zini anglashini, o'quvchilarning o'z qobiliyatlarini to'g'ri rivojlantirishiga, muammolarni hal qilish qobiliyatini va ijodkorligini oshirishga xizmat qiladi.

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OCCUPATIONAL RISK ASSESSMENT IN VEGETABLE OIL PRODUCTION PLANTS

Annotation. *Reportedly, 50 - 70% of current global labor force is exposed to poor working conditions. This study examined exposure and hazards of workers in a vegetable oil industry and the perceived health effects. The study findings reveal that occupational health and safety in the workplace is inadequate with a wide range of hazards, physical, chemical, and ergonomic, which suggests implementation of stringent safety measures.*

Keywords: *Noise level; Occupational; Safety; Working conditions.*

Introduction. According to available literature, risk factors leading to injuries are present in every occupation with industrial and agricultural workers having the highest risks [5]. Work is essential for life, development and personal fulfillment. Unfortunately, work activities such as food production, extraction of raw materials, manufacturing of goods, energy production etc. involve processes, operations and materials which affect the health of workers.

Workplace hazards may be biological, chemical, physical, and psychosocial in nature. These hazards have resulted in a host of health impacts, ranging from catastrophic direct effects to chronic effects. While the identification of workplace hazards has often come from observations of adverse health outcomes among workers, unquestionably it is in the workplace that the impact of industrial exposures is best understood. In the past, the assessment of hazards in the workplace had been concentrated on agricultural workers, health-care workers and laboratory personnel, who are at considerable risk of adverse health effects [2]. can cause hazards which affect the health of workers [1].

Generation of noise by heavy machines in the companies has become a major menace to the workers. It is estimated that 15.8 to 23.6 percent proportion of workers world-wide is exposed to noise at moderately high (86-90 dB) and high (>90 dB) levels [13], and the relative risks of hearing loss at those exposure levels. The choice of these levels was based on the recommended exposure limits for occupational noise exposure around the world: 86 dB in most developed countries, and 90 dB in the U.S. and in many developing countries [14]. There is a seeming increase in advocacy on the right to health and safety at work as part of basic human rights. To further strengthen this, it is important to bring research into various production sectors to the fore as the findings will further enlighten the employers and employees on how to create a safe and conducive work environment.

Governments in developing countries display apathy to occupational health and safety issues; different stakeholders (management, workers and government) do

not appreciate the problems that can be solved or mitigated through occupational safety and health [1]. The available literature further identified risk factors leading to injuries which are present in every occupation with industrial and agricultural workers having the highest risks [4,5]. The job demands of most industries have been reported to be hazardous to the health and safety of workers. Although, some industries have evolved high-tech approaches to minimize workers' exposure to heavy physical workloads, empirical evidence shows that workers in the developing countries still seem to be at high risk of occupational hazards [1,6]. The number of hours spent at workplace by either white or blue professionals, has resulted in several health issues such as cardiovascular disease, diabetes, hypertension, metabolic syndrome, obesity, subsequently high mortality rate thus, leading to a major health challenge in public [7-12].

Materials and Methods

Data collection method

Data was drawn from primary sources using a questionnaire and environmental assessment/monitoring device to measure noise level and temperature. Noise level is measured because the workers use machine that generates a loud noise that could affect them. Temperature is measured to assess the amount of heat being generated in the company and its impact on workers. The questionnaire was carefully designed with closed-ended items having available options for respondent to choose from.

The questionnaire sought information on the following sections:

Section A: Socio-demographic information of the participants;

Section B: Identification of inadequacies in health and safety measures;

Section C: Safety and health effects of worker's exposure to workplace hazards; and

Section D: Identification of unsafe acts among workers.

Both interviewer and self-administered formats were used to obtain the data which covered all the sections per shift. The questionnaire was used to assess worker's exposure to health and safety hazards in their workplace as well as compliance to safety standards.

Environmental Monitoring

A Peak Tech 5035 (Figure 2) series environmental monitor was used to measure the following parameters: noise level and ambient temperature of the work areas. Data collection was carried out daily for workers working in the daytime shift in each department at time intervals (9:00 AM, 2:00 PM).

Noise/sound level meter

The environmental noise levels from the machines in the selected departments were measured using a factory-calibrated environmental monitor meter (Peak Tech 5035 series). The meter was taken to locations in the study sites and powered on. The Sound Level Mode (SLM) of the monitor was set at the slow response mode with a-weighting decibels (dB (A)) of the noise level displaying on the screen. The reading was taken for both day and night shift at two-time intervals (Day: 9 am, 2 pm and Night: 9 pm, 2 am) in each of the sections.



Figure 2: Environmental Monitor Meter.

Noise/sound level meter

The environmental noise levels from the machines in the selected departments were measured using a factory-calibrated environmental monitor meter (Peak Tech 5035 series). The meter was taken to locations in the study sites and powered on. The Sound Level Mode (SLM) of the monitor was set at the slow response mode with a-weighting decibels (dB (A)) of the noise level displaying on the screen.

Data management and statistical analysis

Data collected were analyzed using descriptive statistics of mean, standard deviation, frequency and percentages. The most appropriate exposure measurement for occupational noise is the A-weighted decibel, dB (A), usually averaged over an 8-hour working day.

Identification of unsafe acts among workers

Various safety and health hazards were identified. Eighteen (18.3%) respondents claimed to experience back [pain](#) always, six (6.4%) respondents claimed to always experience eye irritation while seven (6.9%) respondents claimed to experience breathing difficulty. Thirty-two (31.2%) respondents reported heat exhaustion, two (1.8%) respondents claimed to always suffer cuts while at work, four (3.7%) respondents claimed to experience ear pain/hearing difficulty, while eight (8.4%) respondents claimed to always experience [skin](#) irritation.

Noise: The power plant area where the electricity generators are installed had the highest noise level of 103.7 dB; this exceeds the recommended exposure limit (85 dB). A lower noise level of 86.2 dB was recorded at the office section of the power plant. However this is still relatively hazardous as long term exposure to this level of noise impairs hearing [8]. The work area of the crushing section recorded a noise level of 91.8 dB during the day and a slightly lower value of 90.8 dB at night, while the office section recorded a noise level of 79.9 dB and a slightly higher value of 80.3 dB at night.

Temperature: Daytime at the crushing site (34.7°C); This was due to the heat generated by the palm kernel crushers, as well as poor ventilation in the work area. Other areas with high temperatures were the power plant site, which recorded 33.7°C during the day and 33.5°C at night, and the margarine site, which recorded

32.8°C during the day and 32.7°C at night. The solvent extraction plant temperature was 29.8°C during the day and 29.5°C at night. The lowest temperature in the laboratory was 27.3°C during the day.

Conclusion. Thus, occupational health and safety in the work place is inadequate since safety measures were not fully implemented. The workers in the company were observed to have different ailments such as heat exhaustion, back pains, respiratory irritation, eye irritation, [skin](#) irritation, cuts and bruises on the workers. The most predominant unsafe act identified among the respondents was working while ill.

It is therefore recommended that there should be more awareness on behavioral based safety to promote the safety culture among the workers. The safety health and environment messages can be displayed widely at conspicuous locations (mounted on the walls of the factory).

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ELEKTR ENERGIYASI ISTE'MOLINING NAZORATI

***Annotatsiya:** Ushbu maqolada Elektr energiyasi iste'moli haqida ma'lumot berilgan. Shuningdek, elektr energiyasi iste'molini nazorat qilish usullari hamda iste'mol nazoratining usullari haqida batafsil qayd etilgan. Elektr energiyasi iste'molini nazorat qilish iqtisodiy samaradorlikni oshirishda muhim ahamiyatga ega.*

***Kalit so'zlar:** elektr energiyasi, ma'lumot, simsiz texnologiya, avtomatlashtirilgan, smart hisoblagich*

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ELECTRICITY CONSUMPTION CONTROL

***Annotation:** This article provides information on electricity consumption. It also details methods of electricity control and methods of consumption control. Electricity consumption control is important in increasing economic efficiency.*

***Key words:** electricity, data, wireless technology, automated, smart counter*

KIRISH

Elektr energiyasi iste'moli har bir mamlakat iqtisodiyoti va rivojlanishi uchun muhim omil hisoblanadi. Energiyaning samarali va oqilona iste'moli, nafaqat iqtisodiy jihatdan foydali, balki ekologik barqarorlikni ta'minlashda ham muhim rol o'ynaydi. Ushbu maqolada elektr energiyasi iste'molining nazorati, uning ahamiyati, usullari va zamonaviy texnologiyalari haqida so'z yuritiladi.

Elektr energiyasi – zamonaviy hayotimizning ajralmas qismi. U bizning kundalik faoliyatimizda, sanoat ishlab chiqarishida, transportda va boshqa ko'plab sohalarda muhim rol o'ynaydi. Biroq, elektr energiyasini iste'mol qilishning ko'payishi ekologik muammolarni keltirib chiqarishi va iqtisodiy sarflarni oshirishi mumkin. Shuning uchun elektr energiyasining iste'molini nazorat qilish dolzarb vazifa hisoblanadi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Zamonaviy texnologiyalar elektr energiyasi iste'molini nazorat qilishda muhim rol o'ynaydi:

- Smart hisoblagichlar: Ular iste'molchilarni real vaqt rejimida energiya sarfini kuzatishga imkon beradi va ma'lumotlarni avtomatik ravishda taqdim etadi.

- Ma'lumotlarni tahlil qilish: Katta ma'lumotlar (Big Data) va sun'iy intellekt yordamida energiya iste'molini tahlil qilish va prognoz qilish mumkin.

- Simsiz texnologiyalar: Wi-Fi, Zigbee kabi simsiz texnologiyalar yordamida ma'lumotlarni uzatish jarayonini soddalashtiradi.

Elektr energiyasini nazorat qilish tizimlari asosan quyidagi modullardan iborat:

1. Ma'lumot to'plovchi modul: Bu modul energiya iste'molining real vaqt rejimida ma'lumotlarini yig'adi.

2. Ma'lumot uzatish moduli: Yig'ilgan ma'lumotlarni markaziy tizimga uzatadi.

3. Ma'lumotlarni qayta ishlash moduli: Markaziy tizimda ma'lumotlarni tahlil qiladi va hisobotlar tayyorlaydi.

4. Foydalanuvchi interfeysi: Foydalanuvchilarga ma'lumotlarni ko'rish va tahlil qilish imkoniyatini beradi.

Qiyosiy Tahlil

1. Simli uzatish tizimlari

- Afzalliklari:
- Yuqori tezlik va ishonchlilik.
- Kam elektromagnit interferensiya.
- Kamchiliklari:
- O'rnatish xarajatlari yuqori bo'lishi mumkin.
- Harakatlanuvchi ob'ektlar bilan ishlashda cheklovlar mavjud.

2. Simsiz uzatish tizimlari

- Afzalliklari:
- Oson o'rnatish va kengaytirish imkoniyatlari.
- Harakatlanuvchi ob'ektlar bilan ishlashda qulaylik.
- Kamchiliklari:
- Signal kuchi va sifatiga ta'sir etuvchi omillar (masofalar, to'siqlar).
- Ba'zi hollarda xavfsizlik masalalari.

3. Mobil aloqa tizimlari

- Afzalliklari:
- Keng hududda qamrov va mobilitet.
- Oson integratsiya qilish imkoniyatlari.
- Kamchiliklari:
- Ma'lumot uzatish xarajatlari yuqori bo'lishi mumkin.
- Tarmoqning to'g'ridan-to'g'ri bog'lanishi zarurati.

NATIJA VA MUHOKAMA

Elektr energiyasi iste'molini nazorat qilish uchun bir nechta usullar mavjud:

1. An'anaviy hisoblagichlar: Uydagi yoki korxonadagi energiya iste'molini o'lchash uchun ishlatiladi. Bu usul oddiy va arzon, lekin ma'lumotlarni real vaqt rejimida olish imkonini bermaydi.

2. Avtomatlashtirilgan hisob tizimlari: Zamonaviy hisoblagichlar, masalan, smart hisoblagichlar, energiya iste'molini real vaqt rejimida kuzatish imkonini beradi. Bunday tizimlar internet orqali ma'lumotlarni uzatishi va foydalanuvchilarga mobil ilovalar yoki veb-platformalar orqali ma'lumotlarni ko'rish imkoniyatini taqdim etadi.

3. Energiya menejment tizimlari (EMT): Bu tizimlar energiya iste'molini nazorat qilish va optimallashtirish uchun mo'ljallangan. Ular ma'lumotlarni yig'ish, tahlil qilish va energiya sarfini boshqarish uchun ilg'or algoritmlar va modellarni qo'llaydi.

4. IoT (Internet of Things): Internetga ulangan qurilmalar yordamida energiya iste'molini nazorat qilish imkoniyatlarini kengaytiradi. IoT texnologiyalari orqali real vaqt rejimida ma'lumotlarni yig'ish va tahlil qilish mumkin.

Iste'mol nazoratining usullari

1. Energiya monitoringi: Maxsus asbob-uskunalar yordamida elektr energiyasining iste'moli doimiy ravishda kuzatiladi. Bu usul yordamida qaysi jihozlar yoki jarayonlar ko'p energiya sarflayotganini aniqlash mumkin.

2. Hisoblagichlar: Zamonaviy hisoblagichlar (masalan, smart hisoblagichlar) foydalanuvchilarga real vaqt rejimida energiya iste'molini kuzatishga imkon beradi. Bu esa ularga o'z xarajatlarini boshqarishga yordam beradi.

3. Avtomatlashtirish tizimlari: Energiya sarfini kamaytirish maqsadida avtomatik boshqaruv tizimlarini joriy etish orqali ish jarayonlarini optimallashtirish mumkin.

4. Energiyani tejash dasturlari: Korxonalar va uy xo'jaliklari uchun maxsus dasturlar ishlab chiqilishi, ularning energiya samaradorligini oshirishga yordam beradi.

5. Tahlil va hisobot berish: Olingan ma'lumotlarni tahlil qilib, foydalanuvchilarga har oy yoki har chorakda hisobot berilishi zarur. Bu ularga o'z xarajatlarini yanada yaxshiroq tushunishga imkon yaratadi.

XULOSA

Elektr energiyasi iste'molini nazorat qilish, iqtisodiy samaradorlikni oshirish, resurslardan foydalanishni optimallashtirish va ekologik barqarorlikni ta'minlashda muhim ahamiyatga ega. Zamonaviy texnologiyalar yordamida bu jarayon yanada samarali va qulay bo'lmoqda. Kelajakda energiya iste'molini nazorat qilish tizimlari yanada rivojlanishi kutilmoqda, bu esa energiya ta'minoti sohasidagi barqarorlikni ta'minlashga xizmat qiladi.

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NAZARIY BILIM OLIISHDA INNAVATSION TEXNALOGIYALARINI O‘ZIGA XOS JIHATLARI

***Annotatsiya:** Insoniyatning taraqqiyoti doimo murakkab va ko‘p qirrali jarayonlar bilan bog‘liq bo‘lib, bu jarayonda nazariy bilimlar, ma‘naviy qadriyatlar va sog‘lom turmush tarzining ahamiyati yuksak baholanadi. Ushbu maqolada nazariy ta‘limning tarixiy ildizlari, uni shakllantirishda qadimiy va zamonaviy pedagogik yondashuvlarning o‘rni tahlil qilinadi. Xususan, talabalarga nazariy bilimlarni samarali yetkazish uchun foydalaniladigan an‘anaviy va innovatsion uslublar – muammoli o‘qitish, izlanish, guruhiiy ishlash, hamda mustaqil fikrlashni shakllantirish kabi metodlar yoritiladi. Shuningdek, maqolada insonparvarlik (gumanizm) tamoyillariga asoslangan ta‘limning afzalliklari, pedagogik munosabatlarning o‘zgarishi, talabalarni erkin, ijodkor shaxs sifatida tarbiyalashning dolzarbligi ham ko‘rsatib o‘tilgan. Innovatsion texnologiyalarning pedagogik faoliyatda qo‘llanilishi esa nafaqat ta‘lim sifati, balki jamiyatning umumiy madaniy yuksalishiga xizmat qilishi ta‘kidlanadi. Mazkur maqola ta‘lim tizimidagi nazariy yondashuvlarning zamonaviy talablarga mosligi, ularning amaliyotdagi qo‘llanilishi va ijtimoiy ahamiyatini ochib beradi.*

***Kalit so‘zlar:** innovatsion, guruh, gumanistik, metod, rivojlanish.*

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SPECIFIC FEATURES OF INNOVATIVE TECHNOLOGIES IN ACQUIRING THEORETICAL KNOWLEDGE

***Abstract:** The development of humanity is always associated with complex and multifaceted processes in which theoretical knowledge, spiritual values, and a healthy lifestyle play a crucial role. This article explores the historical roots of theoretical education and analyzes the role of both ancient and modern pedagogical approaches in shaping it. In particular, it highlights the use of traditional and innovative methods in effectively delivering theoretical knowledge to students—*

such as problem-based learning, research activities, group work, and the development of independent thinking. Additionally, the article discusses the benefits of education based on the principles of humanism, the evolution of pedagogical relationships, and the relevance of educating students as free-thinking and creative individuals. The application of innovative technologies in pedagogical practice is emphasized not only for improving the quality of education but also for contributing to the overall cultural development of society. This article reveals how modern theoretical approaches in the education system align with contemporary requirements and explores their practical application and social significance.

Keywords: *innovation, group, humanistic, method, development.*

Insoniyat hayoti va uning taraqqiyoti juda murakkab, ko'p qirrali va g'oyat chigal muammolarga boydir. Bu muammolar kishilarning moddiy ne'matlar ishlab chiqarish, xizmatlar ko'rsatish, fan, madaniyat, siyosat, mafkura, axloq, davlatni boshqarish sohalaridagi, shuningdek, oiladagi va boshqa faoliyat turlarining borgan sari ko'payib, rivojlanib hamda ularning o'zgarib borishi natijasida vujudga keladi. Uzoq davrlar mobaynida insoniyat fikrini band qilib kelgan ayrim masalalar bugungi kunda oddiy haqiqat va oson bilish mumkin bo'lgan narsaga o'xshab ko'rinadi. Shu muammolarni yechish va o'z ehtiyojlarini kondirish maksadida kishilar turli yo'nalishlarda, sohalarida faoliyat ko'rsatadilar. Demak, insonning turli faoliyatlari ichida eng asosiysi, ularning yashashi, kamol topishini ta'minlaydigani sog'lik va ma'naviy ne'matlar ishlab chiqarish hamda xizmatlar ko'rsatishdan iborat bo'lgan faoliyatdir.

Nazariy ta'limga oid bilimlar antik dunyoning ko'zga ko'ringan olimlari Platon, Aristotel, Ktesiy, Ksenofont asarlarida, shuningdek qadimgi Misr, Messopotamiya, Hindiston, Xitoy va Markaziy Osiyo olimlarining asarlarida o'z aksini topgan edi.

Kur'oni Karimni, Hadislarni, Qobusnomani, ulug' mutaffakkir-larimiz Al-Buxoriy, at-Termiziy, Muso al Xorazmiy, Abu Ali ibn Sino, Abu Nosir Farobiy, Abu Rayxon Beruniy, Mir Alisher Navoiy, Mirzo Ulug'bek, Markaziy asarlarida insonning yashashi uchun, tabiat ehsonlarini o'zlashtirish, ijodiy mehnat qilish kerakligi qayta uqtirilganligi bilan talabalarni tanishtirish muhim tarbiyaviy ahamiyatga ega.

Nazariy bilim berishda o'qitishning turli-tuman metodlaridan foydalaniladi. Bu o'rinda I.Ya.Lerner, M.N Skatkin, M.A.Danilov, B.P.Esipping tavsiya qiladigan metodlaridan foydalanilinish ijobiy natijalarni beradi. Ular quyidagilar:

- tushuntirish metodi
- reproduktiv metod
- muammoli bayon qilish metodi - qisman izlanish metodi
- tadqiqot metodi.

V.P.Simonov tasnifi bo'yicha nazariy tarbiyalashda talabalarni guruhlarga ajratib ta'lim berish maqsadga muvofiqdir.

Birinchi guruhga o'qitishning o'qituvchi dominantlik qiladigan hikoya, suhbat, tasniflash, tushuntirish va hokazolarni kiritadi. Bunda talabaning eng asosiy

vazifasi o'qituvchi taqdim qilayotgan kategoriyalarni idrok etish va o'qituvchi mulohazalarining mantiqiga ergashish, bayon qilinayotgan mazmuni tushunish, eslab qolish va keyinchalik o'rganilayotgan materialni reproduksiya qilishdan iborat. Uning fikri o'qituvchi mulohazalarining tizimiga qanchalik yaqin bo'lsa, o'quv materialini o'rganishning tavsiya etilgan yo'li shunchalik ishonchli bo'ladi.

Ikkinchi guruhga o'qitishning turli shakllari: mashqlar misollar va masalalar, amaliy va mustaqil ishlar kiradi. Bu o'rinda, bizning fikrimizcha talaba faoliyatining xarakteri tavsiya etilgan metodning samaradorligini belgilaydi. O'qituvchining o'rni esa pedagogik jarayonni mohirona boshqarishdan iborat bo'ladi.

Talabalarga nazariy ta'lim berishda muammoli o'qitish metodlari ham samarali natijalarni beradi, chunki ta'limda muammoli yondoshish o'quv dasturlarida ham, o'qituvchi bilimlarini bayon qilishda ham, talabalarning mustaqil ishlarida ham o'z ifodasini topadi.

Talabalarda nazariy bilimlarni turli-tuman muammoli ta'lim usullaridan foydalanish ijobiy natijalarni beradi va jismoniy tarbiya masalalarining yechimini topishda qo'l keladi.

Innovatsion usullar orqali nazariy bilimlarni oshirish talabalarda bilimdonlikni va madaniyatni qaror toptirishga qaratilgan.

Ilmiy izlanish jarayonida uzluksiz, yaxlit, bog'liqlikni ta'minlovchi «bosqichli ta'lim» konsepsiyasining to'laqonli amalga oshmayotganligi sababli talaba yoshlarning bilim darajasi sust rivojlanayotganligi aniqlandi.

Talabalarda innovatsion («yangilik elementlari orqali») nazariy bilimlarni pedagogik faoliyat, shaxsning shakllanishini o'ziga birlashtirib real pedagogik jarayonni vujudga keltiradi va bu jarayon turli ta'lim-tarbiya konsepsiyalari, nazariyalari yordamida loyihalashtirilishi, ta'lim tizimi muassasalarida tadbiq etilmokda.

Kuchli ta'sirchan va mustahkam jismoniy ta'lim tizimini faqatgina fan o'rnatgan ob'ektiv asoslar va amaliyotda tasdiqlangan qoidalar yordamida rivojlantirish mumkin. Bu, albatta innovatsion texnologiya bilan bog'liqdir.

Innovatsion pedagogikani, ko'pincha, an'anaviy, alternativ deb ataydilar. Faraz qilayotgan rivojlanish strategiyamiz «rivojlantiruvchi o'qitish» yo'nalishlaridan, eng avvalo, o'z intilishlarini ta'lim tizimida innovatsion usullar orqali nazariy bilimlarni qaror toptirish, bilimdonlikni va madaniyatni shakllantirishga qaratilgan. «Bolalarning qanaqa tug'ilishi bu hech kimga bog'liq emas, lekin har bir insonning yetarlicha rivojlanishi, yuqori darajaga erishishi, o'ziga yoqqan mashg'ulot bilan shug'ullanishi va hayotda o'z o'rnini topishi, o'z hayotini munosib o'tkazishi, ta'limga bog'liqdir», - deb ta'kidlaydi A. Munavvarov (1996, 78). Bugungi kunda gumanistik pedagogika uni maktabdagi munosabatlar markaziga qo'yishni va kerakligicha rivojlana olishi uchun hamma ishni bajarishni talab qiladi.

«Gumanistik pedagogikani ko'pincha, **innovatsion** deb ataydilar, lekin uning innovatsionligi faqatgina biz uchun, zamonaviy g'arb tizimlari alaqachon gumanistik yo'nalishga o'ta boshlab va asta - sekin yangi munosabatlarga aylana boshlagan» (Mavlonova va boshq., 1999,)

Gumanistik pedagogikani to'la ma'noda innovatsion deb aytish mumkin. U tashqaridan in'eksiya talab qilmaydi. Yuqori o'quv tarbiyaviy ta'sir natijalari tizimining qayta tashkil etilishi evaziga erishiladi.

Gumanizm (insonparvarlik) - insonning dunyodagi eng qimmatli ma'naviy boyliklarning yagona konsepsiyasidir. Bu konsepsiyaning asosiy qoidasi shaxs qadr-qimmatini himoya qilish, uning erkinlik, baxt, rivojlanish va o'z qobiliyatini namoyon etish huquqini tan olishdan iboratdir.

Insonparvarlik pedagogikasi o'z navbatida shaxsga qaratilgan. Uning belgilari:

- nazariy bilimlarni egallab olish va ma'lum doiradagi mahorat va ko'nikmalarni yuzaga keltirish o'rniga psixik, jismoniy, intellektual (aqliy) rivojlanishga diqqatning qaratilishi;

- kuchlarni erkin, mustaqil fikrlovchi va harakat qiluvchi shaxsni shakllantirish uchun jamlash, har qanday hayotiy va o'quv vaziyatlarda asosli qarorni tanlab qabul qila oladigan insonparvar fuqoroni yetishtirish;

- o'quv jarayonini muvaffaqiyatli qayta yo'naltirishga erishish uchun kerakli tashkiliy shart - sharoitlar bilan ta'minlash.

- o'quv jarayonini insonparvarlashtirishda avtoritar pedagogikadan, pedagogik bosimdan voz kechib, talaba va pedagog o'rtasida haqiqiy insoniy munosabatlar o'rnatish, talaba faoliyati va shaxsi asosiy ahamiyat kasb etuvchi, shuningdek, shaxs tarbiyasiga qaratilgan pedagogikani tushunish kerak.

Insonparvarlik nuqtai nazaridan tarbiyaning asl maqsadi har bir tarbiyalanuvchining munosabatlari, o'zlashtirish faoliyati, to'la huquqli sub'ektning mustaqil, erkin shaxs bo'lib yetishtirishdan iboratdir.

Ta'lim-tarbiya jarayonining insonparvarlik darajasi, shu jarayonda shaxs o'zini namoyon eta olishi, o'zidagi hamma ta'lim olish imkoniyatlarini, shu jumladan nazariy bilimdonlikni ochib bera bilishi, uning erkinlikka qobiliyati, ijodga ma'suliyatini ochib berishi uchun shart-sharoitlar yaratib berishi bilan belgilanadi.

Innovatika muammolariga murojaat etish va ularni muhim zamonaviy ilmiy fikrlash yo'nalishlariga qo'shish jamiyatda innovatsion jarayonlar dinamikasining o'sib borayotganligini tushunish natijasida vujudga keldi. Adabiyotlarda innovatsiya muammolari ko'p vaqtgacha tadqiqotlar tizimida o'rganilib kelindi. Ammo vaqt o'tishi bilan jamiyat hayoti faoliyatining hamma sohalarida chunonchi pedagogik innovatsion texnologiyalar o'zgarishlari asosida sifat xarakteristikalarini baholash muammosi yuzaga keldi. Bu o'zgarishlarni faqatgina umumiy nazariyalar bilan aniqlab bo'lmaydi.

Innovatsion jarayonlarni o'rganish uchun boshqa yo'llar zarur, unda innovatsiya tahlili faqatgina fan va texnika erishgan zamonaviy yutuqlardan foydalanishnigina o'z ichiga olmay, balki, boshqarish, ta'lim, huquq, kasbiy ta'lim va boshqa sohalarni ham qamrab oladi.

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CRITERIA AND INDICATORS FOR ASSESSING THE INNOVATIVENESS OF BANKING PRODUCTS IN THE DIGITAL ENVIRONMENT

Abstract: *In current conditions of rapid digital transformation of the banking sector, it is crucial to have systematic criteria and measurable indicators for the assessment of banking products innovativeness in a digital environment. While the significance of innovation for financial services is broadly recognized, the absence of a uniform approach for effectively measuring the innovation capacity of digital banking solutions remains a blind spot. This research focuses on discovering and validating a solid group of criteria and indicators specifically designed for evaluating innovativeness of banking products in digital settings. Using a mixed-methods design including a literature synthesis, expert surveys, and qualitative analysis, the study presents a structured evaluation framework that includes certain criteria—novelty, customer-centricity, digital access, technology integration, scalability, regulatory compliance, and ESG equivalence. Moreover, specific quantitative and qualitative indicators such as innovation adoption rate, customer satisfaction index, and digital transaction ratios, are introduced and ranked through expert validation. The findings will offer valuable contributions for the theoretical realms of ways to assess innovations based on banks as well as input for practitioners and policymakers and both, steel professional advancement and their innovative decision making in the process of the digital transformation.*

Keywords: *banking innovation, digital economy, innovativeness assessment, evaluation indicators, innovation criteria, fintech, digital banking.*

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RAQAMLI MUHITDA BANK MAHSULOTLARINING INNOVATSIONLIGINI BAHOLASH MEZONLARI VA KO‘RSATKICHLARI

Annotatsiya: *Bank sektorini jadal raqamli transformatsiya qilishning bugungi sharoitida raqamli muhitda bank mahsulotlarining innovatsionligini baholashning tizimli mezonlari va o‘lchanadigan ko‘rsatkichlariga ega bo‘lish nihoyatda muhimdir. Moliyaviy xizmatlar uchun innovatsiyalarning ahamiyati keng e’tirof etilishiga qaramay, raqamli bank yechimlarining innovatsion salohiyatini samarali baholash bo‘yicha yagona yondashuvning yo‘qligi ko‘r nuqta bo‘lib*

qolmoqda. Ushbu tadqiqot raqamli muhitda bank mahsulotlarining innovatsionligini baholash uchun maxsus ishlab chiqilgan mustahkam mezon va ko'rsatkichlar to'plamini aniqlash va sinab ko'rishga qaratilgan. Adabiyotlarni ko'rib chiqish, ekspert intervyulari va sifat tahlilini o'z ichiga olgan aralash usuldan foydalangan holda, tadqiqot muayyan mezonlarni o'z ichiga olgan tizimli baholash tizimini taqdim etadi - yangilik, mijozlarga e'tibor, raqamli kirish, texnologiya integratsiyasi, miqyoslilik, tartibga solishga muvofiqlik va ESG ekvivalentligi. Bundan tashqari, innovatsiyalar darajasi, mijozlar qoniqish indeksi va raqamli tranzaksiya stavkasi kabi aniq miqdoriy va sifat ko'rsatkichlari ekspert baholashidan foydalangan holda kiritiladi va tartiblanadi. Olingan natijalar bank innovatsiyalarini baholash usullarining nazariy sohasiga qimmatli hissa qo'shadi, shuningdek, amaliyotchilar va siyosatchilar uchun, shuningdek, raqamli transformatsiya jarayonida malaka oshirish va innovatsion qarorlar qabul qilish uchun yordam bo'lib xizmat qiladi.

Kalit so'zlar: bank innovatsiyalari, raqamli iqtisodiyot, innovatsiyalarni baholash, baholash ko'rsatkichlari, innovatsiya mezonlari, fintech, raqamli banking.

Introduction. The fundamental evolution of traditional financial services through the digital transformation of the banking sector has pushed institutions to adopt innovative solutions at every level of their organizations. In this context, innovation has a board term of reference, it is considered a significant driver of the competitive edge, allowing banks to provide different products, improve the customer experience, and optimize efficiencies.³⁸ The recent technological developments, such as fintech solutions, artificial intelligence (AI), blockchain, and mobile banking have played a crucial role in the shaping of banking products and services as well as their modes of delivery, forcing the financial services sector to view innovation as a strategic necessity.³⁹ While innovation is widely acknowledged as a key element of strategic growth, challenges remain in measuring and quantifying the innovativeness of bank offerings. Currently available evaluation frameworks are disjointed, and often, they fail to provide a focus on what criteria and indicators are most appropriate with regard to banking products being offered in these new digital environments. In the existing literature, there is only little discussion regarding common metrics and general standards that can be used for comparison, which leads to vagueness and inconsistency in how financial institutions make sense of the innovation results. These gaps in the assessment methodologies are preventing banks from effectively benchmarking innovation performance and making strategic plans and decisions.⁴⁰

³⁸ Frame, W. S., & White, L. J. (2014). Technological change, financial innovation, and diffusion in banking. *Oxford Handbook of Banking*, 2nd ed., Oxford University Press, 271-291.

³⁹ Gomber, P., Koch, J. A., & Siering, M. (2018). Digital finance and fintech: current research and future research directions. *Journal of Business Economics*, 88(5), 537-580.

⁴⁰ Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. *Business Horizons*, 61(1), 35-46.

Literature review. The game changer of the financial world, innovation is a key factor that is changing the competitive landscape of banks and improving their efficiency. Commonly defined, innovation in banking seems to be focused on the introduction or the significant improvements of either products, services, processes or delivery methods to improve customer satisfaction, decrease operational costs, and establish competitive advantage.⁴¹ Innovation in Banking, with a wide lens – Theoretical aspects which describes the Banking Innovation as above, envisages them not just in the realm of technology but also in strategic, organizational and consumer dimensions to keep up with the changes in market dynamics and changing expectations of the customers.⁴²

Innovations in banks are generally classified in some broad classes like product innovations process innovations market innovations and organizational innovations. Product innovations are new financial products and services such as mobile banking applications, digital wallets, and blockchain-based products. For example, process innovations are improvements in current operational activities like Online Loan Approvals and through automated customer service solutions. Market innovations mean the creation of new market segments or new customers' target and organizational innovations refer to how the managerial activities within the organization or the organizational culture itself evolve to support innovative processes.⁴³

Digitalization has undergone a rapid transformation in the global banking industry. It is a process that involves a complete revitalization of the way banks deliver value through products and services by conducting banking operations with the help of specific digital technologies.⁴⁴ The focus on innovation in response to changing customers translates into the evolution of banking products and services to meet customers' demand for convenience, speed, and personalization. Digital transformation cases include mobile banking, contactless payments, robo-advisory applications, and cloud-based banking solutions focused on streamlining user experience and operational performance.⁴⁵

Fintech — next-generation financial technology solutions provided by technology-forward firms or startups — is a major driver of digital transformation in banking. Fintech provides alternative, better and more user-friendly solutions to existing financial institutions with cutting-edge technologies (artificial intelligence (AI), blockchain, big data analytics and machine learning) replacing traditional nested financial products and services. Fintech firms provide competition to traditional banks by raising the bar of customer experience, as well as the

⁴¹ Frame, W.S. & White, L.J. (2014). Technological change, financial innovation, and diffusion in banking. *Oxford Handbook of Banking*, 2nd ed., Oxford University Press.

⁴² Mention, A.L. & Torkkeli, M. (2014). Innovation in financial services: A dual ambiguity. *Journal of Innovation Management*, 2(1), 1-4.

⁴³ Nicoletti, B. (2017). *The Future of FinTech: Integrating Finance and Technology in Financial Services*. Palgrave Macmillan.

⁴⁴ Puschmann, T. (2017). Fintech. *Business & Information Systems Engineering*, 59(1), 69-76.

⁴⁵ Gomber, P., Koch, J.A., & Siering, M. (2018). Digital finance and fintech: current research and future research directions. *Journal of Business Economics*, 88(5), 537-580.

expectation for how fast and best services can be delivered in regards to financial services.⁴⁶

To ensure proper evaluation of innovation in any awarding industry like in this case banking, some international bodies and institutions have developed some frameworks and evaluation criteria. The OECD Innovation framework, the European Union Innovation Scoreboard and the Global Innovation Index are being some of the most prominent ones. Typically, these frameworks quantify innovation in terms of R&D intensity, patent activity, technological infrastructure, and human capital levels.⁴⁷ These general criteria do not, however, easily apply in the context of banking which is both unique and extremely regulated, so the framework is not well suited for the sector without specific adaptations.

Existing studies on evaluating innovations in banking or fintech focused on technology-centric approaches, certain category types of products, and regional marketing conditions, leading existing literature to be patchy. For example, past literature often takes technological readiness, digital uptake, or customer acceptance to measure banks' innovativeness, Accounting for the fact that such advanced models are not readily available, I contrast both methodologies to remedies of its possible drawbacks. However, a broad set of indicators and criteria for banking product innovation in the digital context have yet to be established and widely accepted in the literature, identifying a strong gap for further holistic assessment efforts.

Notable gaps remain, particularly in terms of standardized, industry-specific methods for considering the innovativeness of banking products despite a considerable body of literature on both banking and fintech innovation. Existing frameworks provide limited treatment of the complex contextual factors that define the digital banking landscape (e.g., regulatory limitations, cybersecurity, rapid shifts in consumer preferences)⁴⁸ Today's market context has also made qualitative aspects of performance, like customer experience, usability, and environmental, social, and governance (ESG) factors, more prevalent, but these elements are often omitted from existing evaluation models.

This indicates a clear necessity to create an integrated methodological approach for banking in the digital economy, quantitative and qualitative criteria. This study fills precisely this gap by developing structured and standardized evaluative criteria along with operationalized indicators for the appraisal of innovative banking products, thus enhancing the quality of strategic decisions taken within the banking system.

Methodology. The present study is based on mixed-methods research design married qualitative content analysis with the quantitative statistical techniques to

⁴⁶ Lee, I. & Shin, Y.J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. *Business Horizons*, 61(1), 35-46.

⁴⁷ OECD (2018). *Oslo Manual 2018: Guidelines for Collecting, Reporting and Using Data on Innovation*, OECD Publishing, Paris

⁴⁸ World Intellectual Property Organization (WIPO) (2021). *Global Innovation Index 2021: Tracking Innovation through the COVID-19 Crisis*. WIPO, Geneva.

develop and validate a bank digital innovativeness framework. A mixed-method rationale presents itself due to the complex and multidimensional nature of banking innovations that needs both conceptual clarity and empirical justification. The qualitative part enables the systematic generation of candidate evaluation conditions through deep dives into the available academia, industry publications and regulatory frameworks; while the quantitative analysis guarantees objective prioritization and performance measurement of suggested metrics relying on real-world market data.

The functioning constitutes solely on secondary data sources. Among them are official publications and statistical bulletins at international organizations, like the OECD, World Bank, Bank for International Settlements (BIS), and the International Monetary Fund (IMF). Further data are sampled from the innovation monitoring tools (the European Innovation Scoreboard and the Global Innovation Index) and analytical reports on the fintech sector and digital transformation trends. It also reviewed regulatory documents from central banks and supervisory authorities, as well as publicly available financial statements and data on the digital performance of commercial banks. The drawing materials used in this research are rich and diverse, and have good quality secondary references, which can make the study more reliable and authoritative.

This part of the analytical process involved a thorough content analysis of the materials collected in order to extract and summarize relevant criteria of innovation in the digital banking area. These criteria are then grouped thematically into categories of technological advancement, customer centricity, accessibility of digital services, environmental and social compliance, as well as regulatory alignment. These thematic clusters formed the basis for the development of an initial structure for the assessment of banking product innovativeness. Quantitative approaches were then used to validate and elaborate on the proposed indicators. Statistical analysis of descriptive statistics, correlation analysis, and construction of the index were used to determine the importance and relative weight of each indicator. The framework was further applied to cross banks with varying degrees of digital maturity by developing a composite innovation index.

A range of methodological safeguards were employed to ensure the trustworthiness and rigor of the research findings. Cross-referencing results in various institutional as well as academic publications resulted in data source triangulation. The reliance on publicly available datasets improves replication of the analysis as other researchers can test the model with similar datasets in the future. Moreover, established statistical methods and degree of transparency involved in weighting add to both robustness and academic value.

Results. A systematic and complete framework was developed based on the outcomes of the study which assesses banking product innovativeness in the context of digital transformation. Drawing on a broad synthesis of academic literature, international innovation standards, and analytical reports from regulatory and financial institutions, a core set of criteria were identified. These criteria map the

technological and strategic dimensions of banking innovations to customer needs and environmental objectives.⁴⁹

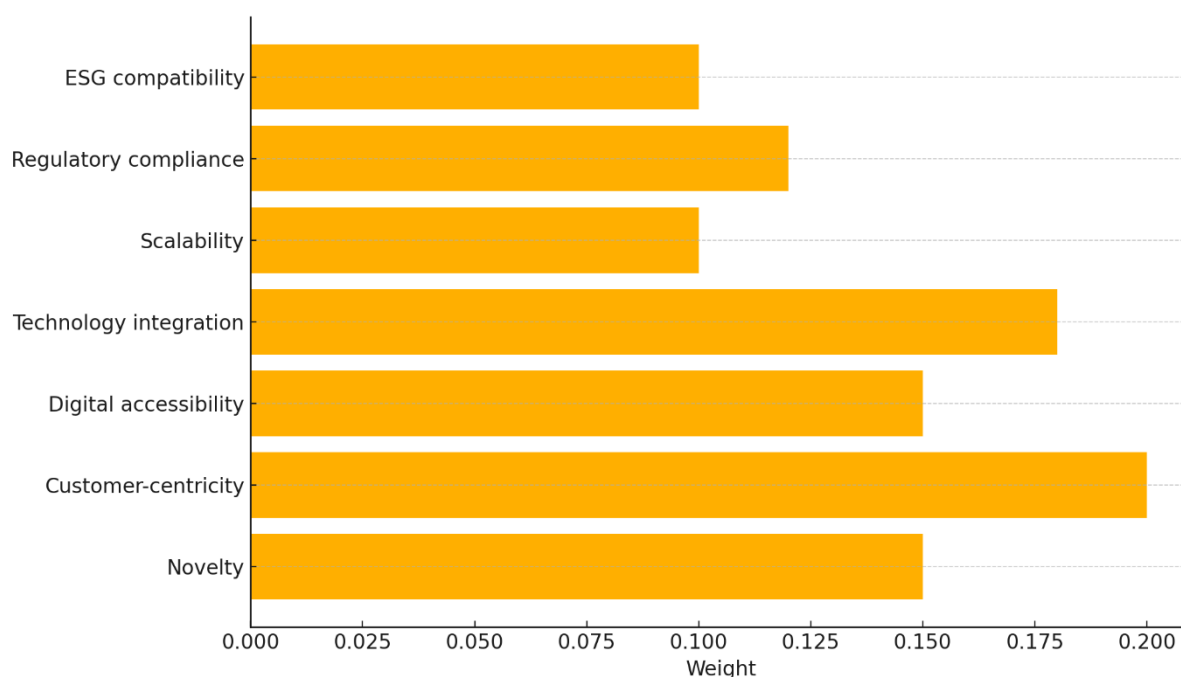


Figure 1. Relative Importance Of Innovation Assessment Criteria⁵⁰

These attributes were identified as: (1) Novelty means the extent of the introduction of new features or concepts to the product offering that has not yet existed in the sector; (2) Customer-centricity indicates how well the product responds to changing client tastes and expectations; (3) Digital accessibility is an assessment of how available banking products are for digital access and their compatibility with different devices and platforms; (4) Technology integration measures the effective application of advanced technologies, like artificial intelligence, blockchain technology, or biometrics in the product design; (5) Scalability refers to the potential to replicate or expand the product across markets or customer segments without incurring significant resource duplication; (6) Regulatory compliance assesses whether the product is aligned with financial regulations, cybersecurity standards, and data protection laws; and (7) ESG compatibility reflects how consonant the innovation is with environmental, social, and governance (ESG) principles.⁵¹

A number of measurable quantitative and qualitative indicators were suggested to put these criteria into operation. The list of most relevant indicators they identified were: number of users in the first 12 months, customer satisfaction

⁴⁹ OECD (2018). *Oslo Manual 2018: Guidelines for Collecting, Reporting and Using Data on Innovation*. OECD Publishing, Paris

⁵⁰ WIPO (2021). *Global Innovation Index*.

⁵¹ Nicoletti, B. (2017). *The Future of FinTech: Integrating Finance and Technology in Financial Services*. Palgrave Macmillan.

index collected via standardized survey post usage, share of product usage being a digital transaction, time-to-market metrics on technology implementation, compliance scores derived from audit/regulatory certification, and customer feedback from net promoter score, review platforms, and usability of services.⁵²

To verify the coherence and adequacy of the framework, the chosen indicators were tested using publicly available data extracted from the annual reports and innovation ranking of top commercial banks. Then, using normalized scoring and ranking techniques, each indicator was weighted based on its contribution to overall innovativeness. To illustrate the feasibility of the model, the composite innovation score was computed for a sample of digitally active banks across jurisdictions. Not surprisingly, the resultant rankings showed that banks with solid digital infrastructure and fast product deployment cycles along with customer engagement metrics tend to score higher for all innovation dimensions.⁵³ A summary table (Appendix, Table 1) outlines a final set of criteria, corresponding indicators, and weighted relevance scores. The results highlight that true innovation in the banking industry is defined as much by customer experience, access, and sustainable value, as it is by technology.

Table 1. Bank Innovation Index – Uzbekistan⁵⁴

Bank Name	Innovation Index	Summary Description Based on Core Criteria	Rank
Kapitalbank	0.831	Leading in digitalization, strong in AI adoption, mobile platforms, ESG efforts	1
Ipak Yuli Bank	0.732	Solid technology integration, customer-oriented, growing in ESG compliance	2
Asakabank	0.652	Moderate innovation, active in digital services, still developing in ESG & AI	3

Discussion. As a case study of the proposed innovation assessment framework the comparative analysis of three flagship commercial banks in Uzbekistan, Kapitalbank, Ipak Yuli Bank, and Asakabank gives a tool for the evaluation of innovativeness of the banking enterprises functioning in a changing digital economy. The analysis is based on a composite innovation index and was computed from weighted scores attributed to seven innovation criteria identified previously: (1) Novelty, (2) customer centricity (3) digital accessibility, (4) Technology integration (5) scalability (6) Regulatory compliance (7) ESG compatibility.

⁵² Gomber, P., Koch, J.A., & Siering, M. (2018). Digital finance and fintech: current research and future research directions. *Journal of Business Economics*, 88(5), 537–580.

⁵³ Deloitte (2020). *Digital Banking Maturity 2020: How banks are responding to the digital (r)evolution*. Deloitte Insights.

⁵⁴ compiled on the basis of annual reports of these banks

The outcome suggests a significant polarisation in terms of innovation maturity among the chosen institutions. Kapitalbank, with an index 0.831 score-value, is recognized as the leader of innovation. This is largely due to its early uptake of cutting-edge digital solutions like AI-based credit scoring, mobile banking super-apps and an increasing emphasis on ESG-focused projects. These strategic priorities are in line with global innovation standards and demonstrate the bank's proactive response to the market demand for agile, secure, and sustainable financial services. In categories like technology integration and regulatory compliance, a high score indicates Kapitalbank's investment in risk-resilient digital infrastructure and quick adaptability to regulatory changes, which are crucial factors in an emerging digital financial ecosystem.

On the other hand, Ipak Yuli Bank is another strong player in the innovation dimensions with an overall score of 0.732 but with an extremely strong performing on customer experience and digital accessibility. The bank has not quite been as active when it comes to getting on board with frontier technologies like blockchain or AI, but it has always come up with user-friendly platforms and kept a progressive digitalization strategy. With an innovation index that figures in its take-off stage (records signs of maturity, but emerging—either in considering large-scale improvements or its positioning aligned with ESG), it is well poised for further development through scaling up and alignment with ESG drivers.

Third, Asakabank, a state-owned bank, has an index score of 0.652, indicating a milder speed of digital transformation. Despite considerable advances in the provision of digital services such as online lending, enhanced mobile services, it trails on the adoption of sophisticated technologies and relative ESG performance. These findings are in line with wider trends in public-sector banking, where the cycles of innovation are typically lengthy due to bureaucratic and regulatory restrictions.

Such comparative analyses highlight the potential of the proposed framework to inform innovation performance assessments across institutions, as well as isolating strategic areas for performance improvement. For example, banks that score lower on both scalability and ESG compatibility might consider targeted investments or partnerships in green banking, digital ecosystems, and inclusive finance to improve the strength of their innovation profile. In addition to allowing statistical benchmarking, the index is useful for regulators and industry actors that want to track trends in innovation and design enabling policy responses.

Conclusion. The ability to assess how innovative a banking product is, has emerged as a strategic force in a rapidly accelerating digital transformation context. So the study provided a theoretical framework for assessing banking innovation, classifying its core components into seven items, namely novelty, customer-centricity, digital accessibility, technology integration, scalability, regulatory compliance and ESG compatibility. Every criterion was tied to associated indicators that were quantifiable, including innovation adoption ratio, customer satisfaction rate, share of digital transaction, and ESG performance indicators. These combine

into a toolkit of sorts that allows banks to assess and improve their innovation strategies in a consistent and comparable manner.

We applied this model in three Uzbek commercial banks—Kapitalbank, Ipak Yuli Bank, and Asakabank—and showed its relevance and applicability to their environment. The resulting digital maturity index illustrated differences in digital maturity and identified strengths and weaknesses in each institution. Kapitalbank, for instance, featured high on the scorecard due to a high level of tech adoption and an active engagement with ESG considerations, while Asakabank's relatively moderate ranking reflected a more conservative pace in pursuing innovations. The findings supports the utility of such framework not only as an academic endeavour but also a potentially management tool to measure innovation performance and direct its strategic decisions .

If you are a bank, a practical perspective on this framework would be to make sure this framework is included as part of your internal innovation radar. By evaluating performance regularly using the types of criteria outlined above, institutions will be able to adapt innovation initiatives to better meet customer needs, regulatory requirements and global sustainability trends. In addition, regulators and industry associations may leverage the model to establish a framework for sector-wide innovation ratings, promoting transparency, healthy competition, and policy alignment across the financial sector.

Although the results are promising, the research has its limitations. Previous studies have structured the score for criteria based on syntheses of secondary data and literature, not direct stakeholder surveys. Further studies can broaden their empirical validation with a larger expert panel, financial technology benchmark analytics, and cross-country comparative studies. The regulatory framework for ESG indicators in relation to banking is a work in progress; as sustainable finance becomes increasingly important, moreover, it is necessary to consolidation work regarding the establishment of ESG-related indicators.

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ISSUES OF GROUNDWATER USE AND PROTECTION IN THE OPERATION OF HYDROCARBON FIELDS

Abstract: *The article discusses protection of associated underground waters from technogenic pollution in oil and gas fields of Uzbekistan and their rational use as hydromineral raw materials. Underground waters in many hydrocarbon deposits are an obligatory element of oil and gas reservoirs. Rational use of natural resources and environmental protection are currently the most important ecological and nature conservation issues. The protection of underground industrial waters is understood as a set of measures to preserve their qualitative and quantitative state, allowing their use in the national economy. At the same time, associated waters of oil and gas fields must be considered not only as hydromineral raw materials, but also as a factor of environmental pollution. Consequently, the rational use of associated industrial waters, in addition to a large economic effect, can also ensure the preservation of the natural environment.*

Key words: *microcomponents, microelements, underground water, hydromineral raw materials, deposits, region, basin, hydrocarbon, deposit, fields, environment.*

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UGLEVODOROD KONLARINI ISHLATISHDA YEROSTI SUVLARIDAN FOYDALANISH VA ULARNI MUHOFAZA QILISH MASALALARI

***Annotatsiya.** Maqolada O‘zbekiston neftgaz konlaridagi yo‘ldosh yerosti suvlarini texnogen ifloslanishdan muhofaza qilish va ulardan gidromineral xom ashyo sifatida oqilona foydalanish masalasi ko‘rib chiqilgan. Ko‘pgina uglevodorod xom ashyosi konlarida yerosti suvlari neft va gaz uyumlarining doimiy yo‘ldoshi hisoblanadi. Shuning uchun, hozirgi vaqtda tabiiy resurslardan oqilona foydalanish va atrof muhitni qo‘riqlash ekologiya va tabiat muhofazasining muhim muammolari sirasiga kiradi. Sanoat suvlarini qo‘riqlash deganda ulardan xalq xo‘jaligida foydalanish imkonini beruvchi ularning son va sifatini saqlashga qaratilgan kompleks choralar tushuniladi. Shuning uchun, neftgaz konlari yo‘ldosh suvlarini na faqat gidromineral xom ashyosi deb, qolaversa atrof muhitga zarar yetkazuvchi omil deb ham qarash kerak. Demak, neftgaz konlaridagi yo‘ldosh sanoat suvlaridan oqilona foydalanish katta iqtisodiy samaradan tashqari, yana tabiiy atrof muhiti muhofazasini ta‘minlashi mumkin.*

***Kalit so‘zlar:** mikrokomponentlar, mikroelementlar, yerosti suvlari, gidromineral xom ashyo, yotqiziqlar, region, havza, uglevodorod, uyum, kon, atrof muhit.*

Introduction and relevance of the problem. The current level of development of science and technology has created conditions for the economically advantageous use of resources that were previously considered only for the distant future. Therefore, not only the types of deposits developed by industry are important, but also any possible sources of raw materials that are unsuitable today, which can be profitable tomorrow if new technologies for their exploration, as well as processing and utilization, are developed. Depending on the mineralization, ion-salt and gas composition, thermobaric and hydrodynamic conditions of location, groundwater in industrial terms is considered as drinking, technical and balneological, used for heat supply and as a source of electricity generation. Mineralized groundwater with a high content of macro- and microcomponents, as well as their compounds, often act as "liquid ores" and are used as hydromineral raw materials for the chemical, light and food industries, and are also used in agriculture, medicine and other industries. Underground mineral waters and brines are valuable mineral raw materials, which are of interest for the extraction of a number of useful components with adequate content – iodine, bromine, boron,

lithium, rubidium, strontium, molybdenum, tungsten, germanium, rhenium, scandium and other elements and their compounds, as well as various salts – table salt, sodium sulfate, calcium chloride, magnesium, potassium, etc. [1, 2].

Formation waters of many hydrocarbon (HC) deposits are an obligatory element of oil and gas deposits. Along with the enclosing structure, the aquifer, confined to productive deposits, constitutes the natural boundary of all industrially significant HC deposits. Therefore, any oil and gas basin is only a part of a hydrogeological basin and is subject to the general laws of its development [5, 6].

The results of the study of underground industrial waters of Uzbekistan, the features of their distribution and conditions of formation are covered by B.A. Beder, L.S. Balashov, V.A. Kudryakov, A.N. Sultankhodjaev, G.V. Kulikov, A.S. Khasanov, L.A. Kalabugin, T.N. Avazov, D.S. Ibragimov, S.A. Bakiev, A.M. Shapiro, T.I. Muminjanov, M.A. Narmukhamedov, T.Kh. Shoimuratov and others.

The joint occurrence of groundwater and hydrocarbon deposits in the subsoil causes their mutual interaction, which, in particular, is reflected in the change in the chemical composition of groundwater under the influence of hydrocarbon deposits and rocks. At the same time, in the formation systems "rocks-HC-groundwater" of sedimentary basins, water halos of deposits are formed (zones of influence of the microelement composition of rocks or the interaction of hydrocarbon deposits and groundwater), without studying which it is not possible to clarify the features of the distribution of the hydrochemical field in the zone of oil and gas exploration probing [3, 4]. Associated production and processing of groundwater from production wells of production fields can be carried out in individual sections of fields, the choice of which is made taking into account geological, structural and hydrogeological conditions on the basis of technical and economic calculations. Taking into account the modernization and diversification of oil and gas production in the republic, wastewater from oil and gas fields can become one of the promising sources of obtaining micro components, rare elements and medicinal mineral waters. It is necessary to take into account that water and aqueous solutions in the subsoil, including oil and gas fields, are part of the environment around us. Rational use of natural resources and environmental protection are currently the most important environmental and nature conservation issues. The use and protection of industrial wastewater in oil and gas fields is also an integral part of environmental protection and rational nature management. The protection of industrial waters is understood as a set of measures to preserve their qualitative and quantitative state, allowing them to be used in the national economy.

According to the existing requirements and principles of integrated development of liquid and gaseous hydrocarbon deposits, formation waters with a high content of valuable elements are also considered as a potential source of their production. Accordingly, the main areas of legal regulation in the sphere of rational use of subsoil for purposes not related to the extraction of minerals and environmental protection are the Laws of the Republic of Uzbekistan: "On Subsoil", "On Water and Water Use", "On Nature Protection", "On Waste", etc. In accordance with the specified requirements, when conducting geological

exploration and production work, it is necessary to comply with the norms and rules of technology for conducting work related to the use of subsoil, extraction of minerals and processing of mineral raw materials (Table 1).

Table 1

Impact of exploration and production work carried out at oil and gas fields on the environment

Production and technological stages	Natural objects		
	Lithosphere (earth's surface, subsoil)	Hydrosphere (aquatic environment, underground waters)	Atmosphere (atmospheric air)
Prospecting and exploration of mineral resources	- violation and pollution of soil and vegetation; - alienation of land for the construction of drilling rigs and placement of temporary settlements; - activation of exogenous geological processes.	- pollution of Surface and groundwater by flushing liquid; - salinization of surface water bodies during self-discharge of brines, opened by exploratory wells.	- emergency emissions of oil and gas during drilling and development of wells; - gas and dust pollution during construction of roads and industrial sites.
Extraction	- withdrawal of land from agricultural use for oil production facilities.	- violation of the isolation of aquifers due to overflows.	- pollution by hydrocarbons, hydrogen sulfide, sulfur and nitrogen oxides during well operation.
Primary processing and transportation	- allocation of land for waste storage; - violation of the environmental situation during the construction and operation of main oil pipelines.	- leakage of petroleum products and chemical reagents from tanks and dosing units; - pollution of surface and ground waters with fuels and lubricants, household and technical waste.	- spraying and spilling of oil and oil products; - losses due to evaporation of light fractions of oil during storage in tanks and during loading and unloading operations.

Environmental protection measures in the oil and gas industry provide a significant social and economic effect. The costs of preventing environmental

pollution in the extraction of hydrocarbon raw materials are reasonable and economically justified, since they are several times less than the costs required to eliminate the damage caused by man-made pollution. For the geological environment, the danger of hydrocarbon pollution is due to its progressive rate and the wide distribution of sources of impact (Fig. 1).

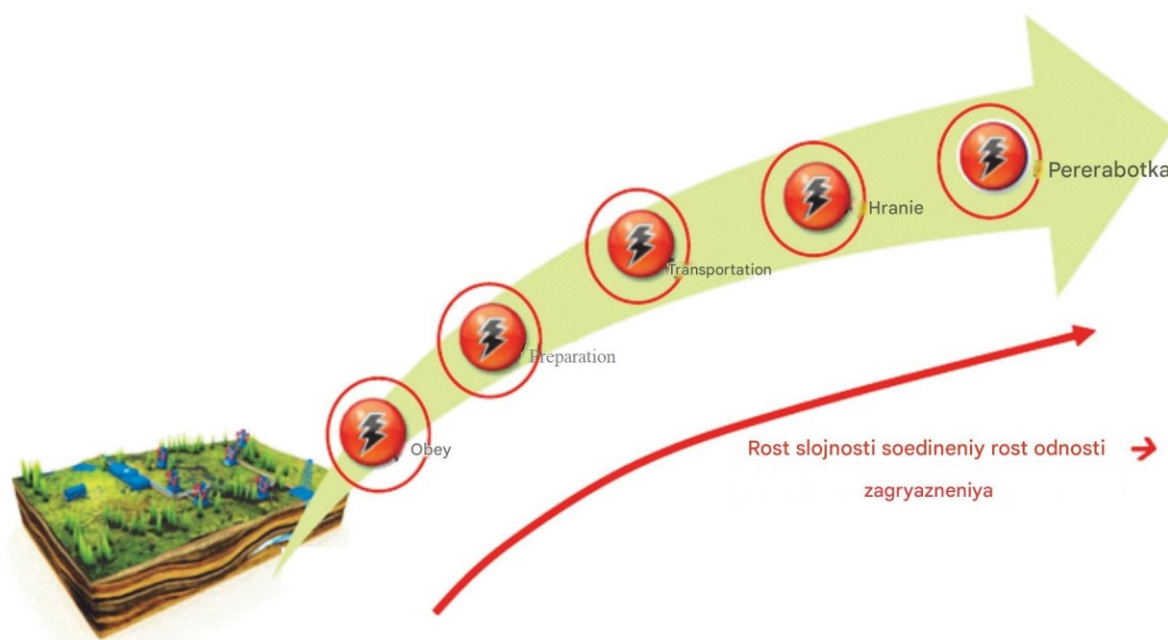


Fig. 1. Scale and specificity of hydrocarbon pollution.

Large material and labor costs allocated for environmental protection in the oil industry indicate the need to improve the forms and methods of planning, the introduction of a system of scientifically based standards. For example, the US Environmental Protection Agency has developed special standards for the discharge of oil and waste water during exploration and exploitation of fields. These standards are revised every 5 years taking into account the "best available technology" and the conditions of oil production at sea and on the continent [7].

In recent years, the costs of preventing the consequences of environmental pollution have increased significantly. Most industrialized countries spend 1-3% of their gross national product on these purposes (Sweden, France, Germany, Great Britain, USA). The leading position belongs to Japan, which, due to specific geographic and economic conditions, annually spends up to 5% of its gross national product on environmental protection.

Discussion of the results. In Uzbekistan, in particular in the Bukhara-Khiva oil and gas region (BKhNGR), pollution of natural (surface and ground) waters is one of the most common and dangerous phenomena. An indicator of hydrosphere pollution is the solubility of oil and oil products in water. In some cases, oil enters the earth's surface with water after oil separation, which leads to soil pollution in exploited oil and gas fields. In addition, exploitation of fields with reservoir pressure

maintenance (RPM) involves pumping in large volumes of surface water (Northern Urtaulak, Kruk, Umid, Kokdumalak, Kultak, Shurtan, Northern Shurtan, Ilim, Chunagar, etc.), which leads to changes in the macro-microcomponent composition of groundwater.

From year to year, the volume of associated waters extracted together with oil at the Bukhara-Khiva oil and gas region fields also increases, only at the fields of the Kruk field the volume of discharged waters reaches 2000 m³/day and more, and at the Severny Urtaulak field - more than 1000 m³/day. At some fields, much more is discharged. Waters associated with oil and gas fields, during hydrocarbon extraction, are discharged into natural depressions of the relief, polluting and removing from economic circulation significant territories of pastures for distant-pasture cattle breeding [8, 12].

According to experts, when injecting surface waters (from Lake Devkhona with a mineralization of 11 g/l) into productive formations (with a mineralization of 99 g/l), the following changes occur: the chemical composition of the extracted waters becomes Cl-SO₄, the mineralization of formation waters decreases to 18 g/l, and, accordingly, the value of microcomponents due to the dilution of formation waters. Acid treatment of productive formations to increase oil recovery and heat treatment have a particularly strong effect on formation waters [4, 10, 11]. Such treatment can lead to corrosion of production columns and, accordingly, leakage of hydrocarbons into overlying aquifers, which negatively affects the quality of groundwater. These issues require careful study during further research in the preparation and development of hydrocarbon deposits.

Currently, about 4 million m³ of associated water are extracted per year during the development of oil and gas fields in the republic [1, 8, 9]. With average mineralization values of 100-150 g/l, the following is removed with these waters annually: 4 million m³ x 100 g/l = 400 thousand tons of chloride salts. Assuming that 50% of associated water is used to maintain reservoir pressure, the remaining 200 thousand tons of salts per year enter surface watercourses (collectors, discharge lakes, etc.) and remain in the form of salts on the earth's surface after evaporation. As a result, there is an increase in mineralization and oil pollution of groundwater, surface watercourses, as well as salinization and pollution of soils.

Conclusions. Thus, the underground waters of the deep horizons of the sedimentary cover of the Bukhara-Khiva oil and gas region are saturated with various microcomponents and rare elements, which, in most cases, accompany known and already identified and exploited oil and gas fields. At the same time, associated waters of oil and gas fields should be considered not only as hydromineral raw materials, but also as a factor of environmental pollution. Consequently, the rational use of associated industrial waters of oil and gas fields, in addition to a large economic effect, can also ensure the preservation of the natural environment.

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ESTABLISHING ALTERNATIVE LANGUAGE LEARNER ASSESSMENT TECHNIQUES USING CUTTING-EDGE TECHNOLOGIES

Abstract: *Innovative technologies have profoundly changed language assessment procedures, which have made evaluation more dynamic and sensitive to the various demands of learners. While technology-enhanced exams, like interactive simulations, real-time feedback, and peer evaluations, offer a more accurate measure of language proficiency, traditional assessments concentrate on memorisation and standardised tests. Multimedia tools and internet platforms improve engagement and comprehension, while computer-adaptive testing modifies the complexity of questions based on students' answers. Research emphasises how crucial it is to include cutting-edge technologies in assessment procedures to improve formative and summative assessments.*

Keywords: *Alternative assessment, language learning, technology-enhanced evaluation, adaptive testing, digital tools, formative and summative assessment.*

There has never been a greater pressing need for efficient evaluation techniques catered to language learners in our increasingly globalised environment. The language and cultural diversity of these students is frequently overlooked by traditional evaluation techniques, so alternative ways that make use of cutting-edge technologies must be investigated. In the end, these evaluations can support fair educational results by increasing student involvement and offering insights into their real-world language use. A strong basis for creating frameworks incorporating technology into language evaluation is provided by drawing on knowledge from a large body of literature, such as that collected in [1]. These resources emphasise how crucial it is to match assessment procedures with the particular requirements of English language learners, and they imply that technological developments can support a more thorough and inclusive evaluation process. Thus, reconsidering assessment methods promotes a better comprehension of learners' varied experiences in addition to aiding language acquisition.

Standardised tests and written exams are two examples of traditional assessment techniques that have long been the mainstay of language learner evaluation. These methods, however, frequently fall short of capturing the intricacies of language learning, especially for learners from various backgrounds. Such approaches usually overlook important facets of communication ability in favour of rote memorisation and grammar rules over real-world language use. Furthermore, the unique cultural and contextual elements that affect a learner's language experience might not be taken into consideration by standardised tests. A more specialised and approachable framework for assessing language learners is

being promoted by the urgent need to shift towards assessment procedures that reflect justice, equity, diversity, and inclusion (JEDI) principles, as highlighted in recent studies. [3] This change is essential for resolving the shortcomings of conventional tests and opening the door for cutting-edge technologies that support more fair assessment practices. [4]

Both teaching strategies and evaluation procedures could be greatly improved by incorporating cutting-edge technologies into language acquisition. As contemporary technology advances, it opens up new possibilities for involving students and highlighting their language learning potential [5]. Various digital tools, such as adaptive learning platforms and mobile applications, enable personalized learning experiences that cater to individual needs.

Additionally, these tools support alternative evaluation techniques that put inclusivity and equity first. Teachers might modify examinations to better suit the backgrounds of multilingual and heritage language learners by allowing for lower-stakes assignments and taking into account a variety of learning situations [6]. In addition to fostering the linguistic growth of students, this dynamic method fosters the growth of creative assessment techniques, which eventually results in more inclusive and successful language instruction.

Language acquisition has undergone a significant transformation in recent years due to the incorporation of digital tools and platforms, which provide a variety of creative ways to improve learning outcomes. This change is best illustrated by the use of websites like Wordwall.net and Spotify, which offer a wider range of students by supporting different learning methods in addition to offering interesting information. According to research, 75% of participants preferred Spotify because it was contextual and entertaining, demonstrating a high preference among language learners for immersive and interactive environments [7]. Additionally, innovative teaching strategies that have been emphasised in systematic evaluations stress the value of technology-enhanced learning as a means of encouraging students and facilitating successful language acquisition. [8] Teachers can create alternative assessment strategies that complement modern teaching methods by utilising these digital resources, which will ultimately provide a more stimulating and productive learning environment for language learners.

Rethinking assessment techniques is necessary due to the growth of educational processes, especially in language learning, where conventional testing could not accurately reflect a student's ability. Alternative types of assessment, like project-based evaluations and digital portfolios, use technology to give a more thorough picture of a learner's development and skills. These innovative approaches align with the principles of Industry 5.0, which emphasizes human-centered collaboration between technology and learners, ultimately enhancing educational outcomes.

Students who participate in peer and self-evaluation develop critical thinking and reflection, two abilities that are crucial in today's classroom. Teachers must include these possibilities as technology develops further, turning assessment from a measurement tool into a tool for development and innovation. [9]; [10] This

development promotes a change in teaching that honours various forms of information and helps students adapt to a changing environment.

There are several benefits to using technology in formative assessments for monitoring language learners' development, including the ability to provide instant, individualised feedback. Diverse assessment techniques, including interactive tests and real-time analytics, are made possible by digital tools and platforms and can reveal the strengths and weaknesses of students. [11] Customised material delivery is made possible by the deployment of adaptive learning technologies, which promote personalised learning paths that are sensitive to the demands of each learner. Additionally, because teachers can gather and evaluate data to continuously improve their teaching methods, formative evaluations help us understand language acquisition on a deeper level [12]. By incorporating students in their educational process and encouraging self-assessment abilities, this technology integration not only improves engagement but also gives them more authority. All things considered, technology-driven formative assessments are an essential part of creating creative alternative assessment techniques that cater to the particular difficulties experienced by language learners.

In summary, a major step towards improving educational outcomes is the use of cutting-edge technologies into language learners' assessments. As this essay has discussed, these alternative evaluation techniques encourage learner motivation and engagement in addition to offering more access to individualised learning experiences. With tools like ChatGPT that enable customised feedback and assessment procedures, the results of the comprehensive study of generative artificial intelligence (GAI) applications demonstrate the varied effects of such technologies in various educational situations. [13] However, ethical considerations and the potential challenges surrounding academic integrity need to be thoroughly addressed to maximize their effectiveness. Therefore, as educators and policymakers navigate these complexities, fostering interdisciplinary collaboration and developing robust frameworks will be essential in harnessing the full potential of innovative technologies for language assessment. The evolution of language assessment is significantly influenced by the advent of innovative technologies, shaping effective learning outcomes for language learners. This change places a strong emphasis on incorporating cutting-edge digital technologies that support individualised learning experiences and let students improve their language skills in more dynamic and interesting ways. Teachers are encouraged to create environments that utilise technology while upholding human-centric pedagogy by adopting the ideas of Industry 5.0, which emphasises the synergy between humans and machines. The emergent paradigm emphasises innovation, adaptability, and cooperation between educators and students in addition to technological developments. Discussions about the use of these technologies in language assessment become increasingly important as we go towards this future, making sure that approaches continue to be flexible and sensitive to the various requirements of students. Such a method promises to enhance the whole experience in addition to increasing the effectiveness of the examination.

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SOLIQ YUKINI OPTIMALLASHTIRISH ORQALI TADBIRKORLIKNI RIVOJLANTIRISH

Annotatsiya. Ushbu maqolada O'zbekiston Respublikasida amalda mavjud bo'lgan soliq siyosatining holati tahlil qilinadi va uni takomillashtirish zarurligi asoslanadi. Soliq tizimi samaradorligini oshirish, tadbirkorlik sub'ektlari uchun qulay muhit yaratish va byudjet daromadlarini barqarorlashtirishga qaratilgan asosiy yo'nalishlar qamrab olingan. Maqolada, shuningdek, soliq siyosatini isloh qilish bo'yicha xorijiy davlatlar tajribasi o'rganilib, O'zbekiston sharoitida qo'llanilishi mumkin bo'lgan tavsiyalar ilgari surildi.

Kalit so'zlar: soliq siyosati, soliq islohoti, soliq siyosati, soliq tizimi, soliq yukini kamaytirish, soliq ma'muriyati, soliq imtiyozlari.

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DEVELOPMENT OF ENTREPRENEURSHIP BY OPTIMIZING THE TAX BURDEN

Annotation. This article analyzes the state of the tax policy that exists in practice in the Republic of Uzbekistan and justifies the need to improve it. The main directions aimed at improving the efficiency of the tax system, creating a favorable environment for business entities and stabilizing budget revenues are covered. The article also studied the experience of foreign countries in reforming tax policies and put forward recommendations that can be applied in the conditions of Uzbekistan.

Key words: Tax policy, tax reform, fiscal policy, tax system, tax burden reduction, tax administration, tax relief.

Soliq yukini izchillik bilan kamaytirish, soliq solish tizimini soddalashtirish va soliq ma'muriyatchiligini takomillashtirish iqtisodiyotni jadal rivojlantirish hamda mamlakatning investitsiyaviy jozibadorligini yaxshilash - soliq siyosatini takomillashtirishning ustivor yo'nalishlari hisoblanadi.

Shu bilan birga, mazkur sohada bir maromda iqtisodiy o'sishga, ishbilarmonlik va investitsiyaviy faollikni oshirishga, sog'lom raqobat muhitini shakllantirishga, shuningdek, soliqlar va boshqa majburiy to'lovlar yig'iluvchanligining zarur darajasini ta'minlashga to'sqinlik qilayotgan bir qator tizimli muammolarni ko'rsatdi, xususan:

- ✓ birinchidan, umumbelgilangan soliqlarni to'lovchilar uchun soliq yuki darajasining yuqoriligi, shuningdek, soliq solishning soddalashtirilgan va umumbelgilangan tizimida soliqlarni to'laydigan xo'jalik yurituvchi sub'ektlar o'rtasidagi soliq yuki darajasidagi farqning sezilarliligi;

- ✓ ikkinchidan, qo'shilgan qiymat solig'i bo'yicha joriy etilgan asosan tizimli, soliq to'lovchilarni aylanana mablag'larini muzlatib qo'yishga majbur qiladigan, mahsulotlarning oraliq va yakuniy qiymat qimmatlashishiga olib keladigan hamda kichik biznes o'rtasida kengaytirish imkoniyatlarini toraytiruvchi to'sqinlik qiluvchi majburiy to'lovlarning mavjudligi;

- ✓ uchinchidan, soliq to'lovchilar tomonidan xodimlarning real sonini va mehnatga haq to'lash fondini yashirishga olib keluvchi mehnatga haq to'lash fondi soliq stavkalarining yuqoriligi;

- ✓ to'rtinchidan, imtiyozlarning samaradorligini monitoring va nazorat qilish bo'yicha ta'sirchan tizimning mavjud emasligi sababli sog'lom raqobatni ta'minlashga salbiy ta'sir ko'rsatuvchi, xo'jalik yurituvchi sub'ektlarni soliq va bojxona, shu jumladan individual xususiyatga ega bo'lgan imtiyozlar hisobiga qo'llab-quvvatlash amaliyotining keng tarqalganligi;

- ✓ beshinchidan, davlat organlari va tashkilotlari o'rtasida axborot almashish mexanizmlarining, elektron soliq ma'muriyatchiligi hamda soliq nazoratini amalga oshirish shakl va uslublarining takomillashmaganligi;

- ✓ oltinchidan, o'tkaziladigan nazorat tadbirlarining sifatiga salbiy ta'sir ko'rsatuvchi va inspektor tadbirkorlik sub'ektlarining faoliyatiga aralashishlarini kamaytirishga to'sqinlik qiluvchi holda amalga oshirilishi, soliq xavf-xatarlarini tahlil qilish va bashoratlashning aniq tizimi yo'qligi;

- ✓ yettinchidan, mahalliy soliq va yig'imlarning ma'muriyatchilik mexanizmlarining samarasizligi oqibatida ularning yig'iluvchanlik darajasining past emasligi, shuningdek, yig'ima soliq va boshqa majburiy to'lovlar yig'iluvchanligining ob'ektiv aniqlanish mexanizmlarining to'liq hisobga olish va aniqlikni ob'ektiv aniqlashning mavjud emasligi.

Bozor iqtisodini shakllantirish modellari sun'iy tarzda emas, balki tabiiy ravishda mamlakatdagi har qanday siyosatga, jumladan, soliq siyosatiga ham o'z ta'sirini ko'rsatmasdan qolmaydi. Chunki bozor iqtisodini shakllantirishning har bir modeli faqat o'ziga xos bo'lgan bir necha xususiyatlarga egaki, ular, albatta, siyosatda o'z izini qoldiradi.

Byudjet siyosati doirasidagi eng dolzarb muammolarning barchasi, beixtiyor, byudjet defitsitiga borib taqaladi. Birgina uning darajasiga qarab turib, byudjet siyosatining ahvoliga makrodarajada baho berish mumkin. Bir vaqtning o'zida, byudjet defitsitining darajasi har qanday davlatning moliyaviy mustaqilligini belgilashda muhim ahamiyatga ega.

Soliq siyosati o'rganishda zamonaviy soliq siyosatini ishlab chiqish va uni hayotga tadbiq etishning fundamental asoslariga jiddiy e'tibor qaratilishi muhim o'rin tutadi:

- ✓ soliq tizimi va soliq siyosatidagi vaziyat;
- ✓ soliqqa tortish nazariyasining eng dolzarb muammosi va soliq siyosati;
- ✓ soliq tizimi, soliqqa tortish va soliq to'g'risidagi qonun hujjatlarining prinsiplari, ularning soliq siyosati hayotiychanligiga ta'siri;
- ✓ iqtisodni tartibga solish instrumenti sifatida soliqlar va soliq siyosati;
- ✓ soliq siyosati va xorijiy investitsiyalarni jalb qilish masalalari kesimida bayon qilindi.

Soliq yuklamasiga nisbatan bo'lgan munosabat masalasi soliq siyosatida eng muhim o'rin tutadi. Amaliyotda unga nisbatan befarq bo'lgan soliq to'lovchini topishning iloji yo'q. Ko'pchilikning nazarida barcha iqtisodiy muammolarning yechimi, oxir-oqibatda, soliq yuklamasiga borib taqaladi.

Soliq siyosatining zamonaviy dolzarb muammolari, ularga nisbatan bildirilayotgan e'tirozlar, muammolarni hal etish va e'tirozlarni yumshatish yo'llari ham hozirgi sharoitda soliq siyosatining dolzarb masalalaridan biri hisoblanadi.

Hozirgi global sharoitda zamonaviy soliq siyosatini ishlab chiqish va uni hayotga tadbiq etishni uning fundamental asoslarini aniqlab olishsiz tasavvur etib bo'lmaydi. Soliqlar muammosi bizning mamlakatimizda amalga oshirilayotgan iqtisodiy islohotlar amaliyotidagi eng murakkab muammolardan biri hisoblanadi. Bugungi kunda juda keskin tanqidga uchrayotgan, juda qaynoq munozaralarga sabab bo'layotgan, isloh qilish bo'yicha tahlil ob'ekti va qarama-qarshi g'oyalarga ega bo'layotgan soliqlardan bo'lak islohotlarning boshqa bir yo'nalishi yo'q. Tabiiyki, ideal (benuqson) soliq tizimini jamiyatdagi iqtisodiy munosabatlarning o'ziga xos xususiyatlari, undagi yaratilgan ilmiy va ishlab chiqarish salohiyatini hisobga oluvchi muhim nazariy asos yordamidagina yaratish mumkin.

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RELIABILITY OF ELECTROMAGNETIC CONVERTER

Abstract: *Classic single-phase current transformers, Methods for calculating the reliability of elements, Probability of no-failure operation of an electromagnetic converter*

Keywords: *single-phase current transformers, magnetic fluxes, reliability, calculation of the reliability of elements, linearity of the output characteristics*

At present, the use of electromagnetic converters for control systems of electrical quantities with high accuracy, linearity of output characteristics, unified output quantities, expansion of the range of converted electrical quantities is limited due to insufficient formation of the principles of construction, methods of calculation and design of distributed magnetic systems of converters. The applied classical methods for studying magnetic circuits and conversion systems do not provide the necessary accuracy, especially with the asymmetry of the three-phase primary current of the electrical network, do not have sufficient generality, covering only the magnitudes and parameters of circuits of electrical and magnetic nature. Magnetic conversion systems with nonlinear and inhomogeneous parameters are considered in calculations as objects with lumped parameters [1-3].

Classic single-phase current transformers have a complex converting part, large weight and size indicators, are laborious in design and operation in control systems, and do not provide unification of the output value when working together with modern information processing technology. They do not take into account the mutual influence of magnetic fluxes and fields created by the currents of a three-phase electrical network [3].

The low accuracy of the analyzed devices is due to a number of shortcomings of existing current conversion systems, since measuring complexes were created earlier, and are also being created at the present time according to standard designs developed back in the 20th century, which did not provide solutions for ensuring high accuracy by current converters and unification of the output signal primary measuring transducers [2].

A comprehensive analysis of the elements and systems for controlling sources of electricity and power and their modes, the principles of their construction indicates insufficient knowledge of the problem in the field of electromagnetic conversion of three-phase currents of the control system for sources of electricity and power [2-4].

According to the fundamental principles, the reliability calculations of the elements and the complex of devices of electromagnetic primary current converters are divided into elemental (hardware) and functional (parametric) ones [4].

Consider an electromagnetic primary current converter as an element conditionally consisting of two series-connected elements, in one of which sudden failures can occur, and in the other - gradual failures. Sudden failures appear due to a sharp, sudden change in the converted currents under the influence of one or more random environmental factors or due to errors in the operation of parts of the primary electromagnetic converter. With gradual failures, a smooth, gradual change in the parameter of the primary electromagnetic transducer is observed as a result of wear of individual parts or the entire primary electromagnetic transducer as a whole.

The probability of failure-free operation of the primary electromagnetic converter can be represented as a product of probabilities [3].

$$P_{\text{тп}}(t) = P_{\text{в}}(t) P_{\text{п}}(t), \quad (1)$$

where: $P_{\text{в}}(t)$ and $P_{\text{п}}(t)$ - respectively, the probability of failure-free operation of the primary current electromagnetic converter, corresponding to a sudden and gradual failure due to wear.

The probabilities of operable states of the main components of the primary current electromagnetic converter are presented in Table 1.

Analyzing the principle of converting EMPTC with FEC, a table of possible operable states of the elements is compiled (Table 1.), which allow determining the elemental reliability of each node of the primary current electromagnetic converter.

As can be seen from Table 1., there are seven possible operable states of the nodes of the primary current electromagnetic converter. Summing up the probabilities of all possible operable states of the nodes, we obtain the probability of operability of the electromagnetic converter of the primary current:

$$P = p_1 + p_2 + p_3 + p_1 p_2 p_3 - p_1 p_2 - p_2 p_3 - p_1 p_3 \quad (2)$$

The probability of operability of the main elements (primary winding, magnetic circuit, FEC) of the primary current electromagnetic converter units, respectively, is equal to:

$$p_1 = 0,97; p_2 = 0,99; p_3 = 0,97.$$

Table 1

Probabilities of operational states of the main nodes
electromagnetic converter of primary current

№	State	Probability	Operable components of the primary current electromagnetic converter
1	C ₁	P ₁ P ₂ P ₃	1-Primary winding, 2-magnetic core, 3-PIO
2	C ₂	P ₁ P ₂ (1-P ₃)	1;2
3	C ₃	P ₁ P ₃ (1-P ₂)	1;3
4	C ₄	P ₂ P ₃ (1-P ₁)	2;3
5	C ₅	P ₁ (1-P ₂)(1-P ₃)	1
6	C ₆	P ₂ (1-P ₁)(1-P ₃)	2
7	C ₇	P ₃ (1-P ₁)(1-P ₂)	3

Then the probability of operability of the nodes of the electromagnetic converter of the primary current:

$$P = 0,97+0,99+ 0,97+0,97\cdot0,99\cdot0,97-0,97\cdot0,99-0,99\cdot0,97-0,97\cdot0,97=0,98.$$

The calculation of the functional reliability of the nodes of the primary current electromagnetic converter is based on the analysis of the conversion of the currents of a three-phase electrical network - the input current I_{evkh} to U_{ev} - the output voltage performed in the nodes of the primary current electromagnetic converter. The functional reliability of the components of the primary current electromagnetic converter is calculated in the following sequence:

- the form of the function U_{ev} is formed, i.e. the conversion equation I_{evkh} to U_{evkh} is written, which establishes the relationship between the quantities used in the designs of the primary current electromagnetic converter [10]:

$$U_{\text{ВВХ}} = K_{\mu\text{Э}} T_{\mu} \Pi_{\mu} K_{\text{Э}\mu} T_{\text{ЭВХ}} \Pi_{\text{ЭВХ}} I_{\text{ЭВХ}} \quad (3)$$

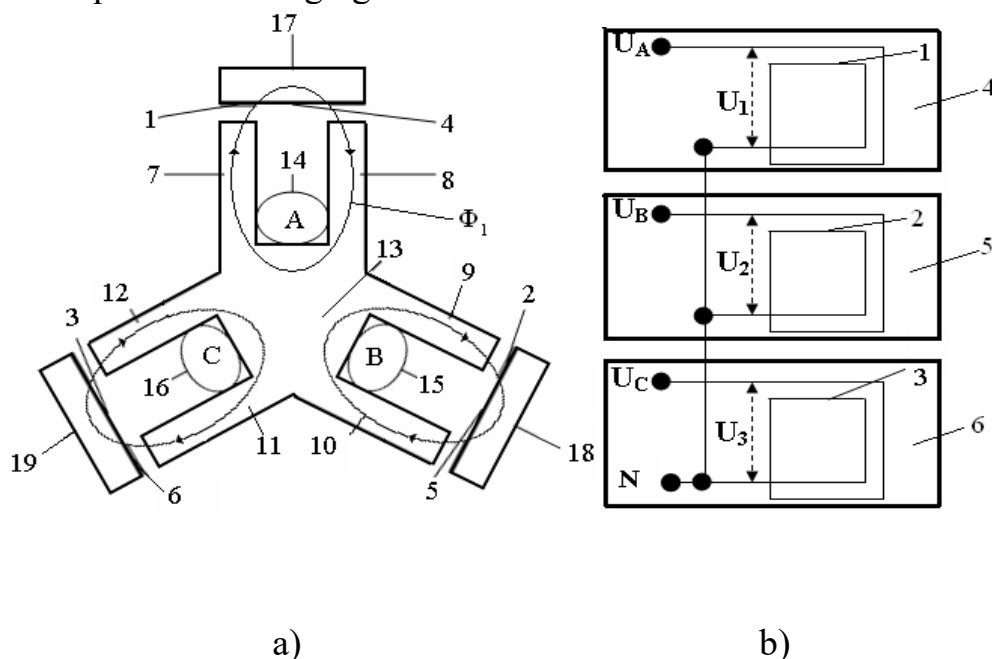
- based on the analysis of the conversion equation I_{eq} to U_{eq} , a block diagram is drawn up for calculating the reliability of the nodes of the electromagnetic converter of the primary current and the reliability due to complete failures of the elements of the nodes of the electromagnetic converter of the primary current (p_1) is calculated.

For the nodes of the electromagnetic converter of the primary current, the analysis of equation (3) made it possible to establish that the breakage of the primary winding - the excitation winding $T_{evkh}P_{evkh}=0$, the failure (breakage) of the magnetic circuit $T_{\mu}\Pi_{\mu}=0$, the breakage of the secondary measuring winding $T_{evx}\Pi_{evx}=0$, loss of connection between the magnetic current $K\Phi_{\mu}U_e = 0$, KI_eF_{μ}

= 0, leads to a complete failure of the components of the primary current electromagnetic converter. Taking into account catastrophic failures $p=0.98$, the total reliability of the components of the primary current electromagnetic converter will be:

$$P = P_{\text{кат}} P_{\text{нар}} = 0,98 * 0,98 = 0,96$$

As can be seen from the performed calculation, the parametric reliability is most affected by the change in M.F.S. F and induction under the influence of ambient temperature and aging of materials.



a - a magnetic core of a three-beam star-shaped rod

b - insulating plates with PIO

Fig.1. General view of the MF EMF with FEC

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QUYOSH FOTOELEKTRIK MODULI. TEXNIK PARAMETRLARI VA ULARNI STANDART TEST SHAROITIDA (STC) O'LCHASH

Annotatsiya: Yorug'lik oqimi deb nurlanish oqimini uni inson ko'ziga ta'siri bo'yicha baholanadigan nurlanish oqimiga aytiladi. Inson ko'zi turli to'lqin uzunligini yorug'lik oqimiga bir xilda sezgir emas.

Kalit so'zlar: avtomatikada, elektrotexnikada, radiotexnikada, telemexanika, volt-amper xarakteristika, Nurlanish oqimi

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Abstract: Luminous flux refers to the flux of radiation, assessed by its effect on the human eye. The human eye is unequally sensitive to light of different wavelengths.

Keywords: in automation, electrical engineering, radio engineering, telemechanics, volt-ampere characteristic, radiation current

O'tkazgichlar sinfiga kiruvchi yarim o'tkazgichlarning fan va texnikadagi tatbiqi tabora kengayib bormoqda. Yarim o'tkazgichlarning xossasini o'rganish zamonaviy yangi-yangi asboblarni tayyorlash imkonini yaratmoqda.

Yarim o'tkazgichli asboblarni avtomatikada, elektrotexnikada, radiotexnikada, telemexanikada va shu kabi boshqa fan sohalarida keng qo'llanilmoqda. Mazkur ishda yarim o'tkazgich sifatida kremniyli Quyosh yelementlarining ishlash jarayoni, ularni xarakterlovchi asosiy xarakteristik parametrlar va volt-amper xarakteristika egri chizig'ini tajribada aniqlash bilan chegaralanamiz.

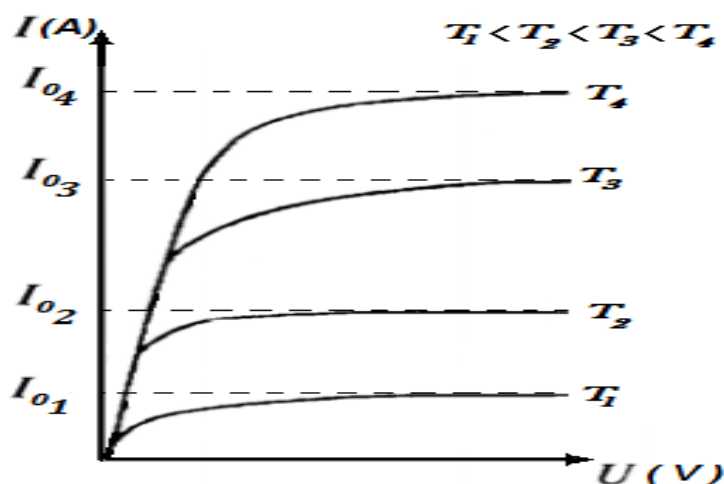
Yarim o'tkazgich orqali o'tuvchi tok kuchi va kuchlanish orasidagi bog'lanish Ohm qonuniga bo'ysunmay, balki o'ziga xos egri chiziqni ifodalaydi. Yarim o'tkazgich uchun xarakterli bo'lgan bu bog'lanish uning volt-amper xarakteristikasi deb ataladi. Bu xarakteristika egri chiziq

Bir tomondan o'tkazgich materialiga, ikkinchi tomondan u qanday temperaturada olinganligiga bog'liq bo'lib, o'tayotgan tok kuchi quyidagi ko'rinishda ifodalanadi:

$$I = I_0 e^{\alpha U} \quad (1)$$

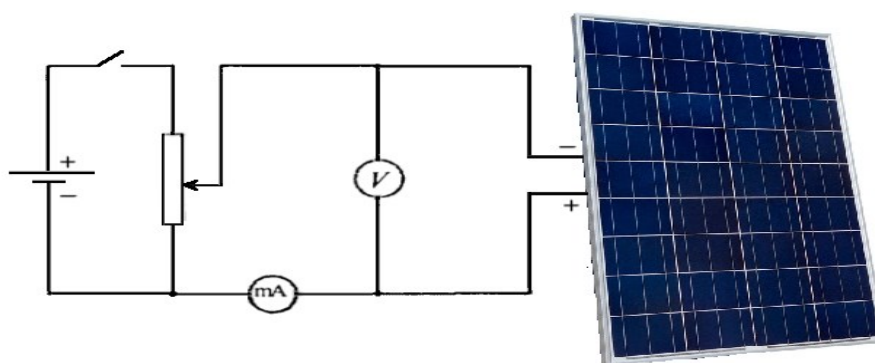
I_0 - to'yinish toki.

Yarim o'tkazgich volt-amper xarakteristikasi grafigi taxminan quyidagi ko'rinishda bo'ladi:



1-rasm. Yarim o'tkazgich volt-amper xarakteristikasi grafigi

Yarim o'tkazgichning volt-amper xarakteristikasini olish uchun mo'ljallangan qurilmaning sxemasi 2-rasmda keltirilgan.



2-rasm. Quyosh elementining volt-amper xarakteristikasini olish sxemasi.

Quyosh Erdagi hayotni mavjud bo'lishini ta'minlab beruvchi asosiy energiya manbai bo'lib hisoblanadi. Quyosh nurlanishini tavsiflash uchun quyidagi asosiy kattaliklar foydalaniladi:

- Nurlanish oqimi – bir sekund davomida ixtiyoriy yuza orqali elektr magnit to'liqlari olib o'tadigan energiyaga teng kattalik. Nurlanish oqimi o'lchov birligi – $D_{j/s} = V_T$.

- Nurlanish oqimi zichligi (energetik yoritilganlik) – nurlanish oqimini bir xil nurlantirayotgan yuzasiga nisbatiga teng kattalik. Nurlanish oqimi zichligi o'lchov birligi – Vt/m^2 .

- Yorug'lik oqimi. Yorug'lik oqimi deb nurlanish oqimini uni inson ko'ziga ta'siri bo'yicha baholanadigan nurlanish oqimiga aytiladi. Inson ko'zi turli to'liqin

uzunligini yorug'lik oqimiga bir xilda sezgir emas. Odatda kunduzgi yoritishda ko'z 555 nm to'liq uzunlikdagi yorug'likka ko'proq sezgir. SHuning uchun bir zil quvvatli nurlanish oqimi, lekin turli uzunligi insonda turlicha yorug'lik xissiyotlarini uyg'otadi.

YOrug'lik oqimini uni inson ko'zi bilan yorqinlik qabul qilish nuqtai nazaridan o'lchov birligi lyumen (LM) hisoblanadi. Qk yorug'likning 1 lm yorug'lik oqimi $4.6 \times 10^3 \text{ Vt}$ (yoki $1 \text{ Vt} = 218 \text{ lm}$) ga teng.

- YOritilganlik – yuzaga tushayotgan yorug'lik oqimini shu yuzaga nisbatiga teng kattalik. Osveshennost lyuksperda (lk) o'lchanadi. $1 \text{ lk} = 1 \text{ lm/m}^2$. Oq yorug'lik uchun $1 \text{ lk} = 4,6 \times 10^{-3} \text{ Vt/m}^2$ (yoki $1 \text{ Vt/m}^2 = 217 \text{ lk}$). YOritilganlikni o'lchash uchun mo'ljallangan asboblari lyuksmetrlar deyiladi.

- Quyosh elektr energiyasi – bu quyosh nurlanishi energiyasini elektr energiyasiga o'zgartirish bilan shug'ullanadigan energetika yo'nalishi.

Quyosh energiyasini o'zgartirishning ikki uslubi mavjud: fototermik va fotoelektrik. Birinchisida issiqlik tashuvchi quyosh kollektorida yuqori xaroratga qizitiladi va elektr energiya ishlab chiqaruvchi turbogeneratorni aylantirish uchun yoki issiq suv ta'minoti va binolarni isitish uchun foydalaniladi.

Fotovoltaik quyosh panellari kattaroq panellar va/yoki modullar uchun bir necha vattdan 400 vattgacha bo'lgan keng quvvatli chiqishlarda mavjud. Shunday qilib, ularning ehtiyojlari PV panellarining maksimal quvvat chiqishini vatlarda aniqlashning bir usuli bo'lishi kerak, shuningdek, foydalanuvchi, uy egasi yoki o'rnatuvchini solishtirish uchun barcha panel ishlab chiqaruvchilar uchun bir xil bo'lgan elektr xususiyatlarini aniqlash kerak. Odatda, ma'lum bir PV panelining quvvat chiqishi darajasi uning doimiy to'g'ridan-to'g'ri quvvati bo'lib, u ishlab chiqaruvchining yorlig'ida yoki panelning orqa tarafidagi etiketkada ko'rsatilgan kuchlanish, oqim va vatt kabi bir nechta STC qiymatlarini ko'rsatadi. Ushbu quvvat darajasi va shuning uchun fotovoltaik panelning ishlashi belgilangan xalqaro sinov mezonlariga muvofiq taqdim etiladi. **Standart sinov shartlari** (STC) sifatida tanilgan. Amaldagi sinov protseduralari ichki o'lchovlarga asoslanadi. Fotovoltaik quyosh paneli yoki moduli uchun standart sinov sharti, panel va hujayralar 25°C standart atrof-muhit haroratida bo'lganda, 1000 Vt/m^2 (1 kVt/m^2) to'liq quyoshli quyosh nuri (nurlanish) sifatida aniqlanadi. dengiz sathidagi havo massasi (AM) 1,5 (1 quyosh) bilan. Bundan tashqari, I_{SC} - STCdagi qisqa tutashuv oqimi va V_{OC} - ochiq tutashuvdagi kuchlanish.

Fotovoltaik panel STC yorlig'i



Fotovoltaik panelning nominal **ish sharoitlari** (NOC) - bu tashqi o'lchovlar uchun panelni simulyatsiya qilish uchun mo'ljallangan umumiy mos yozuvlar shartlari to'plami.

Ular ochiq yoz kunining nurlanish darajasini, aniq qish kunining panel harorati va aniq bahor kunining yorug'lik spektrini birlashtirishga harakat qilishadi. Ushbu shartlar quyosh nurlanishining 800 Wt / m² va atrof-muhit harorati 20 ° C va dengiz sathida 1,0 m / s shamol tezligini nazarda tutadi.

Shunda aniqki, PV panelining maksimal quvvat chiqishi standart sinov sharoitida ko'rsatilganidan ancha past bo'ladi. Standart sinov sharoitlarida ideal ichki o'lchovlar (STC) va haqiqiy nominal ish sharoitida (NOC) haqiqiy tashqi o'lchovlar o'rtasidagi taqqoslash ishlab chiqaruvchining ma'lum bir panelning nominal maksimal quvvatiga nisbatan 20% dan kam Wp chiqish quvvatini ishlab chiqishi mumkin.

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2. Suyarov A. O. et al. USE OF SOLAR AND WIND ENERGY SOURCES IN AUTONOMOUS NETWORKS //Web of Scientist: International Scientific Research Journal. – 2022. – T. 3. – №. 5. – C. 219-225.
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4. Soatboy o'g'li S. U. et al. THE COST OF A TRANSFORMER AND THE IMPORTANCE OF ITS HEATING //Web of Scientist: International Scientific Research Journal. – 2022. – T. 3. – №. 5. – C. 1467-1473.

THE COST OF A TRANSFORMER AND THE IMPORTANCE OF ITS HEATING

Annotation: *The problem of transformer losses and their causes are studied and recommendations for their optimal values are given. Transformer heating and cooling methods are studied.*

Keywords: *active power, inductive power, waste, load*

We know that the losses in a transformer inevitably affect its efficiency. The result of the ratio of the active (useful) power P_2 supplied from the secondary winding to the consumer (load) to the active power P_1 received from the power supply of the transformer primary winding is called the efficiency (FIK) η . The formula for determining it is as follows:

$$\eta = \frac{P_2}{P_1} = \frac{P_2}{(P_2 + \Sigma P')} \quad (1)$$

Power losses in the transformer ($\Sigma P'$) are the magnetic losses generated by the alternating magnetic flux in the core and the electrical losses (including additional losses) that occur when current flows through the winding conductors according to the Joule-Lens law.) is included.

$$\Sigma P' = P'_{O.N} + K_{Yu}^2 P'_{qt.N} \quad (2)$$

Electricity in the transmission of electrical energy from substation bus sources wastage of 5-10% of electricity on supply lines will be It is impossible to reduce electricity waste to zero, but it is necessary to strive to minimize them.

Since the voltage applied to the transformer is $\Sigma U_1 = \text{const}$ and its load is almost constant at the values from salt to nominal, the magnetic losses of the transformer are also constant. These losses are approximately equal to the operating losses of the transformer[1].

The main and auxiliary power losses vary in proportion to the square of the current. Of course, this is also reflected in the heating of the magnetic and electrical conductors in the device, according to Joule-Lens law. A transformer connected to a load loses some of its electrical energy during operation, which is converted into heat energy and distributed to the environment. About 80% of the waste is generated by coils, and the rest by magnetic cores and metal structural elements [2].

When heat is released, the transformer heats up. In this case, its temperature is much higher than the ambient temperature. The main reason for this is the limited power when the load is connected.

Due to the heating, the natural convection of the oil inside the tank is formed, ie due to the heating of the magnetic system and the coils, the oil particles close to

them lightly rise to the top of the tank, and those close to the tank wall cool down due to the natural circulation of air from outside. Heat from the tank walls is transmitted to the environment through radiation (invisible waves) and convection.

The paper-based Class A insulation used in the transformer loses its elasticity and becomes brittle when exposed to high temperatures for long periods of time. As a result, even small mechanical forces that occur during operation can damage the insulation and lead to a loss of electrical strength. This shortens the life of the transformer.

The higher the temperature, the faster the insulation will wear out. As the power of the transformers increases, the losses increase in proportion to its mass, which is approximately equal to its linear dimension (third degree), and the cooling surface to its square. This means that the heat dissipated in the transformer increases the losses faster than its cooling surface. When transformer oil is used as the cooling medium, it is 6-8 times more efficient than air-cooled.

If the transformer is in normal operation, ie in the nominal operating mode, and the temperature is at a certain value, it will definitely exceed the operating time. This means that its temperature and cooling system will definitely be affected for a lifetime. Insulation will last at least 20-25 years when oil transformers are used under normal conditions, ie when the insulation temperature at its hottest point does not exceed 105°C . If it operates under temperatures above $8-100^{\circ}\text{C}$, the insulation service life will be reduced by about 2 times [4].

The requirement for the insulation material is that the insulation does not chemically react with transformer oil up to 110°C .

Figure 1, a shows the change in temperature along the height of the transformer, and Figure 1, b shows the approximate distribution of temperature in the horizontal section of the oil transformer.

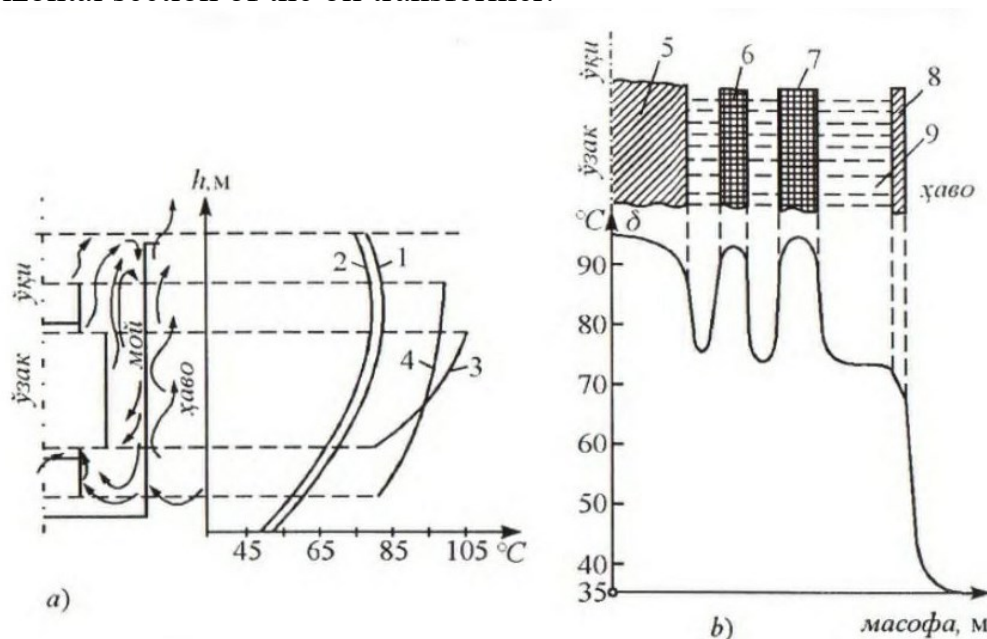


Figure 1. Oil-cooled power transformer: a) approximate temperature change in height (1st oil, 2nd tank walls; 3rd coil and 4th magnetic system); b) the

approximate distribution of temperature in the horizontal section. (Core 5; Cells 6,7 PK and YUK; Base wall 8; May 9).

The temperature of the transformer generally varies depending on the load. At the same time, we should consider that it is advisable to make sure that the load does not exceed the nominal value. Therefore, one of these hesitations is that of this electrical loading center (ELM). The load connected to the secondary winding of the transformer causes the transformer to shift to the center of gravity of the load. As a result, firstly, non-ferrous metals are saved, and secondly, the voltage drops across the consumers at the end of the network are eliminated, and at the same time the load on the transformer is reduced [3-5].

The calculation of EYUM and the installation of the main substation in the center of gravity are widely used in these industrial enterprises. This ensures energy efficiency and rated operation of electricity consumers. In the construction of power supply systems for all types of industrial enterprises, master plans of these facilities are created, which show all the industrial production shops. The location of the shops is determined on the basis of production technology. The master plan shows the calculated or determined capacity of the industrial enterprise. The project also includes the above-mentioned shop and the entire company's electrical load schedules. Another important task of the design is to install BPP, BTP, TP in the most convenient place on the territory of the enterprise.

When designing power supply systems, load maps are shown in the master plans of the enterprise to determine the location of BPP, BTP, TP.

Loading cartograms are general-purpose circles, the area bounded by the surface of these circles, which is used to describe the calculated loads of the workshops on the selected scale. Each shop is shown its own circle, the center of which corresponds to the loading center of the shop.

The electrical load cartogram allows the designer to clearly visualize the distribution of electricity in the plant area.

$$P_i = \pi \cdot r_i^2 \cdot m$$

From the expression you can determine the radius of the circle.

$$r_i = \sqrt{\frac{P_i}{\pi \cdot m}}$$

Here m is the scale of finding the circle.

If the actual distribution of the load in the shop is taken into account, then the center of the load does not coincide with the planned center of gravity of the shop, so finding the center of the load leads to determining the center of gravity.

Given that this system will be available in all industrial enterprises, I propose to promote it in TPs used by consumers. In this way, of course, we can achieve a reduction in the value of energy waste.

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SANOAT KORXONALARDA ELEKTR YUKLAMALARNI XARAKTERLOVCHI ASOSIY KOEFFITSIYENTLAR

***Annotatsiya:** Quvvat va vaqt bo'yicha ish rejimini tavsiflovchi yuklamalar grafiklarining ko'effitsientlari. Korxonalarda qo'llaniladigan yuklamalar turlari.*

***Kalit so'zlar:** Quvvat, vaqt, yuklamalar, grafiklarining ko'effitsientlari. effektiv (o'rtacha kvadrat) qiymat, ishlatilish ko'effitsiyenti, aktiv quvvat*

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MAIN COEFFICIENTS CHARACTERIZING ELECTRICAL LOADS IN INDUSTRIAL ENTERPRISES

***Abstract:** Coefficients of graphs of loads describing the mode of operation in terms of power and time. Types of downloads used in enterprises.*

***Keywords:** Coefficients of power, time, loads, graphs. effective (mean square) value, utilization factor, active power*

Yuklamalarni hisoblash va tadqiqot qilishda iste'molchilarning quvvat va vaqt bo'yicha ish rejimini tavsiflovchi yuklamalar grafiklarining ko'effitsientlaridan foydalaniladi. Bunday ko'effitsientlar xususiy va guruhviy grafiklari uchun aniqlanib, mos ravishda kichik k va bosh K harflar bilan belgilanadilar.

**Quvvat va vaqt bo'yicha ish rejimini tavsiflovchi yuklamalar
grafiklarining ko'effitsientlari.**

Ishlatilish ko'effitsiyenti deganda, o'rtacha aktiv quvvatni nominal quvvatga nisbati tushuniladi va uning miqdori eng ko'p yuklamali smena uchun aniqlanadi:

$$k_{ish.a} = \frac{P_{o'rt.}}{P_n}; \quad K_{ish.a} = \frac{P_{o'rt.}}{P_n} = \frac{\sum_1^n k_{ish.a} \cdot p_n}{\sum_1^n p_n}$$

$$k_{ish.a} = \frac{P_{o'rt.}}{P_n}; \quad K_{ish.a} = \frac{P_{o'rt.}}{P_n} = \frac{\sum_1^n k_{ish.a} \cdot p_n}{\sum_1^n p_n}$$

Bu yerda, p_n, P_n – mos ravishda bir yoki guruh iste'molchilarining nominal aktiv quvvatlari. P_n ni miqdorini takroriy qisqa muddatda ishlaydigan iste'molchilarda ularning pasportlaridan olinadi.

P_s, P_s – mos ravishda ayrim guruh iste'molchilarning o'rtacha aktiv quvvat energiya hisoblagichlarining ko'rsatgichi bo'yicha aniqlanadi:

$$P_{o'rt.} = \frac{\mathfrak{A}_a}{t_s}; \quad P_{o'rt.} = \frac{\mathfrak{A}_A}{t_s}$$

$\mathfrak{A}_a, \mathfrak{A}_A$ – bir yoki guruh iste'molchilarning qabul qilgan aktiv elektr energiyasi.
 T_s – sikl uchun vaqt intervali.

Yuqorida keltirilgan munosabatlarni reaktiv quvvatga ham yozish mumkin:

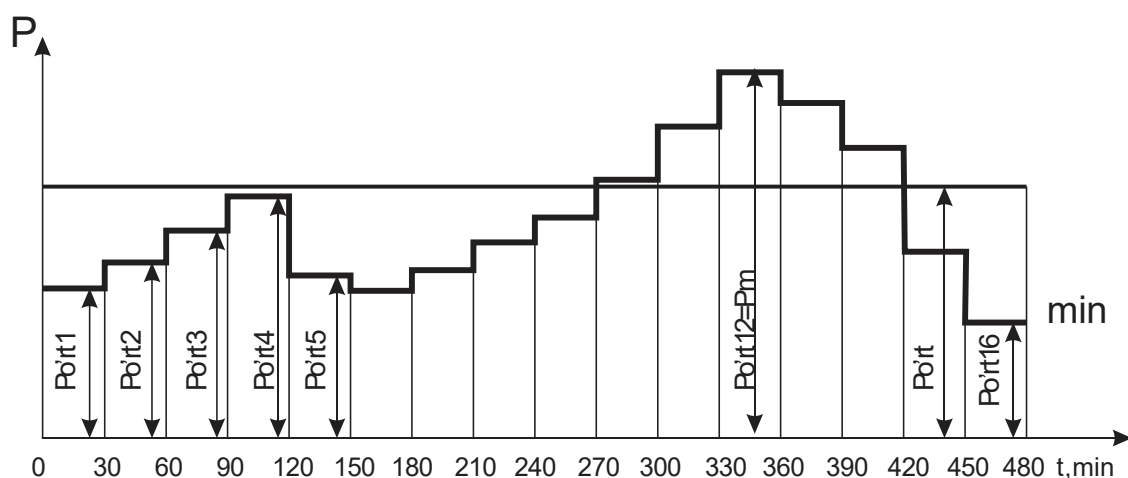
$$k_{ish.r} = \frac{q_{o'rt.}}{q_n}; \quad k_{ish.r} = \frac{Q_{o'rt.}}{Q_n} = \frac{\sum_1^n k_{ish.r} \cdot q_n}{\sum_1^n q_n};$$

$$q_{o'rt.} = \frac{\mathfrak{A}_r}{t_s}; \quad Q_{o'rt.} = \frac{\mathfrak{A}_r}{t_s}.$$

Har xil rejimlarda ishlovchi elektr iste'molchilari uchun ishlatilish koefitsiyentlarining o'rtacha qiymati ma'lumotlarda keltirilgan.

Grafikni to'ldirish koefitsiyenti deb, ma'lum vaqt oralig'idagi o'rtacha quvvatni maksimal quvvatga nisbatini aytiladi.

$$K_{t.a} = \frac{P_{o'rt.}}{P_m}$$



1-rasm. Har xil rejimlarda ishlovchi elektr iste'molchilarning yuklamalar grafigi.

Odatda, $P_{o'rt}$ va P_m larning miqdorlari t yuklamali smena davrining vaqti uchun olinadi. Aktiv quvvatni maksimumi deganda, ma'lum vaqt oralig'ida o'rtacha quvvatning maksimumi tushuniladi. Smena davomidagi 30 minutli o'rtacha quvvatlarining qiymatlaridan eng maksimumi olinadi. Rasmda 6 soat davomida har 30 minutga to'g'ri keladigan o'rtacha qiymatlarning grafik keltirilgan. Qurilgan vaqt intervalida 30 minutli yuklamaning maksimum qiymati 210 minutdan 240 minutgacha oraliqda sodir bo'lar ekan.

Yuklamaning ushbu qiymatini ko'p hollarda hisobiy quvvat sifatida ham qabul qilinadi.

Grafikni to'ldirish koeffitsiyenti guruh iste'molchilari uchun topiladi. Bu koeffitsiyentini aniqlashning reaktiv quvvat uchun ifodasi quyidagicha bo'ladi:

$$K_{t.r} = \frac{Q_{o'rt.}}{Q_m}$$

Kunlik grafikning to'ldirish koeffitsientlarining qiymatlarini turli korxonalar uchun ma'lumotnomalardan olish mumkin(A.6).

Maksimum koeffitsiyenti – grafikni to'ldirish koeffitsiyentiga teskari bo'lgan miqdor, ya'ni:

$$K_{m.a} = \frac{1}{K_{T.a}} = \frac{P_m}{P_{o'rt.}}; \quad K_{m.r} = \frac{1}{K_{T.r}} = \frac{Q_m}{Q_{o'rt.}}$$

Bu koeffitsiyentning qiymati t yuklamali smena uchun aniqlanadi va guruh iste'molchilariga tegishli bo'ladi. Agar maksimal quvvat deganda hisobiy quvvatni qabul qilinilishini e'tiborga olinadigan bo'lsa,

$$K_{M.a} = \frac{P_x}{P_{o'rt.}}$$

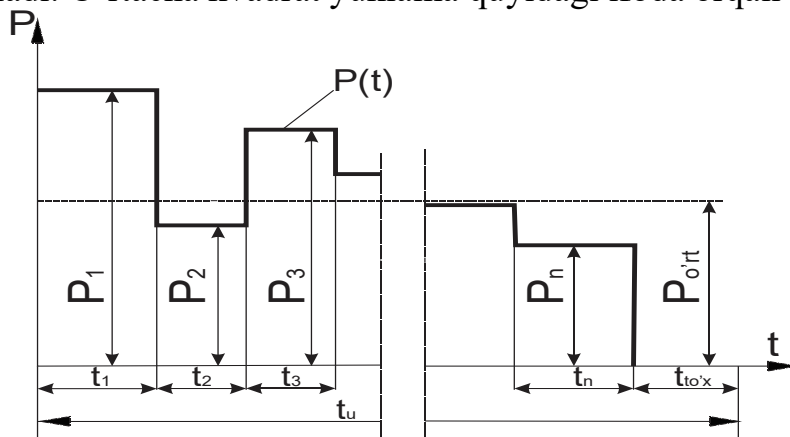
Demak, maksimum koeffitsiyenti grafikdan aniqlanadigan ikki eng asosiy miqdorlar – hisobiy va o'rtacha yuklamalar orasidagi munosabatni belgilaydi. K_m koeffitsiyenti hisobiy quvvatni o'rtacha quvvatga nisbatan qancha kattaligini ko'rsatadi. Uning miqdori birga teng yoki katta bo'lishi mumkin. O'zgaras yuklamali iste'molchilar (ventilyatorlar, nasoslar va t.u.) uchun $K_m=1$, ya'ni $P_x = P_{o'rt.}$

Forma koeffitsiyenti yuklamaning effektiv (o'rtacha kvadrat) qiymatini uning o'rtacha qiymatiga nisbati bilan aniqlanadi. Bu ko'rsatgich ayrim iste'molchi yoki guruh iste'molchilari uchun ma'lum vaqt oralig'ida topiladi:

$$k_{f.a} = \frac{P_{o'rt.kv.}}{P_{o'rt.}}; \quad K_{F.A} = \frac{P_{o'rt.kv.}}{P_{o'rt.}}$$

$$k_{f.r} = \frac{q_{o'rt.kv.}}{q_{o'rt.}}; \quad K_{F.R} = \frac{Q_{o'rt.kv.}}{Q_{o'rt.}}$$

Forma koeffitsienti yuklama grafigining vaqt bo'yicha notekisligini ko'rsatadi. Uning eng kichik qiymati, vaqt bo'yicha o'zgarmaydigan yuklamada, birga teng bo'ladi. O'rtacha kvadrat yuklama quyidagi ifoda orqali aniqlanadi:



2-rasm. Yuklama grafigining vaqt bo'yicha notekisligi.

$$P_{o'rt.kv.} = \sqrt{\frac{\sum_{i=1}^n P_i^2 \cdot t_i}{T}} = \sqrt{\frac{\sum_{i=1}^n P_i^2}{n}} \quad Q_{o'rt.kv.} = \sqrt{\frac{\sum_{i=1}^n Q_i^2 \cdot t_i}{T}} = \sqrt{\frac{\sum_{i=1}^n Q_i^2}{n}}$$

Bu yerda, $n = \frac{T}{t_i}$ - yuklama grafigining T vaqt oralig'idagi teng bo'laklar soni. Forma koeffitsiyenti K_{fa} ning miqdori ishlab chiqarish jarayoni maromida bo'lgan korxonalarda 1,05 dan 1,15 oralig'ida bo'ladi.

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SANOAT KORXONALARINING ENERGETIK BALANSI

***Annotatsiya:** Jahondagi barcha yoqilg'i resurslarining (yadro energiyasidan tashqari) potensial zaxiralari 25000 mlrd. t shartli yoqilg'iga teng. Uning 95% i yoqilg'ining qattiq turlariga to'g'ri keladi. Shartli yoqilg'i deb, 1 kg yoqilg'i yonganda 7 ming kkal (29 MJ/kg) energiya beradigan, issiqlik koeffitsenti bir deb qabul qilingan yoqilg'iga aytiladi.*

***Kalit so'zlar:** Energetik balans, Xususiy energiya, energiya tashuvchilar, Shartli yoqilg'i, Elektr energiya balansi, iste'mol kartogrammasi*

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ENERGY BALANCE OF INDUSTRIAL ENTERPRISES

***Abstract:** The potential reserves of all fuel resources in the world (except for nuclear energy) are 25,000 bln. t is equal to conventional fuel. 95% of it corresponds to solid types of fuel. Conventional fuel is a fuel that gives 7 thousand kkal (29 MJ/kg) of energy when 1 kg of fuel is burned, and the heat coefficient is assumed to be one.*

***Key words:** Energy balance, Private energy, energy carriers, Conventional fuel, Electric energy balance, consumption cartogram*

Energiya balansi – bu korxona qabul qilayotgan va iste'mol qilayotgan energiya o'rtasidagi munosabatdir. Masalan, korxona 1000 kVt quvvat qabul qilayotgan bo'lsa, aynan shu quvvat korxona sexlari kesimida teng taqsimlanishi energetik balansni ifodalaydi. Ba'zi hollarda, quvvatning to'la iste'mol qilinmasligi kuzatiladi. Bu holat **debalans** deyiladi.

Energetik balans kelib tushish va sarflash qismlaridan iborat.

Energetik balansning kelib tushish qismi turli energiya tashuvchilar (qazib olinadigan yoqilg'i va yadro yonilg'isi, gaz, bug', suv, havo, elektr energiya) yordamida kelib tushadigan energiyaning miqdorini o'z ichiga oladi.

Energetik balansning sarflash qismi energiyaning barcha turlarini ularning turli ko'rinishidagi sarfini, bir turdagi energiyaning boshqa turdasisiga aylantirilgandagi yo'qotishlarni hamda maxsus qurilmalarda (masalan, gidro akkumulyalovchi qurilmalarda) yig'iladigan (akkumulyatsiya qilinadigan) energiya aniqlanadi.

Boshqa balanslarda bo'lgani kabi masalan, buxgalteriyadagi kabi energiya balansining ham kelib tushish va sarflash qismlari teng bo'lishi kerak.

Energetika balansi bir tomondan kelayotgan jami energiya, boshqa tomondan jami foydali energiya uning yo'qotishlari bilan mosligini ko'rsatadi. Balansni tuzishda, korxonada iste'mol qilinadigan barcha energiya turlari: elektr energiya, gaz, mazut, suv, bug' va h.k. ko'rib chiqiladi. Korxonaning har bir sexida turli maqsadlarda iste'mol qilinadigan energiya miqdori o'lchanadi, bundan tashqari energiya yo'qotishlari ham baholanadi.

Balansni tuzish mazkur korxonaning sexlarida haqiqiy energiya iste'moli to'g'risidagi ma'lumotlar asosida amalga oshiriladi (dvigatellar, elektr jihozlar, yoritish va h.k.) bunday axborotni olish uchun maxsus asboblari – elektr energiya, gaz, bug', suv va h.k. hisoblagichlaridan foydalaniladi.

Energetik balanslarni o'rganish, korxonaning ayrim sexlarida va butun korxonada energiyadan foydalanishning haqiqiy holatini o'rganish imkonini beradi. Energetika balansi korxona ishlash samaradorligi to'g'risida fikr yuritish imkonini beradi. Balans korxonani energiya iqtisod qilinishi mumkin bo'lgan nuqtalarini aniqlashi lozim.

Energiya tashuvchilarning turi va miqdoriga bog'liq holda balans xususiy, ya'ni faqat bitta energiya tashuvchi uchun, yoki umumiy ya'ni korxonadagi barcha energiya resurslaridan foydalaniladigan jami iste'mol bo'yicha tuzilishi mumkin.

Xususiy energiya balanslarini tuzishda energiya tashuvchilarini miqdoriy o'lchash joularida (Dj, mDj, GDj), kilovatt-soatlarda (kVt.s), tonna shartli yoqilg'i (t.sh.yo.)da amalga oshiriladi. Umumiy energiya balansini tuzishda turli energiya resurslari va energiya tashuvchilarni o'lchash tonna shartli yoqilg'ida amalga oshiriladi.

Jahon miqyosida turli yoqilg'i E. resurslari miqdorini taqqoslash uchun shartli yoqilg'i birligi (1 kg yoqilg'i yonganda 7000 kkal issiqlik ajralishi) qabul qilingan. Jahondagi barcha yoqilg'i resurslarining (yadro energiyasidan tashqari) potensial zaxiralari 25000 mlrd. t shartli yoqilg'iga teng. Uning 95% i yoqilg'ining qattiq turlariga to'g'ri keladi.

Yadro energiyasining asosiy manbai bo'lgan uran va toriyning zaxiralari dunyo okeani suvlaridagi zaxiralar bilan birga 69000 mlrd. t shartli yoqilg'iga teng. Issiqlik E.si — E.ning issiqlikni issiqlik dvigatellari va boshqalar yordamida boshqa energiya turlari (mexanik energiya, elektr energiyasi) ga aylantirib beruvchi issiqlik texnikasi bo'limi. Issiqlik E.sida asosiy issiqlik va elektr energiyasi ishlab chiqaruvchi korxona issiqlik elektr st-yalari (IES) hamda Davlat issiqlik elektr st-yasi (DIES) hisoblanadi. Yirik DIES lar: Sirdaryo DIES (3000 MVt), Toshkent DIES (1850 MVt), Tolimarjon DIES (loyiha bo'yicha 3200 MVt). O'zbekistonning issiqlik elektr st-yalari respublikada ishlab chiqarilayotgan elektr energiyasining qariyb 85% ini tashkil qiladi.

Shartli yoqilg'i deb, 1 kg yoqilg'i yonganda 7 ming kkal (29 MJ/kg) energiya beradigan, issiqlik koeffitsienti bir deb qabul qilingan yoqilg'iga aytiladi. Yoqilg'ini shartli yoqilg'iga aylantirish uchun, yoqilg'ilar haqidagi ma'lumotlarni tegishli issiqlik koeffitsentiga ko'paytiriladi. Hisoblashlarda 1 kg shartli yoqilg'i

o'rta hisobda 2 kVt/soat elektr energiyasiga teng deb ham qabul qilinadi, lekin bunda elektr stantsiyalarining foydali ish koeffitsienti hisobga olinadi.

1 kg quruq to'yingan bug'ni kondensatga aylantirishda r issiqlik ajraladi. Bu fazoviy o'tish issiqligi deyiladi va r bilan belgilanadi. Undan tashqari kondensatning sovishi yuzaga keladi. Chunki sirtning harorati to'yinish haroratidan kichik bo'ladi. Agar kondensatning sovishi ajralgan issiqlikdan kichik bo'lsa, u holda issiqlik miqdorini quyidagi ifodadan aniqlaymiz:

$$Q = G r \quad r = kJ / kg.$$

bunda G — hosil bo'lgan kondensatning miqdori. G- kg

Eski stansiyada 1 kVt.soat elektr energiya ishlab chiqarish uchun o'rtacha 360-400 gramm shartli yoqilg'i sarflangan bo'lsa, zamonaviy bug'-gaz qurilmasida bu ko'rsatkich 220-235 grammni tashkil etmoqda.

Sanoatda, shahar va qishloq xo'jaligida energiya asosiy iste'mol turi issiqlik va elektr energiyasidir. Shuning uchun sanoat korxonalarida issiqlik va elektr balanslari tuziladi. Elektr balanslarini tuzish xususiyatlarini ko'rib chiqamiz.

Sanoat korxonalari uchun energiya balanslari ayrim agregatlar yoki ularning guruhiga, sexlar va butun korxona uchun tuzib chiqiladi. Elektr balanslar asosida mazkur korxonada, ishlab chiqarish bo'linmalarida yoki energo sig'imli agregatlarda elektr energiyani ishlatish sifati to'g'risida obyektiv fikr yuritiladi, ishlab chiqarishga bog'liq bo'lmagan elektr energiya sarflarini qisqartirish imkoniyatlari aniqlanadi, natijada elektr energiyadan foydalanishni yaxshilash bo'yicha tadbirlar ishlab chiqiladi.

Elektr energiya balansining uchta asosiy turlari mavjud:

1) **Haqiqiy elektr energiya balans** - sex yoki korxonada amalda iste'mol qilinayotgan elektr energiya iste'molini aks ettiradi;

2) **Normallashtirilgan elektr energiya balans** – haqiqiy elektr energiya balans tahlil qilinib, korxona yoki sex miqiyosidagi iste'mol nuqtalari aniqlanib, ularda tejash tadbirlarini olib borishdan keyingi elektr energiya iste'molini aks ettiradi;

3) **Kelajakka mo'ljallangan elektr energiya balans** – ishlab-chiqarishning rivojlanishini oldindan hisobga oladigan va yaqin kelajakdagi yoki undan ko'proq muddatga (5 yilgacha) uning sifat o'zgarishlarini hisobga oladigan elektr energiya iste'molini aks ettiradi.

Elektr energiya balansining bosh maqsadi – elektr energiyani samarali ishlatish darajasini aniqlash va isroflarni kamaytirish yo'llarini izlash, elektr iste'molini ratsionalizatsiyalashdan iborat. Shuning uchun balansning asosiy turi etib asosan elektr energiya iste'molini real hajmini va elektr energiyadan foydalanish darajasini aniqlovchi aktiv energiya balansini hisoblash kerak.

Elektr energiya balansini tuzish vazifalari quyidagilardir:

- elektr energiya sarfini topish yordamida korxonaning asosiy mahsulotiga bo'lgan sarf harajatlarini aniqlash;

- korxonaning birlik mahsulotiga ketadigan elektr energiya haqiqiy solishtirima sarf me'yorlarini aniqlash.

Erkin normallashtirilgan elektr energiya balansini tuzish korxonaning haqiqiy balansini tahlil etishning so'nggi bosqichi hisoblanadi. Normallashtirilgan elektr energiya balansini korxonalarda elektr energiya iqtisodining zahiralari baholashga xizmat qiladi.

Energetik balansni o'rganish natijasida mahsulotni ishlab chiqarishga ketgan energiyaning solishtirma sarfi kabi, energiyadan foydalanishning samarasi degan muhim ko'rsatkichini baholash amalga oshiriladi.

Sanoat korxonalarining elektr energiya balansini qurishni yog'-moy kombinatining elektr energiya balansini qurish misolida batafsil ko'rib chiqamiz. Yog'-moy kombinatining umumiy iste'mol quvvati 9290 kVt ga teng bo'lib, bu quvvat kombinatdagi 15 ta sex kesimida taqsimlanadi. Sexlar texnologik jarayoniga bog'liq ravishda ular bir va ikki smenada ishlaydilar. Misol tariqasida Tayyorlov №1 sexining quvvat iste'molini ko'rib chiqib, uning umumkombinat elektr energiyasidan iste'mol ulushini aniqlaymiz.

1. Sexning hisobiy quvvati $P_h = 1150$ kVtga teng. Sexning smena davomiyligi 8 soat. (smena davomiyligi bir, ikki, uch smeneali bo'ladi. Bunga muvofiq $t = 8, 16, 24$ soat qiymatlarini qabul qiladi). Sexning smena davomida iste'mol qiladigan elektr energiyasini aniqlaymiz:

$$W_{sex1} = P_h \cdot t = 1150 \cdot 8 = 9200 \text{ kVt} \cdot \text{soat}$$

2. Yuqoridagi ifoda yordamida qolgan sexlar uchun ham elektr energiya qiymatini aniqlaymiz. Yog'-moy kombinatining jami elektr energiya iste'moli $W_{\Sigma zavod} = 98880$ kVt·soatga teng. Quyidagi ifoda yordamida sexning umumkombinat elektr energiyasidan iste'mol ulushi aniqlanadi va barcha sexlarning aniqlangan natijalari jadvalda keltiriladi.

$$W\% = \frac{W_{sex1}}{W_{\Sigma zavod}} * 100\% = \frac{9200}{98880} * 100 = 9,3\%$$

YOG'-MOY KOMBINATINING ELEKTR ENERGIYA BALANSI

№	Sexlar nomi	P_h , kVt	t, soat	W, kVt·soat	W, %
1	Tayyorlov sexi №1	1150	8	9200	9,3
2	Tayyorlov sexi №2	1000	8	8000	8,1
3	Yuvish bo'limi	650	8	5200	5,3
4	Mahsulotxona	1250	8	10000	10,1
5	Issiqlik elektr markazi	1000	16	16000	16,2
6	Zavod boshqarmasi	600	8	4800	4,9
7	Tayyor mahsulot ombori	50	8	400	0,4
8	Hom ashyo ombori	550	8	4400	4,4
9	Avtopark	370	16	5920	6,0
10	Nasosxona №1	150	16	2400	2,4
11	Nasosxona №2	550	16	8800	8,9
12	Ta'mirlash-mexanika sexi	620	8	4960	5,0

13	Laboratoriya	100	8	800	0,8
14	Kompressorxona	1000	16	16000	16,2
15	Oshxona	250	8	2000	2,0
	JAMI	9290		98880	100

Iste'mol kartogrammasi bu – energetik balans elementlarining aniqlangan foiz ulushlari ifodasidir. Iste'mol kartogrammasi energetik balans elementining ko'rilayotgan ob'yektda qanday taqsimlanganligini ifodalaydi. Quyida berilgan yog'-moy kombinati uchun qurilgan iste'mol kartogrammasini tahlil qilinsa, umumkombinat miqiyosida asosiy iste'mol ulushi kompressorxona va issiqlik elektr markazi 16,2 % dan, maxsulotxona 10,1%, tayyorlov sexi №1 9,3% sexlariga foiz miqdorlarida to'g'ri keladi. Energiyani tejash tadbirlari aynan shu nuqtalarda amalga oshirilsa maqsadga muvofiq bo'ladi. Chunki, iste'mol yuqori bo'lgan nuqtalarda isroflar ham shunga mos bo'ladi. Bu nuqtalarda energiyani tejash tadbirlarini amalga oshirishga ketgan iqtisodiy mablag'lar ham qoplanadi.

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MONOKRISTALL QUYOSH BATAREYASINI TUZILISHI VA ISHLASH PRINSIPI

***Annotatsiya:** Fotonlar quyosh batareyasi sirtiga uriladi va uning ishchi materialida yutiladi, masalan, kremniyda.*

***Kalit soʻzlar:** Fotonlar, quyosh batareyasi, Monokristall quyosh batareyasi, Kontroller, polikristall*

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MONOCRYSTALLINE SOLAR CELL STRUCTURE AND PRINCIPLE OF OPERATION

***Abstract:** Photons hit the surface of the solar cell and are absorbed by its working material, for example, silicon.*

***Keywords:** Photons, solar cell, Monocrystalline solar cell, Controller, polycrystalline*

Quyosh batareyasi – quyosh energiyasini doimiy tokka oʻzgartirib beruvchi oʻzaro ulangan fotoelektr oʻzgartirgichlar (fotoelementlar). Quyosh batareyalari kremniy kristallari asosida qilingan modullardan quriladi. Qoʻllanilish sohalari qarab, quyosh modullari turli konstruktiv echimlarga va turlicha chiqarish quvvatiga ega boʻlishi mumkin. Quyosh batareyalari avtonom elektr energiya taʼminoti uchun qoʻllaniladi.

Yupqa plyonkali quyosh batareyalari ishlab chiqarish ancha hisoblanadi, toʻgʻri-toʻgʻri tik quyosh nurlarini talab etmaydi, tarqalgan nurlanishda ishlaydi va binoni devorlariga oʻrnatilishi mumkin. Bu quyosh modullarida yarim oʻtkazgich yupqa qatlamda (qalinligi bir mikron atrofida) oynadan yoki poʻlat yupqa taglikka yotqiziladi.

Yupqa plyonkali panellar uchun yuqori voltli invertorlar va kontrollerlar ishlatilishi lozim, ular kam quvvatli maishiy tizimlar bilan mos kelmaydi.

FIK katta boʻlmaganligi (10% atrofida) sababli bu panellar 10 kVt dan boshlab tizimlarda foydalanish samarali.

Monokristallik quyosh batareyalari bugungi kunda eng ommabop. Bu quyosh batareyalar qalinligi 250-300 mkm li kremniy plastinani tashkil etadi. Monokristall quyosh batareyalarini FIKsi 25% gacha. Batareyalarga lyumin ramkaga oʻrnatiladi va ximoya oynasi bilan yopiladi. Monokristall quyosh batareyalarni fotoelementlari rangi qora yoki toʻq koʻk. Quyosh batareyalari uylarni tomlarida, yoritish

o'yiqlarida o'rnatiladi va odatda akkumulyatorlarni zaryadlash, signalizatsiya, yoritish, maishiy texnikani ta'minoti va boshqalar uchun foydalaniladi.

Ulanish sxemasi: quyosh panellari – kontreller – akkumulyatorlar – inventar – iste'molchilar.

Kontroller – bu elektron qurilma, u quyosh batareyalarni zaryadlanishi – razryadlanishini rostlaydi, 'nergiya iste'moli rejimlari o'zgartirishi yuklamani oshib ketishidan va qisqa tutashuvdan ta'minlanish tizimini ximoyalaydi. Akkumulyatorlar energiyasi to'planishi uchun xizmat qiladi, invertor esa akkumulyatorning o'zgaras tokini sanoat chastotasidagi o'zgaruvchan tokka o'zgartirib beradi. Monokristall quyosh batareyalarini o'lchamlari 306 x 216 x 18 mm dan 1950 x 992 x 50 mm gacha, og'irligi 0.8 dan 24 kg gacha, ishchi kuchlanishi 21.6 V dan 59.5 V gacha, ishchi tok 0.29 A dan 7.98 A gacha.

Polikristall quyosh batareyalari narxi monokristall baatreyalardan past, FIKi 20% atrofida. Polikristallik batareyalar yorqin ko'k rangga ega.

Qo'llanish sohalari: maishiy texnikani, yoritishni ta'minlash, noutbuk, mobil telefonlar va boshqalarni ta'minlash.

Ulanish sxemasi monokristall quyosh panenllari kabidir.

Quyosh batareyalarni kamchiliklari:

- Past FIK

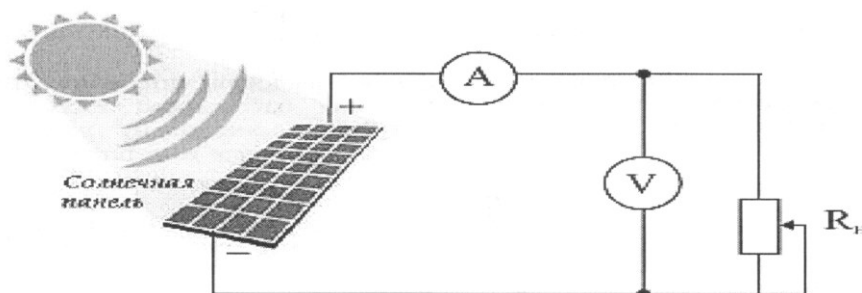
- Sirtni iflolanishida samaradorlikni pasayishi

Haroratni oshishida fotoelementlarni mahsuldorligini pasayishi. Yuklamani qarshiligiga talabchan. Bu kamchilikni bartaraf etish uchun boshqarish kontrollerlaridan foydalanish lozim

- Vaqt o'tishi bilan xarakteristikalarini yomonlashuvi

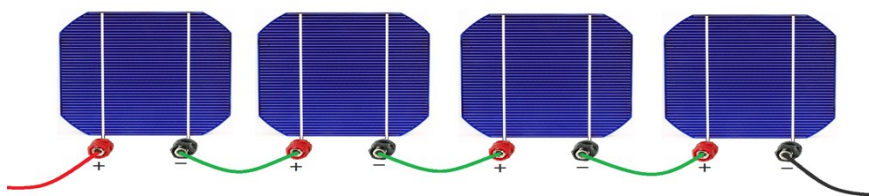
- Narxning yuqoriligi.

2-bosqich. Tajriba o'tkazish, olingan ma'lumotlarga ishlov berish va volt-ampere tavsiflarini qurish.

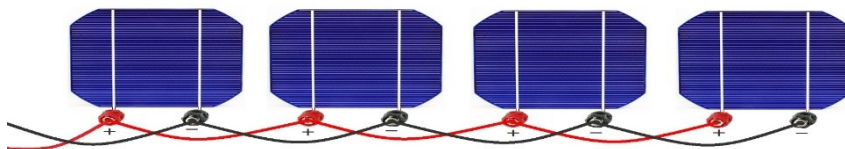


Quyosh elementlarini ketma-ket va parallel ulash o'zgaras tok manbalari (galvanik element, akkumulyator) ni ketma-ket va parallel ulashdan deyarli farq qilmaydi.

Quyosh elementlarini ketma-ket ulash deb, birinchi elementning ikkinchi uchiga (manfiy qutbiga), ikkinchi elementning birinchi uchini (musbat qutbini) ulashga va shu tartibda davom etishiga aytiladi (1-rasm).



1-rasm. Quyosh elementlarini ketma-ket ulash



2-rasm. Quyosh elementlarini parallel ulash

Quyosh elementlarini parallel ulash deb, ikki yoki undan ko'p bo'lgan elementlarning o'xshash qutblarining (musbat qutbi musbat qutbiga, manfiysi manfiyga) mos holda ulashga aytiladi (2-rasm). 4 ta bir xil Quyosh elementi ketma-ket ulanib, tashqi zanjirga tutashtirilgan bo'lsin (3-rasm). Har qaysi elementning

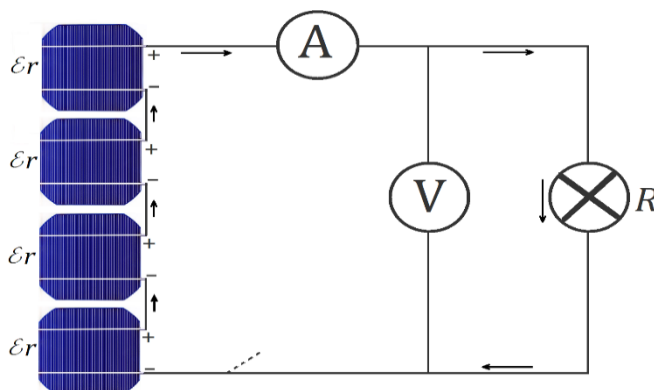
EYuK ini $\mathcal{E}_0$ orqali, uning ichki qarshiligini r_0 , tashqi zanjirning qarshiligini R orqali ifodalaymiz. Unda Kirxgofning ikkinchi qoidasi

$$I(R + 4r_0) = 4\mathcal{E}_0 \quad (1)$$

ni beradi. Bu formulani Om qonuni taqqoslab, ko'ramizki, element EYuKi $\mathcal{E}$ va ichki qarshiligini r bo'lgan xuddi bitta element kabi ishlaydi va ular quyidagi qiymatga ega:

$$\mathcal{E} = 4\mathcal{E}_0, \quad r = 4r_0 \quad (2)$$

Demak, n ta bir xil Quyosh elementi ketma-ket ulanganda elementlar batareyasining EYuK i $\mathcal{E}$ va ichki qarshiligi bitta elementga qaraganda n marta katta bo'lar ekan.



3-rasm. 4ta Quyosh elementi ketma-ket ulangan zanjir

Endi parallel ulangan Quyosh elementlarini ko'rib chiqamiz. Toklarning musbat yo'nalishini 4-rasmida ko'rsatilgandek tanlaymiz va tasvirlangan zanjirga

Kirxgofning ikkala qoidasini tatbiq qilamiz. b nuqta uchun birinchi qoida quyidagini beradi:

$$I = I_1 + I_2 + I_3 + \dots + I_m \quad (3)$$

Zanjirning alohida-alohida oddiy konturlarga ikkinchini qoidani tatbiq qilib quyidagilarni olamiz:

$$I_1 r_0 - I_2 r_0 = \varepsilon_0 - \varepsilon_0 = 0$$

$$I_2 r_0 - I_3 r_0 = 0$$

$$I_{m-1} r_0 - I_m r_0 = 0 \quad (4)$$

$$IR + I_m r_0 = \varepsilon_0$$

Bu tenglamalardan (oxirgisidan tashqari) quyidagini topamiz:

$$I_1 = I_2 = I_3 = \dots = I_m = \frac{I}{m} \quad (5)$$

Endi oxirgi tenglama quyidagini beradi:

$$I\left(R + \frac{r_0}{m}\right) = \varepsilon_0 \quad (6)$$

Bunday elementlar batareyasi xuddi bitta element kabi ishlashi ko'rinib turibdi, bu element uchun

$$\varepsilon = \varepsilon_0, \quad r = \frac{r_0}{m} \quad (7)$$

Demak, m ta bir xil Quyosh elementlari parallel ulanganda elementlar batareyasining EYuK i bitta elementning EYuK iga teng. Ichki qarshiligi esa bitta elementning ichki qarshiligidan m marta kam bo'lar ekan.

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BINOLARNI ENERGIYA TEJAMKOR QUYOSH KOLLEKTORLARIDAN FOYDALANILGAN HOLDA LOYIHALASH

***Annotatsiya:** Quyosh nurlanishini qabul qilgich turli izli quvurdan iborat bo'lib, unda issiqlik tashuvchi harakatlanadi, termodinamik sikl bo'yicha quyosh energiyani o'zgartirish, hosil bo'lgan issiqlik elektr energiyani ishlab chiqarish*

***Tayanch so'zlar:** energetika, gibrid, energiya, quyosh kollektori, generator, fotoelement, foydali ish koeffitsienti.*

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DESIGN OF BUILDINGS USING ENERGY-EFFICIENT SOLAR COLLECTORS

***Annotation:** The recipient of the solar radiation is a pipeline in which heat carries the heat, changing solar energy in the thermodynamic cycle, formation of thermal energy production*

***Keywords:** Energy, hybrid, energy, solar collector, generator, photoele, useful work coefficient.*

Hozirgi vaqtda juda ko'p turli xil quyosh energiyani issiqlik energiyaga o'zgartiruvchi sanoat va maishiy qurilmalari mavjud. Bunday qurilmalarga **quyosh issiqlik qurilmalar** deb ataladi.

Quyosh nurlanish energiyani issiqlikka o'zgartirish ikki yo'nalishlarda amalga oshiriladi:

1) quyosh energiyani to'g'ridan to'g'ri issiqlikka o'zgartirish, hosil bo'lgan issiqlik bevosita to'g'ridan turli xil ehtiyojlar uchun foydalaniladi;

2) termodinamik sikl bo'yicha quyosh energiyani o'zgartirish, hosil bo'lgan issiqlik elektr energiyani ishlab chiqarish uchun foydalaniladi.

Quyosh issiqlik qurilmalarining ishlash prinsipi quyosh nurlanishini qabul qiluvchi xira sirtning quyosh radiatsiyasini yutishiga asoslangan. Ushbu jarayon nur yutuvchi materialning turiga qarab ancha murakkab bo'lishi mumkin. Buning natijasida barcha to'lqin uzunligidagi nurlanish energiyasi issiqlikka o'zgaradi. Har xil turdagi qora yuzalarning nur yutish qobiliyati (80...98)% oraliqda yotadi va qolgan (2...20)% qismi esa qaytariladi.

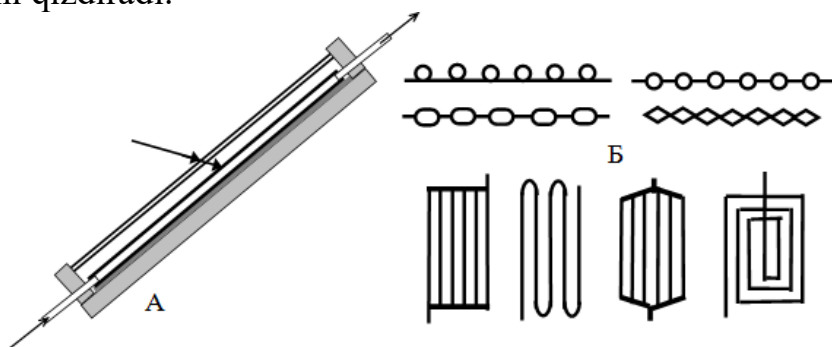
Shaffof qoplamadan o'tgan quyosh nurlanish issiqlik qabul qilgich bilan absorbsiyalanadi va uni qizdiradi. Issiqlikning bir qismi konveksiya va issiqlik o'tkazuvchanlik orqali qabul qilgich va yashikning boshqa qismlariga uzatiladi,

boshqa qismi esa infraqizil radiatsiyasi ko‘rinishida nurlanadi. Infraqizil nurlanish uchun shaffof qoplama tiniq emas. Shuning uchun yashik ichida temperatura ko‘tariladi, parnik (issiq xona) effekti hosil bo‘ladi.

Quyosh issiqlik qurilmalari temperatura rejimlariga qarab **past temperaturali** (100...130 °C temperaturalargacha ishlaydigan) va **yuqori temperaturali** (130 °C dan yuqori temperaturalarda ishlaydigan) qurilmalarga bo‘linadi.

Quyosh suvisitgichlari

Quyosh suvisitgichlari (QSI) - kollektorlari konstruktsiya tuzilishi bo‘yicha quyosh havoisitgichlariga o‘xshash va suvni 100 °S gacha isitish uchun mo‘jallangan (5.4-rasm). Quyosh nurlanishini qabul qilgich ilon izli quvurdan iborat bo‘lib, unda issiqlik tashuvchi harakatlanadi. Qabul qilgich va shaffof qoplama o‘rtasida berk havo oraliqli qatlam hosil qilinadi. Qabul qilgich yutgan quyosh nurlanishi energiyasi kollektorning quvurlaridagi issiqlik tashuvchisiga uzatiladi va uni qizdiradi.



2. A-Rasm. - suvisitgichli quyosh kollektorining sxemasi;

B - quyosh nurlanishini qabul qilgichlarning turli konstruksiyalari

Quyosh suvisitgichining issiqlik balansi (5.2)-(5.6) formulalar bilan aniqlanadi. Bunda ρ , C_p , W qiymatlar suv uchun qabul qilinadi; α - issiqlik qabul qilgich - suv chegarasidagi issiqlik berish koeffitsiyenti;

t_{xu} , t_b , t_o - kollektordagi suvning o‘rtacha massali, boshlang‘ich va oxirgi temperaturalari.

Qish faslida kollektorda suvning muzlashini bartaraf etish va korroziyaga bardoshligini oshirish maqsadida issiqlik tashuvchi sifatida antifrizlar va noorganik moylar ishlatiladi. Selektiv qoplamalar va vakuumlashtirilgan izolyatsiyalarni qo‘llashda issiqlik tashuvchining qizdirish temperaturasi 100...130 °S gacha ko‘tarish mumkin.

Turli xil past temperaturali qurilmalar asosida quyosh issiqxonalari, quritgichlari, suv chuchitgichlari, basseynlari, hovuzlari va boshqalari juda keng tatbiq etiladi. Janubiy mintaqalarda an‘anaviy energiya turlarini yetkazish qiyin bo‘lgan avtonom energiya iste‘molchilari uchun, energiya iste‘molida ekologik tozalik talab etiladigan va qishloq xo‘jalik mahsulotlari yetishtiriladigan joylarda quyosh qurilmalarning samaradorligi yuqori bo‘ladi.



3-Rasm Quyosh suvisitgich - kollektor

Quyosh issiqlik ta'minoti tizimlari

Quyosh nurlanishi energiyasidan isitish va issiq suv ta'minoti uchun foydalanishga asoslangan tizimlarga quyosh issiqlik ta'minoti tizimlari deyiladi. "Quyosh uyi" degan atama birinchi marta XX-asrning 30-chi yillarida AQShda quyoshning qishki past qiya nurlarini xona ichiga o'tishini ta'minlash maqsadida janubga yo'nalgan katta derazalardan foydalanila boshlangan paytda paydo bo'lgan. "Quyosh uylari"dan ko'p mamlakatlarda foydalaniladi. Quyosh isitish ta'minoti tizimiga ega bo'lgan eng ko'p obektlar AQSH, Fransiya, Germaniya, Isroil, Yaponiya, Xitoy, Hindiston va boshqa davlatlarda ishlatiladi. Respublikamizda ham bu sohada samarali loyihalar ishlab chiqilgan va ishlatilmoqda.

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METHODS OF TRAINING TECHNICAL-TACTICAL TRAINING OF BELT WRESTLERS

Annotation: *The author highlighted the importance of physical qualities and the process of acquiring skills and competencies through a complex of actions close to technical methods while highlighting the scientific and methodological aspects of the technical and tactical training of belt wrestlers.*

Keywords: *Sport, belt wrestling, technique, tactics, competition, improvement, methodology, development, method, action.*

The attention paid to the sport of belt wrestling in our republic is unparalleled. Especially among our people, the number of people involved in this national sport is also extremely high. Therefore, the fact that many problems in belt wrestling have not been sufficiently studied scientifically and theoretically is especially relevant in terms of the relevance of the time to study in detail the defenses and subtleties of the technical and tactical methods of belt wrestlers. Belt wrestling tactics are the skillful use of technical will and physical capabilities, taking into account the characteristics of the opponent in specific situations arising in competitions and tournaments. Preparations for an attack are the belt wrestler's offensive actions performed in order to provoke the opponent's expected and defensive action necessary for the execution of an attack. Tactical preparation methods are the belt wrestler's actions, with the help of which he creates favorable conditions for an attack or counterattack. Intelligence is the belt wrestler's tactical actions aimed at obtaining information about the opponent. Concealment is a tactical move by a belt wrestler, with the help of which he hides his true intentions from his opponent. Threatening is a tactical move by a belt wrestler, which forces his opponent to go on the defensive. Deceptive move (deception - methods, counter-methods, grabs, throws, pushes and other actions that are not completed by the attacker and force the opponent to defend himself. Deceptive move - a tactical move of a belt wrestler, showing the real method to the opponent as a deceptive method. Charlash - a tactical move of a belt wrestler, through which he forces the opponent to take active actions.

The uncompromising holding of the Olympic Games, which are considered the highest peak of sports competitions, as well as the world and Asian championships and other prestigious international competitions, is causing an increase in interest in sports among young people. All countries of the world are taking a number of measures to raise the level of state policy in physical education and sports among the population, to improve the health of the population and attract them to sports. The sharp increase in world-wide competition in wrestling has led to the scientific consideration of the problems of reviewing and improving the

optimal aspects of training athletes. A number of scientists are conducting scientific and practical research on the development of coordination abilities in the performance of technical and tactical movements of athletes involved in wrestling.

However, there has not been enough scientific research on increasing the effectiveness of technical and tactical methods in wrestlers using special coordination exercises aimed at improving strength and reaction speed. A number of resolutions and decrees have been developed in the republic aimed at the formation of a targeted system in the field of physical education and sports, the attention paid to youth, and the development of mass sports, which are considered a normative basis for regulating this area. The task is set to “further develop and popularize the national sport of wrestling among the population, especially minors and youth, strengthen the sense of national pride and patriotism in the growing generation, as well as promote a healthy lifestyle in society.”

The growing interest and competition among representatives of many nationalities in wrestling competitions held at the republican and world levels, taking into account the development of this sport, requires the systematic preparation of our wrestlers for competitions of various scales, the use of modern technologies to increase the efficiency of technical and tactical movements, and the development of a modular system of exercises aimed at developing the coordination abilities of children engaged in wrestling. Based on this, there is a need to develop and implement a set of tests that determine the abilities of the sport of wrestling. For this purpose, in today's scientific research, the development of coordination abilities using special sports equipment in improving the technical and tactical movements of young wrestlers is of particular importance. Decree of the President of the Republic of Uzbekistan No. PF-5368 dated March 5, 2018 “On measures to radically improve the state administration system in the field of physical education and sports”, No. PQ-4881 dated November 4, 2020 “On measures to develop the national sport of wrestling and further increase its international prestige”, No. PQ-3306 dated October 2, 2017 “On measures to further develop the national sport of wrestling”, No. PQ-3031 dated June 3, 2017 “On measures to further develop physical education and mass sports”, No. PQ-450 dated December 20, 2024 “On measures to bring the development and popularization of the national sport of wrestling to a new level” and other relevant resolutions in this area. This research serves to a certain extent in implementing the tasks set out in regulatory legal documents.

Many specialists in the field of sports theory and methodology - A.A. Ruziyev, T.S. Usmonkhodjayev, F. Kerimov, N. Yusupov, A.M. Achilov, M.A. Qurbonova, A.A. Pulatov and others - have covered the system of training young athletes in the field of theory and methodology of children's and youth sports in their manuals and textbooks, including the planning of loads and the development of training methods taking into account the age-specific characteristics of the children's body. The dissertation research conducted by J.M. Ishtayev, Sh.S. Mirzanov, Z.S. Artikov, M. Kyrgyzboyev and A.U. Khamidjanov for the degree of Doctor of Philosophy in Pedagogical Sciences in Wrestling comprehensively

studied the explosive ability of wrestlers, statokinetic and statodynamic balance, and selection problems. In a number of studies conducted on the topic in the Commonwealth of Independent States and abroad, V.I. Filimonov, V.P. Filin, V.G. Nikitushkin, A.G. Shiryayev, L.V. Volkov; V.Ye. Koteshev, D.A. Tishler, A.D. Movshovich, G.D. Tishler, T. Bompá, L.P. Fateyeva, L.V. Volkov, N.V. Lutkova, L.N. Mishina, O.P. Bauer, J. Hoffman J. Samuel, David Grácio Pedro, Paulo Martins, E.S. Ozolin, L.V. Bileyeva, A.V. Kanatov and others have emphasized the special importance of active games in the psychological, technical-tactical, general and special physical training of young athletes. The scientific significance of the research results is that, based on the pedagogical experiments conducted and the results obtained, modern tools and methods of training young wrestlers were developed and the scientific aspects of their use were revealed. In the process of scientific research, the inextricable link between the development of the basic movements of belt wrestlers using exercises aimed at balance, as well as the increase in the effectiveness of their technical movements, was practically proven. The information obtained provides an opportunity to enrich theoretical knowledge in the field of belt wrestling theory and methodology. The practical significance of the research results is that the widespread use of modern equipment to increase the effectiveness of the basic movements of belt wrestlers, as well as sports equipment used to develop the general technical and tactical training of wrestlers, allows for the correct formation of basic movements of athletes from the training stage of training, rational distribution of loads, and, as a result, increased effectiveness in training and competition activities at the later stages of training, and the implementation of the differentiated assessment scale testing methodology, a program for assessing technical and tactical preparation parameters in the training process.

Wrestling methods were formed and developed in accordance with the places of residence and conditions of the peoples and customs. The belt wrestling method (Fergana method) was formed among the peoples and nations living in the Eastern part of Central Asia, while the International Wrestling Method (Bukhara method) was formed among the peoples living in the Northern and Southern parts of Central Asia.

The development and popularization of wrestling methods was greatly influenced by the coexistence of peoples, the harmonization of their national traditions and customs. At the same time, the passage of the "Great Silk Road" through the territory of Central Asian countries also had a great influence on the development and popularization of physical exercises and martial arts among peoples. For example, wrestling methods similar to Fergana wrestling methods were formed among the Mongols and Kareys.

Wrestling methods have an ancient history, and today they are widespread in all countries of Asia and among a number of European nations. Eastern thinkers have written about wrestling methods, their formation, types and skilled wrestlers in their works. For example, in the "Baburnama", the famous commander and ruler of the Timurid dynasty, Muhammad Babur, describing one of his military

campaigns, wrote that wrestlers fought at the settlement; that the boatman wrestler Lahuri fought Dost Yosin with a wrestler named Khair; Dost Yosin defeated his opponent with great difficulty.

Babur highly appreciated the famous wrestler of that era, Muhammad Abu Said, and called him an unparalleled wrestler. Babur wrote in his memoirs that among his contemporaries there were people who could knock down a horse with one blow.

In Ibn Sina's "Canon of Medicine", wrestling methods are also described as follows. There are several types of wrestling. One of them: each of the two wrestlers grabs the belt of his opponent and pulls him towards him, while the wrestler tries to get rid of his opponent. The second one tries not to let go. Another type: one of the two wrestlers hugs the other tightly with both hands and pulls him towards him and turns him over, at this time he must pass under the right hand of the first wrestler, the wrestlers sometimes straighten their postures and sometimes bend over. The types of wrestling also include returning blows with the chest, holding another person by the neck and bending them down, entangling each other's legs with their own, or tearing each other's legs with their feet, and other movements that wrestlers use.

Our wrestlers have participated in world wrestling competitions since the beginning of the last century. They have defeated all their opponents in the wrestling arenas of foreign countries and European countries and have been recognized as unparalleled wrestlers.

The Uzbek land has long been considered a land of great scholars, wrestlers and champions. Our people are fundamentally different from other nations with their national pride, honor, hospitality and dignity. After gaining independence, the Republic of Uzbekistan gained the right to choose its own path of development in all areas. Many of our skilled athletes have won victories in international competitions and raised our flag high under the sounds of our national anthem, thus demonstrating their identity to the peoples of the world.

The current popularity of Uzbek wrestling methods is a sign that our national values are being restored and the eternal dreams of our ancestors are coming true.

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INCREASING THE EFFICIENCY OF LESSONS USING INNOVATIVE TECHNOLOGIES IN TEACHING MATHEMATICS

Annotation: *This article analyzes the role of innovative technologies in teaching mathematics and their impact on efficiency. The integration of artificial intelligence, virtual and augmented reality, gamification and distance learning technologies into the educational process is associated with the possibility of improving the quality of students' learning. The importance of using innovative approaches to deepen the understanding of mathematical concepts, the formation of individual learning strategies and increasing students' motivation for science is also emphasized.*

Keywords: *innovative technologies, mathematics education, artificial intelligence, virtual reality, gamification, distance learning, interactive learning.*

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MATEMATIKANI O'QITISHDA INNOVATSION TEXNOLOGIYALARNI QO'LLAB DARS SAMARADORLIGINI OSHIRISH

Annotatsiya: *Mazkur maqolada matematikani o'qitishda innovatsion texnologiyalarning o'rni va samaradorlikka ta'siri tahlil qilingan. Sun'iy intellekt, virtual va kengaytirilgan reallik, gamifikatsiya hamda masofaviy ta'lim texnologiyalarining o'quv jarayoniga integratsiyasi o'quvchilarning bilim olish sifatini yaxshilash imkoniyatlari bilan bog'liq. Shuningdek, innovatsion yondashuvlar yordamida matematik tushunchalarni chuqurroq o'zlashtirish, individual ta'lim strategiyalarini shakllantirish va o'quvchilarning fanga bo'lgan motivatsiyasini oshirish muhimligi ta'kidlangan.*

Kalit so'zlar: *innovatsion texnologiyalar, matematika ta'limi, sun'iy intellekt, virtual reallik, gamifikatsiya, masofaviy ta'lim, interfaol o'qitish.*

Zamonaviy jamiyatda ta'lim tizimining rivojlanishi innovatsion texnologiyalarning keng joriy etilishi bilan bevosita bog'liq. Ayniqsa, matematika fanini o'qitishda innovatsion yondashuvlar o'quvchilarning bilim olish jarayonini ancha samarali va qiziqarli qiladi. Matematikani o'qitishda innovatsion texnologiyalarni qo'llash, nafaqat an'anaviy dars usullaridan samaraliroq bo'lishi, balki talabalarning mantiqiy fikrlashini rivojlantirish, abstrakt tushunchalarni o'zlashtirish va ularga amaliy jihatdan yondashish imkonini beradi.

Innovatsion texnologiyalar yordamida matematikani o'qitish jarayoni interfaol dars usullarini, multimediya vositalarini, virtual laboratoriyalarni va sun'iy intellekt asosidagi dasturlarni o'z ichiga oladi. Bugungi kunda ko'plab zamonaviy ta'lim muassasalarida matematik modellarni yaratish, murakkab matematik tushunchalarni animatsiyalar yordamida tushuntirish va onlayn platformalarda masalalarni hal qilish kabi usullar keng qo'llanilmoqda. Masalan, GeoGebra, Desmos va MATLAB kabi dasturlar yordamida o'quvchilar matematik formulalar va grafiklarni vizual tarzda tahlil qilish imkoniyatiga ega bo'ladilar. Bu esa o'quv jarayonining interfaolligini oshirib, nazariy bilimlarni mustahkamlashga xizmat qiladi.

Matematikani o'qitishda virtual va kengaytirilgan reallik texnologiyalaridan foydalanish ham dars samaradorligini oshiruvchi vositalardan biri sifatida qaralmoqda. Virtual reallik yordamida o'quvchilar matematik modellarni uch o'lchamli makonda ko'rib chiqishlari, dinamik jarayonlarni realistik ko'rinishda kuzatishlari mumkin. Bu ayniqsa, geometriya, algebra va differensial tenglamalar kabi mavzularni tushuntirishda juda samarali usul hisoblanadi. Virtual muhitda o'quvchilarga masalalarni amaliy hal qilish imkoniyati yaratiladi, natijada ularning fanga bo'lgan qiziqishi ortadi va mavzularni chuqurroq o'zlashtirish imkoniyati paydo bo'ladi.

Matematika ta'limida sun'iy intellekt texnologiyalarining joriy etilishi ham muhim innovatsion yo'nalishlardan biridir. Bugungi kunda ko'plab sun'iy intellekt asosida ishlaydigan o'quv platformalari mavjud bo'lib, ular individual o'quv yondashuvini shakllantirish imkoniyatini beradi. Bunday platformalar o'quvchilarning bilim darajasini avtomatik ravishda baholaydi, xatolarini tahlil qiladi va ularni tuzatish bo'yicha moslashtirilgan topshiriqlar taklif qiladi. Masalan, Khan Academy, Coursera va EdX kabi platformalarda sun'iy intellekt algoritmlari har bir o'quvchining ehtiyojlariga mos ravishda dars materiallarini taklif qiladi. Bu esa ta'lim jarayonini shaxsiylashtirish va har bir o'quvchining bilim olish jarayonini samarali tashkil qilishga yordam beradi.

Innovatsion texnologiyalar asosida matematikani o'qitishda gamifikatsiya usuli ham katta ahamiyatga ega. Gamifikatsiya — bu ta'lim jarayoniga o'yin elementlarini kiritish orqali o'quvchilarning qiziqishini oshirish va ularni faol ishtirok etishga undash usulidir. Matematikani o'yin shaklida o'qitish, masalan, turli xil interfaol testlar, topshiriqlar va raqobat elementlarini o'z ichiga olgan mobil ilovalar orqali amalga oshiriladi. Duolingo, Photomath va Brilliant kabi ilovalar matematik masalalarni qiziqarli va oson tushunarli usulda o'rgatishga xizmat qiladi.

Bunday yondashuv o'quvchilarning darslarga bo'lgan motivatsiyasini oshirib, ular orasida mustaqil o'rganish ko'nikmalarini rivojlantirishga imkon yaratadi.

Innovatsion texnologiyalar yordamida matematikani o'qitishning yana bir muhim jihatida bu masofaviy ta'lim imkoniyatlarini kengaytirishdir. Internet va raqamli platformalar rivojlanganligi sababli bugungi kunda dunyoning istalgan nuqtasidan turib sifatli ta'lim olish mumkin bo'lib qoldi. Masalan, Zoom, Google Classroom va Microsoft Teams kabi platformalar orqali matematik darslarni onlayn tarzda tashkil qilish mumkin. Onlayn ta'lim nafaqat pandemiya kabi favqulodda holatlarda muhim rol o'ynaydi, balki geografik jihatdan uzoq hududlarda yashovchi o'quvchilarga ham ta'lim olish imkoniyatini yaratadi.

Innovatsion texnologiyalarni matematikani o'qitishda qo'llash o'qituvchilar uchun ham yangi imkoniyatlarni ochadi. Raqamli vositalardan foydalangan holda darslarni loyihalash, o'quv materiallarini interfaol shaklda tayyorlash va o'quvchilarning bilimlarini real vaqt rejimida tahlil qilish imkoniyati paydo bo'ladi. Bundan tashqari, o'qituvchilar uchun sun'iy intellekt yordamida avtomatlashtirilgan baholash tizimlari ishlab chiqilgan bo'lib, ular o'quvchilarning ishlash faoliyatini tahlil qilish va ularga mos yondashuv taklif qilishga yordam beradi. Bu esa o'qituvchilarni ortiqcha qog'ozbozlikdan ozod qilib, dars jarayoniga ko'proq e'tibor qaratishlariga imkon yaratadi.

Matematikani o'qitishda innovatsion texnologiyalarni joriy etishning muhim afzalliklaridan biri bu ta'lim jarayonining aniq natijalarga yo'naltirilganligini ta'minlashdir. An'anaviy dars metodlaridan farqli o'laroq, innovatsion yondashuvlar orqali har bir o'quvchining rivojlanish dinamikasini kuzatish va unga individual yondashuv taklif qilish mumkin bo'ladi. Shu bilan birga, texnologik yondashuvlar yordamida o'quv jarayonini tahlil qilish va uning samaradorligini oshirish bo'yicha ilmiy tadqiqotlar olib borish imkoniyati paydo bo'ladi.

Xulosa qilib aytganda, matematikani o'qitishda innovatsion texnologiyalarni qo'llash dars samaradorligini sezilarli darajada oshiradi. Interfaol platformalar, sun'iy intellekt, virtual reallik, gamifikatsiya va masofaviy ta'lim vositalari yordamida ta'lim jarayoni yanada qiziqarli, tushunarli va samarali bo'ladi. Ushbu texnologiyalar o'quvchilarning mustaqil fikrlashini rivojlantirish, ularni amaliy jihatdan tayyorlash va zamonaviy bilimlarga ega bo'lishiga xizmat qiladi. Shuning uchun ta'lim tizimida innovatsion texnologiyalarni keng joriy etish hozirgi zamonning dolzarb ehtiyojlaridan biri bo'lib qolmoqda.

Matematikani o'qitishda innovatsion texnologiyalarni qo'llash dars samaradorligini oshirishning eng muhim yo'nalishlaridan biri hisoblanadi. Zamonaviy ta'lim jarayonida interfaol texnologiyalar, sun'iy intellekt, virtual va kengaytirilgan reallik, gamifikatsiya hamda masofaviy ta'lim usullari keng joriy etilmoqda. Ushbu texnologiyalar o'quvchilarning fanga bo'lgan qiziqishini oshirib, ularning mustaqil o'rganish va mantiqiy fikrlash ko'nikmalarini rivojlantirishga yordam beradi. Innovatsion yondashuvlar orqali har bir o'quvchining ehtiyojiga mos o'quv dasturlarini ishlab chiqish, ularning bilim darajasini individual tarzda baholash va rivojlantirish mumkin.

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KICHIK YOSHDAGI TARBIYALANUVCHILARDA EKOLOGIK DUNYOQARASHNI SHAKLLANTIRISHNING DIDAKTIK IMKONIYATLARINI SHAKLLANTIRISH

***Annotatsiya.** Maktabgacha yoshdagi bolalarda ekologik dunyoqarashni shakllantirish bugungi kunda dolzarb muammolardan biri hisoblanadi. Chunki bolalikda qo'yilgan ekologik tarbiya poydevori kelajakda atrof-muhitga ongli munosabatni shakllantirishda asos bo'ladi. Bu borada didaktik vositalar va metodlar muhim rol o'ynaydi.*

***Kalit so'zlar va tushunchalar:** ekologik dunyoqarash, maktabgacha ta'lim yoshi, atrof-muhit, ta'lim va tarbiya, tabiat, obyektlar, kuzatish, o'yin faoliyati, hissiy bilish, jamiyat.*

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THE FORMATION OF DIDACTIC OPPORTUNITIES FOR THE FORMATION OF AN ECOLOGICAL WORLDVIEW IN YOUNG ADULTS

***Annotation.** The formation of an ecological worldview in preschool children is one of the pressing problems today. Because the foundation of Environmental Education laid in childhood is the basis for the formation of a conscious attitude to the environment in the future. Didactic tools and methods play an important role in this regard.*

***Keywords and concepts:** ecological worldview, preschool age, environment, education and upbringing, nature, objects, observation, game activity, emotional cognition, society.*

Maktabgacha yoshdagi bolalarni tabiat bilan tanishtirish jarayonida tabiatga nisbatan ehtiyotkorlik bilan munosabatda bo'lishni tarkib toptirishga katta e'tibor beriladi. Bolalar tabiat haqida juda bo'lmaganda ilk bilimlarni egallab olib, o'simliklarni o'stirish, hayvonlarni parvarish qilishning oddiy usullarini o'rganib, tabiatni kuzatish, uning go'zalliklarini ko'ra olishni bilib olgan taqdirdagina ularda tabiatga nisbatan mehr-muhabbat va g'amxo'rlik munosabatida bo'lishni tarbiyalash imkoniyati tug'iladi.

Didaktik vositalarning ahamiyati: Didaktik vositalar bolalarning ekologik bilimlarini egallashda, tabiat hodisalariga nisbatan qiziqishini oshirishda, ongli va barqaror munosabat shakllantirishda muhim ahamiyat kasb etadi. Bular quyidagilarni o'z ichiga oladi:

- Ko'rgazmali vositalar (rasmlar, maketlar, videotasmalar)
- Interaktiv o'yinlar (ekologik tematikadagi rolly o'yinlar)
- Didaktik o'yinlar (masalan, "Qaysi hayvon qayerda yashaydi?", "Toza yoki iflos?")

- Tabiiy materiallar bilan ish (barg, gul, tosh, urug'lar orqali tajribalar)

Ko'rgazmali vositalar — bu bolalarning ko'z bilan idrok etishiga asoslangan, real yoki sun'iy ravishda yaratilgan tasviriy, hajmli yoki harakatli vositalardir. Ular bolalarga mavzuni tezroq, aniqroq va esda qolarli shaklda tushunishga yordam beradi.

Ularning asosiy afzalliklari:

- E'tiborni tortadi va saqlab turadi
- Tushunishni osonlashtiradi
- Emotsional taassurot qoldiradi
- Amaliy tajriba olish imkonini beradi
- Bolalarda ekologik sezgirlikni kuchaytiradi
- Interaktiv o'yinlar, ayniqsa ekologik tematikadagi rolly o'yinlar, maktabgacha yoshdagi bolalarda ekologik tafakkur, tasavvur va mas'uliyat hissini rivojlantirishda juda katta ahamiyatga ega. Quyida bu turdagi o'yinlar haqida batafsil ma'lumot beraman:

Rolli o'yinlar — bu bolalar turli hayvonlar, o'simliklar, tabiat hodisalari yoki insonlar (masalan, bog'bon, ekolog, qo'riqchi) rolda harakat qiladigan o'yinlar bo'lib, ular orqali bolalar muayyan mavzuni chuqurroq anglaydi va o'ziga xos emotsional tajriba orttiradi.

Didaktik o'yinlar: Mohiyati va vazifalari bolalarga ekologik tushunchalarni sodda va qiziqarli shaklda o'rgatish, tabiatga nisbatan hurmat va g'amxo'rlik tuyg'ularini shakllantirish, tahlil qilish, taqqoslash, tasniflash, qaror qabul qilish kabi fikrlash ko'nikmalarini rivojlantiradi.

Mashhur ekologik didaktik o'yinlar namunasi:

1. "Qaysi hayvon qayerda yashaydi?"

Maqsad: hayvonlar yashash muhitini to'g'ri aniqlash

Vositalar: rasmlar (hayvonlar, o'rmon, daryo, cho'l, qutb)

O'yin sharti: Har bir bola rasmni olib, uni kerakli yashash joyiga qo'yadi

Natija: hayvonot olami haqida bilim va klassifikatsiya ko'nikmasi shakllanadi

2. "Toza yoki iflos?"

Maqsad: ekologik tozalikka nisbatan munosabatni shakllantirish

Vositalar: rasimli kartochkalar (iflos daryo, toza bog', axlat tashlangan o'rmon, toza ko'cha)

O'yin sharti: bolalar rasmlarni ikki guruhga ajratadi – "toza" va "iflos"

Qo'shimcha savol: "Nega bu joy iflos?", "Uni qanday tozalash mumkin?"

3. “Tabiat – do‘stimiz”

Maqsad: tabiatga foydali va zararli harakatlarni ajratish

Vositalar: rasmi kartochkalar (daraxt ekish, axlat tashlash, qushlarga don berish)

O‘yin sharti: Har bir bola o‘z kartasini ko‘rsatib, bu tabiat uchun foydali yoki zararli ekanini aytadi

Rivojlantiradi: axloqiy-psixologik sezuvchanlik

4. “Chiqindilarni ajratamiz”

Maqsad: chiqindilarni to‘g‘ri saralashni o‘rgatish

Vositalar: turli chiqindilar (qog‘oz, plastmassa, shisha) va tegishli qutilar (ko‘k, yashil, sariq)

Shart: Har bir bola chiqindini mos qutiga joylashtiradi

Yordam: ekologik madaniyatni shakllantirish

5. “Faslni tanib ol”

Maqsad: fasllarning tabiatga ta’sirini anglash

Vositalar: fasllar va ularga xos belgilar (qor, barglar, gullar, qushlar)

Shart: Bola belgilar asosida qaysi fasl tasvirlanganini aytadi

Natija: mavsumiy o‘zgarishlarni tushunish, kuzatuvchanlikni rivojlantirish

Tabiiy materiallar bilan ish – bu maktabgacha yoshdagi bolalarda ekologik dunyoqarashni shakllantirishning juda muhim va samarali usullaridan biri. Bolalar bevosita tabiat bilan ishlash orqali uni his qiladi, anglaydi, qadrlaydi va unga nisbatan g‘amxo‘r bo‘lishga o‘rganadi.

Quyida tabiiy materiallar orqali ishlashning didaktik imkoniyatlari, mashg‘ulot shakllari va misollarini keltiraman:

1. TABIIY MATERIALLAR BILAN ISHLASHNING MAQSADI:

Bolalarga tabiatdagi obyektlarni bevosita ko‘rib, ushlab, his qilish imkoniyatini yaratish

Tabiatdagi xilma-xillikni o‘rganish (barglar, gullar, urug‘lar, toshlar)

Ekologik qadriyatlarni (asrash, tejash, qayta ishlash) singdirish

Kichik tajribalar orqali kuzatish, solishtirish, xulosa chiqarish ko‘nikmalarini rivojlantirish

2. ISHLATILADIGAN TABIIY MATERIALLAR:

Material	Foydalanish yo‘li
Barglar	Bargni bosma qilish, turlarni solishtirish, gerbariy
Gullar	Ranglarni ajratish, quritish, kompozitsiya yasash
Toshlar	Rang, shakl bo‘yicha tasniflash, san’at asarlari qilish
Urug‘lar	Nihol chiqarish tajribasi, urug‘ning tuzilishi
Shoxcha, po‘stloq	Tabiiy haykalchalar yaratish, tuyg‘ular ifodasi

Maktabgacha yoshdagi bolalarda ekologik dunyoqarashni shakllantirish uchun didaktik imkoniyatlardan to‘g‘ri foydalanish muhim. Bu vositalar orqali

bolalar tabiatni sevish, asrash va unga ongli munosabatda bo'lishga o'rganadilar. Bu esa ularning kelajakdagi ekologik madaniyatini shakllantirish uchun mustahkam asos bo'ladi.

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CONTROL ALGORITHMS AND MODERN PROGRAMS OF MODULES

Annotation: *Until recently, despite the relatively lower complexity, energy efficiency, and reliability compared to AC machines, DC machines have been commonly used as driving motors in most controlled electrical drives. The course "Power Electronics and Supply Sources for Electromechanical Systems" covers devices like semiconductor-controlled rectifiers, inverters, reversers, and frequency converters. A common feature of these devices is their control via special ventilation control systems. Initially, autogenerators and multivibrator circuits were used to control the power switches such as thyristors (or more recently IGBT transistors), but now, microprocessor-controlled circuits are widely used. The evolution of control methods and circuits is explored in detail, with applications for various control systems in electromechanical and power electronics contexts.*

Keywords: *DC machines, AC machines, semiconductor-controlled rectifiers (SCR), inverters, frequency converters, thyristors, IGBT transistors, microprocessor control, power electronics, electromechanical systems, autogenerators, control systems, electrical drives, energy efficiency, ventilation control systems.*

Introduction

Until recently, almost all adjustable electric drives utilized direct current (DC) machines as the driving motor, despite their lower energy efficiency, more complex construction, and lower reliability compared to alternating current (AC) machines. The subject *"Power Conversion Technology and Power Supply Sources of Electromechanical Systems"* covers devices such as semiconductor-controlled rectifiers, inverters, reversible converters, and frequency converters. Initially, the thyristors (or more recently, IGBT transistors) used as power switches in these devices were controlled using self-oscillators and multivibrator circuits. However, in more recent developments, microprocessor-based circuits have become widely used for this purpose.

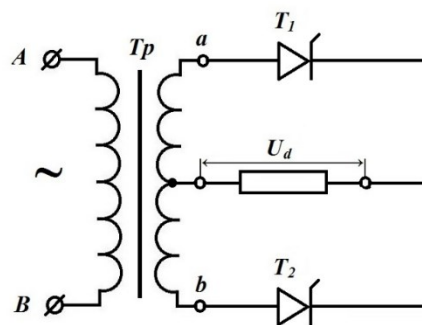


Figure 1. A Simple Controlled Semiconductor Circuit.

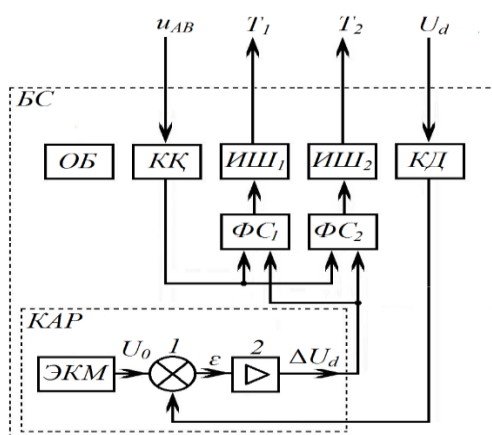


Figure 2. Operating Principle of a Controlled Semiconductor

OB — power supply unit, KQ — input device, a center-tapped transformer with two half-windings, FS1, FS2 — phase-shifting devices, KAR — automatic voltage regulation, EKM — reference voltage source, KD — voltage sensor, 1 — summing device, 2 — amplifier, ISh1, ISh2 — pulse shapers

PROBLEMS

Complexity of AC Machines and Control Limitations: Although AC machines offer high complexity, energy efficiency, and reliability, they come with challenges in control systems. In contrast, DC machines have a simpler construction and more convenient operating conditions, but their control capabilities are limited.

Technical Aspects of Semiconductor-Controlled Converters: The need to further develop the working principles of semiconductor-controlled rectifiers and inverters, improve their efficiency, and achieve energy savings requires the creation of new control systems.

Development of Microprocessor-Based Control Systems: Initially, autogenerators and multivibrator circuits were used, but today microprocessor-based control systems are widely employed. The development and optimization of these systems to improve their speed and accuracy present ongoing challenges.

Advantages and Issues with Vector Control: The primary aim of vector control methods is to control the rotor magnetic flux and optimize the electromagnetic torque. However, the technical and economic limitations, along

with the complexity of applying this method in practice, could pose significant challenges.

Efficiency of Control Systems for Converter Devices: There is a need to develop control systems for converter devices and resolve issues between multi-channel and single-channel systems to improve overall performance and efficiency.

MAIN PART

The main reason for the need for vector control is that the squirrel-cage induction motor is the most popular, inexpensive to manufacture, reliable and least demanding during operation (there is no mechanical collector or slip rings in the design), and its speed is difficult to adjust. For this reason, it was initially used in uncontrolled drives or with mechanical adjustment (speed changer). Special multi-speed induction machines allowed for step-by-step (from two to five) speed changes, but their cost was much higher than usual, in addition, a special control station was used for such motors, which further increased the cost of the control system. Despite the high consumption, it was not possible to maintain a constant engine speed when the load changed. Later, methods for adjusting the speed of a squirrel-cage induction motor were developed (scalar control). During transient processes, the interaction of the rotor (rotating magnet) with the current changes during scalar control (when the stator and rotor currents change), which leads to a decrease in the rate of change of the electromagnetic torque and a deterioration in dynamic characteristics.

The idea of vector control is to create a system for controlling a short-circuited rotor induction motor in which the torque and magnetic flux can be controlled separately, as in a DC motor. In this case, the interaction between the magnetic flux and the rotor is kept constant and, importantly, the change in electromagnetic torque is maximized.

Control systems for transformers.

In a broad sense, a control system for transformers is understood as a set of functional units and elements. These units and elements must ensure the performance of the following tasks and functions:

- control of the nonlinear elements of the power units of the transformer that perform the conversion process;

- adjustment of the parameters of the output units of the transformer;

- connection (to the circuit), disconnection (disconnection from the circuit) of the transformer and distribution of electrical energy between individual consumers;

- control of the protective devices of the transformer and its components;

- provision of information about the operation of the transformer when used in an automated power supply system.

The system that monitors the operability of the transformer and its components is sometimes included in the control system.

Although various converters - rectifiers, frequency converters, autonomous inverters, etc. - differ in their respective functions, they have a common similarity - the diagrams show the power source without indicating its connection to other functional units.

Rectifiers, network-connected inverters and other valve converters can be generally divided into two groups: multi-channel and single-channel converters.

In multi-channel structures of control systems, the phase of the opening pulses (i.e., the control angle) is adjusted in each control channel. The number of such channels is usually equal to the number of controlled valves in the circuit or the number of phases of the circuit. In single-channel structures, the phase of the opening pulses is adjusted in a channel common to all valves and is distributed among the valves of the circuit. It is better to carry out such a classification of the control system only for multi-phase converters consisting of a large number of valves. The multi-channel structure of the control system is the most common.

In thyristor converters, the main function of the control system is to generate opening pulses on the control electrodes of the thyristors of the circuit based on a certain program. The requirements for the pulse parameters are determined by the types of thyristors, the circuit in which the thyristor is used, and its operating mode. For reliable connection of the thyristor, it is necessary to provide such current and voltage values at the control electrode that these values are within the guaranteed connection range, taking into account the voltage, current, and peak power dissipation at the control electrode.

Depending on the circuit in which the thyristors are used, the opening pulses can have different shapes and lengths. The most common opening pulses are rectangular pulses. The minimum duration of the opening pulses is determined by the time it takes for the thyristor anode circuit to rise to the value of the turn-on current. This current value is usually 2-3 times greater than the turn-off current. When the circuit switched by the thyristor has an active resistance, this time is practically the same as the turn-on time of the thyristor, that is, this time falls in the range from several microseconds to several tens of microseconds. The presence of inductance in the anode circuit can further increase the minimum required pulse length compared to the thyristor turn-on time.

During the interval between opening pulses, it is advisable to apply a small closing voltage (negative voltage) to the control electrodes of the thyristors. The turn-off voltage allows you to increase the resistance of thyristors to false opening pulses.

SOLUTIONS

Complexity reduction in AC (induction and synchronous) motor control:

It is recommended to employ advanced simulation and computation-based platforms. For example, using environments like MATLAB/Simulink combined with DSP- or FPGA-based real-time controllers enables efficient implementation of complex model-based control algorithms. These approaches help reduce control complexity by enabling high-fidelity modeling and automation of the control system. In addition, implementing both sensor-based and sensorless vector control methods can improve system stability. For instance, an observer-based vector control scheme with rotor flux and torque observers has been shown to minimize copper and magnetic losses, thereby improving energy efficiency

Improving semiconductor converter technology: Employing wide-bandgap semiconductor technologies (SiC, GaN) can significantly increase converter efficiency. These devices are designed for high-voltage and high-frequency operation, reducing losses compared to traditional silicon components. Furthermore, using multilevel inverter topologies and modular converter designs can suppress noise and harmonics, improving power quality. Such enhancements allow reduction in converter control complexity and enable more compact system designs.

Advancement of microprocessor-based control systems: It is advised to use high-performance multicore microcontrollers and DSPs in control platforms. Real-time operating systems (RTOS) and high-speed ADC/PWM modules can enhance the precision and responsiveness of the control system. It has been demonstrated that modern microcontroller-based variable-speed drives can reduce energy consumption by approximately 30% compared to older drives. Additionally, incorporating Internet-of-Things (IoT) technologies and remote monitoring capabilities can improve diagnostics and maintenance efficiency.

Solutions for vector and scalar control challenges: To improve robustness against parameter variations and external disturbances in vector control, model-reference adaptive algorithms (e.g., MRAS) and fuzzy logic or neural-network-based methods are recommended. Attention should also be given to sensorless control systems to reduce the number of physical sensors and simplify the system. For example, a vector control scheme supported by rotor flux and torque observers can ensure minimal losses while keeping the system at an optimal operating point. Nonlinear control strategies (such as model-predictive control) that account for system nonlinearities may also be implemented.

Enhancing converter control efficiency: Implement optimized PWM algorithms, dedicated filtering, and dynamic load balancing in power converters. These measures provide precise torque control and stable operation for high-frequency drives. Moreover, improving thermal management (e.g., high-efficiency cooling) and strengthening current protection algorithms increases overall device reliability. Such optimization methods, including load sharing and energy-saving control strategies, help reduce losses during power conversion.

Discussion

The advancement of modern electric drive and motor control systems presents not only significant opportunities but also notable challenges. Developing and implementing high-precision control algorithms for traditional AC motors in real-world applications involves technical complexity and cost-related concerns. Particularly in vector control, maintaining system stability under varying operating conditions such as temperature and load fluctuations remains a critical issue due to the reliance on sensors and observers.

While wide-bandgap semiconductor devices like SiC and GaN offer promising improvements in energy efficiency and reliability, their higher costs currently limit widespread adoption. On the other hand, the development of microprocessor and DSP technologies enables simplified real-time control systems

with faster response rates, though this requires advanced programming and engineering expertise.

Overall, technological advancements in converter and motor control fields are paving the way toward energy-efficient, reliable, and environmentally friendly solutions. However, achieving these outcomes demands systematic, multidisciplinary approaches and the development of sophisticated control algorithms tailored to real-world conditions.

Conclusion

The analysis indicates that the future development of electric drive and motor control systems is closely tied to the integration of advanced semiconductor technologies, modern microprocessors, and intelligent control algorithms. By applying sensorless vector control methods, energy-efficient converter topologies, and real-time operating systems, it is possible to reduce system complexity and improve reliability. Moreover, it is essential to thoroughly analyze the practical aspects of each technical solution, considering economic feasibility and operating conditions. Future research should focus on simplifying complex systems and promoting the widespread adoption of cutting-edge technologies.

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**“TIRIK ORGANIZMLARNING ASOSIY BIOPOLIMERLARI OQSIL VA
NUKLEIN KISLOTALAR MAVZUSINI O'QITISHDA INTERFAOL
METODLARDAN FOYDALANISH” MAVZUNI PEDAGOGIK
TEXNOLOGIYALAR ASOSIDA O'QITISH VA SAMARADORLIGINI
TA'MINLASH YO'LLARI**

***Annotatsiya:** Maqolada ta'lim jarayonida zamonaviy pedagogik texnologiyalarning, xususan, “INSERT”, “BBB”, “Aqliy hujum”, “Venn diagrammasi”, “Kichik guruhlarda ishlash” kabi interfaol metodlarning qo'llanilishi muhokama qilinadi. Ayniqsa, “Biokimyo va molekulyar biologiya” fanini o'qitishda ushbu metodlar orqali talabalar bilimini mustahkamlash, ularning mustaqil fikrlashi va amaliy ko'nikmalarini rivojlantirish imkoniyatlari tahlil qilingan. Har bir metodning mohiyati, qo'llanilishi va samaradorligi haqida tavsiyalar berilgan.*

***Kalit so'zlar:** zamonaviy pedagogik texnologiyalar, interfaol metodlar, INSERT, BBB, aqliy hujum, biokimyo, molekulyar biologiya, kichik guruhlarda ishlash, ta'lim samaradorligi.*

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**WAYS TO TEACH THE TOPIC 'MAIN BIOPOLYMERS OF
LIVING ORGANISMS: PROTEINS AND NUCLEIC ACIDS' USING
INTERACTIVE METHODS BASED ON PEDAGOGICAL
TECHNOLOGIES AND ENSURING ITS EFFECTIVENESS**

***Annotation:** The article explores the application of modern pedagogical technologies such as the “INSERT”, “BBB”, “Brainstorming”, Venn diagram, and small group work methods in the educational process. It specifically focuses on teaching the subject “Biochemistry and Molecular Biology” using interactive techniques that enhance students' knowledge retention, independent thinking, and*

practical skills. Recommendations are provided for the effective implementation of each method.

Keywords: *modern pedagogical technologies, interactive methods, INSERT, BBB, brainstorming, biochemistry, molecular biology, small group work, teaching effectiveness.*

Hozirgi vaqtda ta'lim jarayonida o'qitishning zamonaviy metodlari keng qo'llanilmoqda. O'qitishning zamonaviy metodlarini qo'llash o'qitish jarayonida yuqori samaradorlikka erishishga olib keladi. Ta'lim metodlarini tanlashda har bir darsning didaktik vazifasidan kelib chiqib tanlash maqsadga muvofiq sanaladi.

An'anaviy dars shaklini saqlab qolgan holda, unga turli-tuman ta'lim oluvchilar faoliyatini faollashtiradigan metodlar bilan boyitish ta'lim oluvchilarning o'zlashtirish darajasining ko'tarilishiga olib keladi. Buning uchun dars jarayoni oqilona tashkil qilinishi, ta'lim beruvchi tomonidan ta'lim oluvchilarning qiziqishini orttirib, ularning ta'lim jarayonida faolligi muttasil rag'batlantirilib turilishi, o'quv materialini Kichik-Kichik bo'laklarga bo'lib, ularning mazmunini ochishda "Aqliy hujum", "Kichik guruhlarda ishlash", "Bahs-munozara", "Muammoli vaziyat", "Yo'naltiruvchi matn", "Rolli o'yinlar" kabi metodlarni qo'llash va ta'lim oluvchilarni amaliy mashqlarni mustaqil bajarishga undash talab etiladi.

Talabalarning o'zlashtirgan bilimlarini amaliyotga qo'llashda ko'nikma va malakalar muhim rol o'ynaydi. Ko'nikma va malakalarni til bilan tushuntirib bo'lmaydi, ularni amaliy faoliyatda ko'rsatish kerak bo'ladi. Shu sababli inson hayotining asosini faoliyat usullari (ko'nikma va malakalar) tashkil etib, u talabalarning muhim sifati sanaladi. Ularning dunyo haqidagi bilimlarida, bu borada tushunchalarni tarkib toptirishda xilma-xil ta'lim uslublari, vositalaridan unumli foydalanishga to'g'ri keladi.

"Biokimyo va molekular biologiya" fani ta'limida foydalanilishi mumkin bo'lgan lokal darajadagi texnologiyalar jumlasiga "Keys", "Insert", "Klaster", "Aqliy hujum", Venn diagrammasi, "Kichik guruhlarda ishlash", "Atamalar zanjiri", "Atamalar varag'i", "Tezkor o'yinlar", o'yin mashqlarining turli shakllari va boshqalarni kiritish mumkin.

"Insert" metodi.

"INSERT" - mustaqil o'qish vaqtida olgan ma'lumotlarni, eshitgan ma'ruzalarni tizimlashtirishni ta'minlaydi; olingan ma'lumotni tasdiqlash, aniqlash, chetga chiqish, kuzatish. Avval o'zlashtirgan ma'lumotlarni bog'lash qobiliyatini shakllantirishga yordam beradi. O'qish jarayonida olingan ma'lumotlarni alohida o'zlari tizimlashtiradilar - jadval ustunlariga "kiritadilar" matnda belgilangan quyidagi belgilarga muvofiq:

"V"- men bilgan ma'lumotlarga mos;

"-" - men bilgan ma'lumotlarga zid;

"+" - men uchun yangi ma'lumot;

"?" - men uchun tushunarsiz yoki ma'lumotni aniqlash, to'ldirish talab etiladi.

Dastur mazmunidagi faqat faktik materiallarni o‘rganish nazarda tutilgan mavzularda insertdan foydalanish tavsiya etiladi. Insert - lokal darajadagi pedagogik texnologiya bo‘lib, talabalar tomonidan o‘quv materialidagi asosiy g‘oya va faktik materiallarni anglashga zamin yaratish maqsadida qo‘llaniladi.

“Insert” metodi.

“V”- men bilgan ma’lumotlarga mos;	“+” - men uchun yangi ma’lumot	“-“ - men bilgan ma’lumotlarga zid	“?” - men uchun tushunarsiz yoki ma’lumotni aniqlash, to‘ldirish talab etiladi.

Bugungi kun ta’lim jarayonida keng qo‘llanilayotgan metodlardan biri “BBB” metodi hisoblanadi. Bu metod ma’ruza darslar uchun ayniqsa qulay. O‘qituvchi mavzu bo‘yicha asosiy tushunchalar va iboralar ro‘yxatini talabalarga taqdim etadi. Talabalar o‘zlari biladigan va bilmaydigan tushunchalar va iboralar bilan namunadagi jadvalni to‘ldiradilar. Biz tadqiq qilayotgan “Tirik organizmlarning asosiy biopolimerlari oqsil va nuklein kislotalar mavzusini o‘qitishda interfaol metodlardan foydalanish” mavzusini o‘qitishda “BBB” jadvali quyidagi ko‘rinishda bo‘lishi mumkin:

“Tirik organizmlarning asosiy biopolimerlari oqsil va nuklein kislotalar mavzusini o‘qitishda interfaol metodlardan foydalanish”

Bilaman	Bilishni xohlayman	Bilib oldim

Biologiya sohasidagi fanlarni o‘qitishda ta’limning an’anaviy turlari bilan bir qatorda yangi pedagogik texnologiyalardan, tabiiy ko‘rgazmali vositalar bilan birga tasvirli ko‘rgazma vositalaridan ham unumli foydalanish maqsadga muvofiq.

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O'ZBEKISTON RESPUBLIKASINING SANOAT TARMOG'INING QO'SHILGAN QIYMATI TARKIBI DINAMIKASINING STATISTIK TAHLILI

***Annotatsiya.** Maqolada O'zbekiston Respublikasining sanoat tarmog'ining qo'shilgan qiymati tarkibi dinamikasining statistik tahlilining o'ziga xos xususiyatlari, mamlakatimiz hududlari kesimida sanoat tarmog'i faoliyati bo'yicha statistik ma'lumotlarni to'plash, qayta ishlash masalalari yoritilgan.*

***Tayanch so'zlar:** Sanoat, eksport, import, statistik baholash, investitsiya, loyiha.*

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STATISTICAL ANALYSIS OF THE DYNAMICS OF THE VALUE ADDED STRUCTURE OF THE INDUSTRIAL SECTOR OF THE REPUBLIC OF UZBEKISTAN

***Abstract.** The article discusses the specific features of the statistical analysis of the dynamics of the volume structure of the value added of the industrial sector of the Republic of Uzbekistan, the issues of collecting and processing statistical data on the activities of the industrial sector in the regions of our country.*

***Keywords:** Industry, export, import, statistical assessment, investment, project*

Kirish

Mustaqillikning dastlabki yillarida yuqori inflyatsiya darajasi, ishsizlik va xo'jalik aloqalarining izdan chiqishi sharoitida iqtisodiyotning real sektorida, xususan, sanoatda ishlab chiqarish sur'atlarini saqlab qolish murakkab muammo bo'ldi. O'zbekiston Respublikasi Prezidentining 2023-yil 11-sentabrdagi "O'zbekiston — 2030" strategiyasi to'g'risida" gi PF-158-sonli Farmonida – "Sanoatning "drayver" sohalarini rivojlantirish va hududlarning sanoat salohiyatini to'liq ishga solish uchun 2030-yilgacha yerishiladigan maqsadlarning samaradorlik ko'rsatkichlari bo'yicha Jumladan, sanoatda qo'shilgan qiymat hajmini 45 milliard dollarga yetkazish va 2,5 millionta yuqori daromadli ish o'rinlarini yaratish"⁵⁵ kabi bir qator ustuvor vazifalar belgilandi

⁵⁵ O'zbekiston Respublikasi Prezidentining 2023-yil 11-sentabrdagi "O'zbekiston — 2030" strategiyasi to'g'risida" gi PF-158-sonli Farmoni. <https://lex.uz/uz/docs/-6600413>

Davlat sanoat salohiyatini saqlab qolishga qaratilgan siyosat olib borib, o‘zak tarmoqlar - yoqilg‘i - energetika majmui va qishloq xo‘jaligiga o‘z tasarrufidagi resurslarni yo‘naltirdi

Shu sababli, “Rasmiy statistikani tayyorlovchilar statistika ma’lumotlarini ishlab chiqishda xalqaro darajada tavsiya etiladigan tushunchalarga, tasniflarga va uslubiyatga amal qiladi”⁵⁶

Metodolgiya

Statistik kuzatish, guruhlash usullari, mutloq, nisbiy va o‘rtacha miqdorlar, grafik usullari qo‘llanilgan.

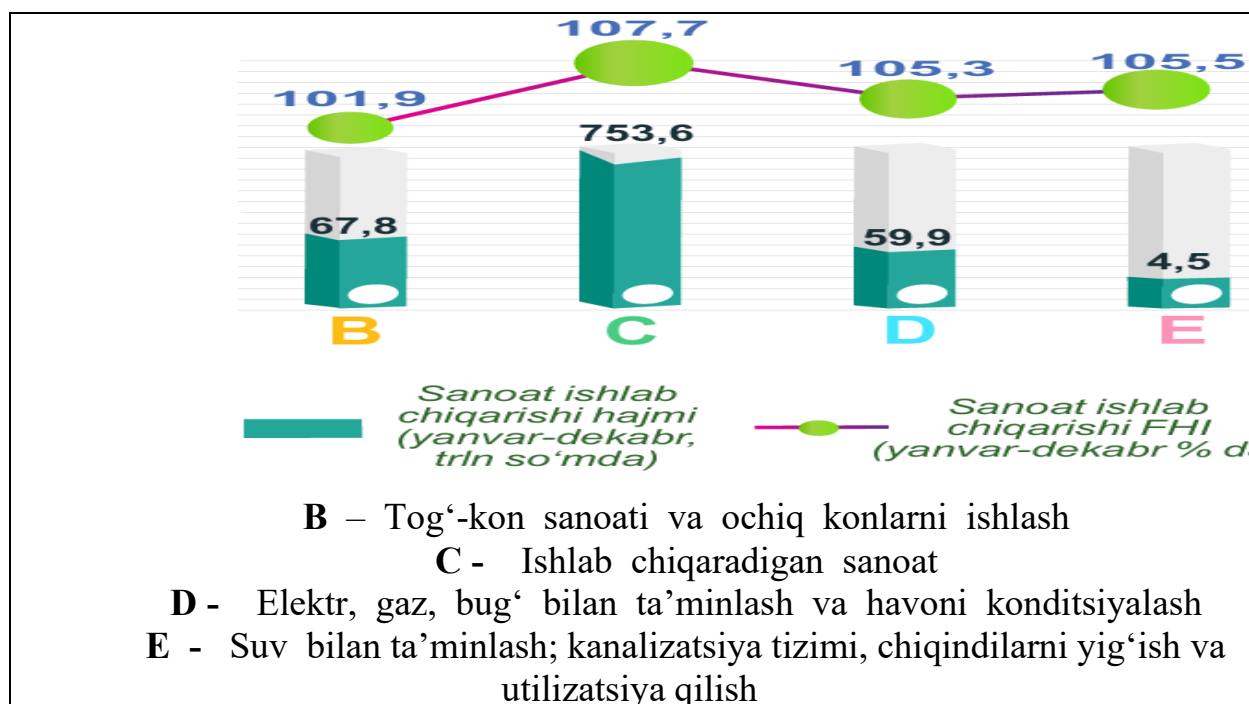
Natijalar

Yurtimizda faoliyat ko‘rsatayotgan sanoat tarmog‘ining qo‘shilgan qiymati statistik tahlil qilish uchun ishchi-xodimlari malaka darajalarini oshirish maqsadida yetakchi mutaxassislar tomonidan malaka oshirish kurslari hamda xorijiy davlatlarda stajirovka o‘tash ishlari olib borilmoqda. Shunga qaramasdan statistika idoralari xodimlarining sifat darajasini barqaror ushlab turish eng muammoli masalalardan hisoblanadi. Chunki yurtimizdagi statistika idoralarida hanuzgacha kadrlar qo‘nimsizligi darajasi o‘zining yuqoriligini saqlab kelmoqda. Kadrlar qo‘nimsizligi darajasi bo‘yicha shahar hududida faoliyat ko‘rsatayotgan statistika idoralari bilan tuman hududida faoliyat ko‘rsatayotgan statistika idoralari o‘rtasida ham tafovutlar juda yuqori hisoblanadi. Sanoatdagi iqtisodiy o‘sish mehnat, kapital va fan-texnika taraqqiyoti kabi omillarga bevosita bog‘liq. Iqtisodiy o‘sishning mehnat va kapital omillariga korrelyatsion bog‘liqlik darajasi yuqori hisoblanadi. Mamlakatimizda o‘tgan davrda sanoat ishlab chiqarishi hajmi, sohaga jalb qilingan investitsiyalar hajmi va tarmoqda band bo‘lganlar soni o‘zgarishi natijasida tarkibiy silijishlar ro‘y berdi.

Tahlil

2000 yildan boshlab eksportga yo‘naltirilgan sanoat tarmoqlarini rivojlantirishga ustuvorlik berildi. Bu davrda mahalliy sanoatchilarning eksport imkoniyatlarini oshirish, sanoatga xorijiy kapital kirib kelishini rag‘batlantirish, eksport faoliyatini soliq, bojxona, valyuta va tashqi iqtisodiy siyosat orqali har tomonlama qo‘llab-quvvatlash bo‘yicha chora-tadbirlar ko‘rildi.

⁵⁶ O‘zbekiston Respublikasining “Rasmiy statistika to‘g‘risida” gi O‘RQ - 707 – sonli qonuni. 2021 yil. 11 avgust. . www.lex.uz



1-rasm. Oʻzbekiston Respublikasining 2024 yilda sanoat ishlab chiqarishi asosiy tarmoqlarining FHI⁵⁷ % da

Sanoat ishlab chiqarishi tarkibida eng katta ulush ishlab chiqaradigan sanoat hissasiga toʻgʻri kelib, 753,6 trln soʻmni, jami sanoat ishlab chiqarishidagi ulushi 85,1 % ni tashkil etdi.

Jami sanoat ishlab chiqarish fizik hajmi pasayishining asosiy omili boʻlib, togʻ-kon sanoati va ochiq konlarni ishlash sanoatida - 1,9 % ga va suv bilan taʼminlash, kanalizatsiya tizimi, chiqindilarni yigʻish va utilitatsiya qilishda - 5,5 % ga, shuningdek, ishlab chiqaradigan (qayta ishlash) sanoatning - 7,7 % ga hamda elektr, gaz, bugʻ bilan taʼminlash va havoni konditsiyalashning - 5,5 % ga oʻsishi kuzatildi. (1-rasm)

Oʻzbekiston Respublikasining sanoat tarmogʻining qoʻshilgan qiymati hajmi (doimiy narxlarda, yillik) 2024 yilda **309185,7 mlrd.** soʻmlik sanoat mahsulotlari ishlab chiqarilgan boʻlib, 2020 yilga nisbatan sanoat ishlab chiqarishning fizik hajm indeksi 209,9 % ni tashkil etdi.

Sanoat ishlab chiqarish tarkibida eng katta oʻsish darajasi ishlab chiqaradigan sanoat hissasiga toʻgʻri kelib, uning oʻsish surʼati (222,9 %)ni tashkil etdi. (1-jadval)

⁵⁷ Sanoat ishlab chiqarishining fizik hajmi indeksi ishlab chiqarilgan mahsulotlar (ishlar, xizmatlar) hajmining taqqoslanadigan davrlardagi oʻzgarishini tavsiflovchi nisbiy koʻrsatkichdir.

1-jadval

**2020-2024 yillarda O‘zbekiston Respublikasining sanoat tarmog‘ining
qo‘shilgan qiymati hajmi (2023 yilgi doimiy narxlarda, yillik) tarkibi
dinamikasi⁵⁸**

(mlrd.so‘m)

№	Ko‘rsatkichlar	Yillar					2024 yilda 2020 yilga nisbatan	
		2020	2021	2022	2023	2024	%	(+;-)
1.	Sanoat tarmog‘ining qo‘shilgan qiymati	147293,5	176415,3	212562,2	255515,4	309185,7	161892,2	209,9
2.	Tog‘-kon sanoati va ochiq konlarni ishlash	24076	24547,4	29185,4	33222,3	37061,9	12985,9	153,9
3.	Ishlab chiqarish sanoati	112751,8	138655,6	167983,8	203836,9	251281,3	138529,5	222,9
4.	Elektr, gaz, bug‘ bilan ta‘minlash va havoni konditsiyalash	9528,1	12289,5	13988,4	16843,5	19070,4	9542,3	200,1
5.	Suv bilan ta‘minlash; kanalizatsiya tizimi, chiqindilarni yig‘ish va utilizatsiya qilish	937,6	922,8	1404,6	1612,7	1772,1	834,5	189,0

“Sanoat korxonasi mahsuloti deb, uning foydali, faoliyatinnig natijasiga aytiladi. Ushbu ta‘rifga asosan quydagilarni sanoat mahsuloti tarkibiga kiritilmaydi:

- a) ishlab chiqarilgan brak – foydasiz natija bo‘lgani uchun;
- b) sotilgan ortiqcha tovar – material boyliklar – faoliyat natijasi bo‘lmagan uchun;
- c) korxona tarkibida bo‘lmagan qishloq xo‘jaligi yoki boshqa tarmoq faoliyati bilan shug‘ullanuvchi bo‘limlar mahsuloti – ular o‘sha tarmoq faoliyati natijasiga kiritiladi”⁵⁹

O‘zbekiston Respublikasining 2020-2024 yillar bo‘yicha makroiqtisodiy ko‘rsatkichlarini o‘zgarishi dinamikasini tahlil qilganimizda, jadval ma‘lumotlaridan ko‘rinib turibdiki, sanoat tarmog‘ining qo‘shilgan qiymati 2024 yilda 365894,6 mlrd.so‘mni, ya‘ni 2023 yilga nisbatan 6,8 foizga oshganligini ko‘rishimiz mumkin. (2-jadval)

⁵⁸ O‘zbekiston Respublikasi Milliy statistika qo‘mitasining ma‘lumotlari asosida muallif tomonidan tuzildi.

⁵⁹ Nabiyeu X.N. Sanoat statistikasi. O‘quv qo‘llanma. – T.: Adabiyot jamg‘armasi, 2004.

O‘zbekiston Respublikasining 2020-2024 yillar bo‘yicha makroiqtisodiy ko‘rsatkichlarini o‘zgarishi dinamikasi⁶⁰ (2023 yilgi doimiy narxlarda)

Ko‘rsatkichlar	O‘lchov birligi	Yillar				
		2020	2021	2022	2023	2024
Yalpi ichki mahsulot	mlrd.so‘m	603956,2	721712,7	869779,8	1058383	1283346
	fizik hajm indeksi, % da	101,6	108	106	106,3	106,5
	deflyator indeksi, % da	111,6	113,6	113,8	112,2	113,1
Sanoat tarmog‘ining QQ	mlrd.so‘m	162013,3	202219,3	240210,4	289371,4	365894,6
	fizik hajm indeksi, % da	100,9	108,8	105,3	106,3	106,8

Manba: O‘zbekiston Respublikasi Prezidenti huzuridagi Statistika agentligi ma’lumotlari asosida tuzilgan.

Yurtimizda faoliyat ko‘rsatayotgan sanoat korxonalarining ishchi-xodimlari malaka darajalarini oshirish maqsadida yetakchi mutaxassislar tomonidan malaka oshirish kurslari hamda xorijiy davlatlarda stajirovka o‘tash ishlari olib borilmoqda. Shunga qaramasdan, sanoat korxonalari ishchi-xodimlarining sifat darajasini barqaror ushlab turish eng muammoli masalalardan hisoblanadi. Milliy sanoat va uning sohalari iqtisodiyotning dinamik o‘zgarishda bo‘lgan hamda ishlab chiqarish sur‘atlari jadal oshayotgan tarmoqlari hisoblanadi.

Quyida O‘zbekiston Respublikasida 2010-2024 yillar bo‘yicha sanoat tarmog‘i qo‘shilgan qiymati dinamikasining o‘zgarishini tahliliy ko‘rsatkichlarini keltiramiz.

O‘zbekiston Respublikasida 2010-2024 yillar bo‘yicha sanoat tarmog‘ining qo‘shilgan qiymati 2024 yilda 365894,6 mlrd. so‘mni, 2010 yilda 216131,3 mlrd.so‘m (taqqoslama bahoda) ni tashkil etgan yoki 2024 yilda 2010 yilga nisbatan 149763,30 mlrd.so‘mga yoki 69,3 foizga oshgan. (3-jadval)

⁶⁰ O‘zbekiston Respublikasi Milliy Statistika qo‘mitasi ma’lumotlari asosida muallif tomonidan tuzilgan.

O‘zbekiston Respublikasida 2015-2024 yillar bo‘yicha sanoat tarmog‘ining qo‘shilgan qiymati dinamikasini o‘zgarishi

Yillar	Sanoat tarmog‘ining yalpi qo‘shilgan qiymati, mlrd.so‘m, (Y) (taqqoslama baholarda)	Absolyut qo‘shimcha o‘shish, ming kishi		O‘shish sur‘ati, %		Qo‘shimcha o‘shish sur‘ati, %		1 %li qo‘shimcha o‘shish(yoki kamayish)ning mutloq mohiyati, mlrd.so‘m
		Bazisli	Zanjirli	Bazisli	Zanjirli	Bazisli	Zanjirli	
		$Y_i - Y_0$	$Y_i - Y_{i-1}$	$Y/Y_0 \times 100$	$(Y_i/Y_{i-1}) \times 100$	$[(Y_i/Y_0) \times 100] - 100$	$[(Y_i/Y_{i-1}) \times 100] - 100$	
2015	216 131,3	-	-	-	-	-	-	-
2016	227 802,4	11 671,10	11 671,10	105,4	105,4	5,4	5,4	2161,313
2017	239 648,1	23 516,80	11 845,70	110,9	105,2	10,9	5,2	2278,024
2018	265 530,1	49 398,80	25 882,00	122,9	110,8	22,9	10,8	2396,481
2019	278 806,6	62 675,30	13 276,50	129,0	105,0	29,0	5,0	2655,301
2020	281 315,8	65 184,50	2 509,20	130,2	100,9	30,2	0,9	2788,066
2021	306 071,6	89 940,30	24 755,80	141,6	108,8	41,6	8,8	2813,158
2022	322 293,4	106162,10	16 221,80	149,1	105,3	49,1	5,3	3060,716
2023	342 597,9	126466,60	20 304,50	158,5	106,3	58,5	6,3	3222,934
2024	365 894,6	149763,30	23 296,70	169,3	106,8	69,3	6,8	3425,979

Manba: O‘zbekiston Respublikasi Milliy statistika qo‘mitasining 2010-2024 yillar bo‘yicha ma’lumotlari asosida muallif tomonidan tuzilgan.

Umuman olganda, sanoat ishlab chiqarish hajmining yillik qo‘shimcha o‘shishi sur‘ati bu yillarda o‘rtacha 5-6 foizdan iborat bo‘ldi.

Iqtisodiyotni modernizatsiya qilish sharoitida mamlakatimizda chuqur tarkibiy siljishlar va iqtisodiy islohotlar amalga oshirilayotgan davrda sanoat ishlab chiqarishini yanada jadalroq rivojlantirish imkoniyatlari ayniqsa, , yoqilg‘i-yenergetika, kime va neft kimyosi, oziq-ovqat hamda mashinasozlik sohalarida mavjud.

Sanoat siyosatining asosiy yo‘nalishlari belgilab olinib, uni amalga oshirishga kirishildi. Bu yo‘nalishlar yoqilg‘i - energetika majmuini jadal rivojlantirish; hamda neft va gaz qazib olishni kengaytirish chora-tadbirlarini ko‘rish; ishlab chiqarish va aholi uchun eng zarur investitsion va iste‘mol tovarlarini chetdan olib kelishni qisqartirishning asosiy yo‘nalishlarini belgilab olish; qishloq xo‘jaligi mahsulotlarini mahalliy sanoat imkoniyatlari negizida qayta ishlashni rivojlantirish; osh tuzi, spirt, gugurt kabi kundalik ehtiyoj tovarlarini ishlab chiqarishni tashkil etishdan iborat bo‘ldi.

Sanoat korxonalarining rivojlanishiga qaratilgan barcha chora-tadbirlar korxonalarning iqtisodiy samaradorligi oshishiga xizmat qiladi. Korxonalar faoliyati samaradorligi, bozor muhitiga qay darajada moslashishi, unda faoliyat yuritishi bevosita uning raqobatbardoshligiga bog‘liq. Ma’lumki, sanoat korxonalarining mahsulot raqobatbardoshligiga eng katta ta’sir etuvchi omillardan biri – ishchi-xodimlar raqobatbardoshligi hisoblanadi.

Milliy sanoat rivojlanishining iqtisodiy ahamiyati, asosan, uning iqtisodiy o'sishni ta'minlash, eksport salohiyatini oshirish, qo'shilgan qiymat yaratish va milliy bozorni investitsion va iste'mol tovarlari bilan to'ldirishdagi roli bilan belgilanadi. Mamlakatimizda mustaqillik yillarida sanoatning ko'proq xomashyoni qazib oluvchi, qayta ishlovchi va iste'mol tovarlari ishlab chiqaruvchi sohalari ustun rivojlandi. Buning natijasida yoqilg'i mustaqilligi ta'minlandi, mahalliy xom ashyoni qayta ishlash darajasi ortdi, ichki iste'mol bozori mahalliy ishlab chiqaruvchilar mahsulotlari bilan to'yintirilmoqda.

Keyingi yillarda iste'mol tovarlari hisoblangan gilam va gilam materiallari, paypoqlar, sut va sut mahsulotlari, konserva, un va un mahsulotlari, o'simlik yog'i va makoron mahsulotlari ishlab chiqarish hajmi ortmoqda. Ammo iste'mol tovarlarining qator turlarini ishlab chiqarishda barqaror tendensiya kuzatilmaydi. Xususan, paxta gazlamalar, ipak gazlamalari, trikotaj buyumlari va poyabzallar, shakar, non va non mahsulotlari ishlab chiqarish hajmi pasayish tendensiyasiga ega.

Sanoat ishlab chiqarishida mamlakatimizning hududlari o'ziga xos o'rin tutadi. Hududlarda mineral-xom ashyo resurslarining notekis joylashganligi, ishlab chiqarish va bozor infratuzilmasining rivojlanish darajasi, tadbirkorlik va xususiy sektorning taraqqiyot darajalariga ko'ra sanoat ishlab chiqarishi turlicha rivojlanmoqda.

Ma'lumki, tarkibiy o'zgarishlar iqtisodiyot tarmoqlarining rivojlanishini va iqtisodiyotdagi rolini ifodalovchi muhim jarayon bo'lib, uning natijasida ishlab chiqarish takomillashadi va tarmoqlarning jami ishlab chiqarishdagi salmog'i o'zgaradi. Tarkibiy o'zgarishlar takror ishlab chiqarishning hududiy va texnologik tuzilishini ham qamrab olganligi sababli yalpi ichki mahsulotning sifat jihatidan o'zgarishi ta'minlanadi. O'zbekiston Respublikasida sanoatning tarkibiy tuzilishi mustaqillik davrida keskin o'zgardi. Bunday o'zgarishning asosiy shart-sharoitlari quyidagilardan iborat bo'ldi:

- mamlakatning siyosiy mustaqillikni qo'lga kiritishi- bu davlat miqyosida, tub iqtisodiy manfaatlarni hisobga olgan holda, yangi tarkibiy siyosat yuritish imkonini berdi;

- milliy iqtisodiyotning jahon xo'jaligiga qo'shilish jarayoni boshlanishi- ilgari yagona ittifoq xo'jaligining xom ashyo bazasiga aylangan O'zbekiston jahonning sanoati rivojlangan mamlakatlari bilan savdo va iqtisodiy aloqalarni yo'lga qo'ydi. Bu mamlakatning xom ashyo va mehnat resurslaridan xorijiy investorlar bilan hamkorlikda foydalanish uchun shart-sharoit yaratdi;

- mamlakatda bozor islohotlarining amalga oshirilishi - bozor munosabatlarining shakllantirilishi va xususiy mulkchilikning rivojlanishi ishlab chiqarish hamda xizmat ko'rsatishning tarkibiy jihatdan o'zgarishiga olib kelmoqda. Aholi va firmalar resurslarining sanoat ishlab chiqarilishiga jalb qilinishi tarkibiy o'zgarishlarning iqtisodiy samaradorligini oshirmoqda.

Milliy iqtisodiyotdagi tarkibiy o'zgarishlarning asosiy yo'nalishi sanoatdagi o'zgarishlar hisoblanadi. sanoatda yangi texnologiyalarning o'zlashtirilishi va yangi korxonalarning qurilishi qishloq xo'jaligi va xizmat ko'rsatishda ham ishlab

chiqarish jarayonining takomillashishi hamda mehnat unumdorligining oshishini ta'minlaydi.

Sanoat korxonalarining aksariyati, dastlab import o'rnini bosuvchi mahsulotlar ishlab chiqarishga yo'nalgan bo'lsa, keyinchalik ularning eksport strategiyasini amalga oshirish, xalqaro bozorga raqobatbardosh mahsulotlar bilan chiqish tendensiyasi kuchaydi.

Xulosa va takliflar

Xulosa qilib aytganda, O'zbekiston Respublikasining sanoat tarmog'ining qo'shilgan qiymati tarkibi dinamikasining statistik tahliliga aks ta'sir ko'rsatuvchi omillar ham mavjud bo'lib, ularning ta'sirini kamaytirish yoki bartaraf etish sanoat taraqqiyotini sur'atlarini oshiradi. Ularga quyidagilarni kiritish mumkin;

- xususiy sektor moliyaviy, investitsion va ilmiy-texnik salohiyatining sanoat loyihalarini amalga oshirish;

- sanoatning ayrim tarmoqlarida innovatsion faoliyatning yaxshi rivojlanmaganligi, ilg'or innovatsion yangiliklarning sanoat korxonalarida kam joriy etilish;

- sanoatda davlat va xususiy sektorning o'zaro iqtisodiy munosabatlar tizimi rivojlantirish;

- sanoatlashish jarayonini davlat tomonidan boshqarish mexanizmining takomillashtirish;

- bozor infratuzilmasining sanoatni jadal rivojlantirish talablariga mos rivojlantirish;

- mamlakatning geografik jihatdan anklav joylashganligi, rivojlangan bozorlardan uzoqligi, dengiz yo'llariga chiqish imkoniyatlari va shart-sharoitlar yaratish.

O'zbekiston Respublikasining sanoat tarmog'ining qo'shilgan qiymati tarkibining muhim iqtisodiy yo'nalishlaridan biri davlat tomonidan kichik sanoat shaharchalari, tashkiliy sanoat hududlari va erkin savdo-iqtisodiy hududlarining shakllanishi va rivojlanishini rag'batlantirishdan iborat. Bu sanoat siyosatining ajralmas qismi hisoblanishi bilan birga, sohadagi texnologik - innovatsion taraqqiyotning jadallashishiga ham samarali ta'sir qiladi.

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BOSHLANG'ICH O'QUVCHILARDA RAQAMLI SAVODXONLIK KO'NIKMALARINI SHAKLLANTIRISHNING MAZMUNI

Annotatsiya: Ushbu maqolada boshlang'ich sinf o'qituvchilarining o'quv faoliyatini tashkil etishda raqamli texnologiyalardan foydalanishi, kichik maktab yoshidagi o'quvchilarning raqamli savodxonlik ko'nikmalarini shakllantirishda raqamli texnologiyalarning o'rni va ahamiyati, bugungi kunda o'quvchilar raqamli savodxonlik ko'nikmalarini shakllantirishda texnik vositalardan foydalangan holda o'quv faoliyatini olib borish usullari va mazmuni to'g'risidagi masalalar o'z aksini topgan.

Kalit so'zlar: Raqamli savodxonlik, texnologiya, texnik vositalar, o'qituvchi, kompyuter savodxonligi, o'quv faoliyati, media savodxonlik, mazmun, standart, mezon.

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CONTENT OF FORMATION OF DIGITAL LITERACY SKILLS IN PRIMARY SCHOOL STUDENTS

Annotation: This article reflects the issues of the use of digital technologies by primary school teachers in organizing educational activities, the role and importance of digital technologies in shaping the digital literacy skills of primary school students, and the methods and content of conducting educational activities using technical means in today's students' formation of digital literacy skills.

Keywords: Digital literacy, technology, technical means, teacher, computer literacy, learning activity, media literacy, content, standard, criterion.

Hozirgi zamonda biror bir sohada ishni boshlash va uni boshqarishni raqamli texnologiyalarsiz tasavvur qilish qiyin. XXI asr savodxon kishisi bo'lish, raqamli savodxonlik ko'nikmalarini puxta egallamoq lozim. Har bir mutaxassis, u qaysi sohada ishlashidan qat'iy nazar, o'z vazifasini zamon talabi darajasida bajarishi uchun axborotga ishlov beruvchi vositalarni, ularni ishlatish uslubiyotini bilishi va ularda ishlash ko'nikmasiga ega bo'lishi zarur. Shu sababli bugungi kunda mustaqil Respublikamizda ta'lim sohasida amalga oshirilayotgan tub islohatlarning mazmun-mohiyati, maqsadi va vazifalari aniq belgilab olingan.

Ta'lim tizimi butunlay yangi kasb etayotgan hozirgi davrda har bir fanning mazmunini qayta tahlildan o'tkazish ta'lim bosqichlari bo'yicha uning uzviyligi va uzluksizligini ta'minlash asosida tubdan isloh qilish va hayot bilan bog'lash nuqtai

nazaridan yondashuv zarur bo'ladi. Jumladan umumiy o'rta ta'lim maktablarida kichik maktab yoshidagi o'quvchilarni raqamli savodxonlik ko'nikmalarini shakllantirish orqali o'quvchilarning kompyuterdagi mavjud dasturlardan foydalanib, bolalarning yoshiga mos materiallar tayyorlay olish, maktabda o'tiladigan turli darslar uchun didaktik o'yinlar yarata olish, elektron darsliklardan foydalana olish, internet tarmog'idan kasbiy sohaga mos ma'lumotlarni olib foydalana olish ko'nikmalari rivojlanadi. Bundan tashqari qo'shimcha texnik vositalar, ularning turlari, ulardan dars o'tishda foydalana olish usullari va mashg'ulot o'tish uchun kerakli grafik, animatsiya yaratishga mo'ljallangan dasturlar va ularda ishlash qoidalari o'rgatiladi. Agar bolalarga raqamli savodxonlik ko'nikmalarini maktabda maqsadli tarzda o'rgatishni boshlamasa, o'quvchi uning ta'limi, tarbiyasi va sog'ligiga salbiy ta'sir ko'rsatadigan ko'nikmalarini ko'cha ko'ydan, do'stlaridan o'rganadi. Tabiiyki u ko'p hollarda foydali emas, zararli taraflariga o'ralashib qoladi. Albatta, kompyuterni bolalarga o'rgatish qiziqarli jarayonlar bilan kechishi kerak. \

Kompyuterni o'rgangan bolalar internetni ham o'zlashtira boshlaydilar. Bu hushyorlik talab etiladigan palladir. O'quv markazlarida bolalar uchun foydali va kerakli saytlar taqdim etiladi va o'quvchilarni unga jalb etib, keraksiz saytlarga qiziqishni kamaytirishadi. Bolalar kompyuterda kattalardan ko'ra kamroq shug'ullanishlari kerak, albatta. Sababi ularning o'sib kelayotgan suyaklari, ko'z nuriga zarar yetmasligi kerak. O'quv markazlari ana shunday qoidalarga rioya qilgan holda bolalarni o'qitishadi. Ya'ni har yigirma daqiqada kichik tanaffus e'lon qilinadi, ko'zlar va mushaklar uchun mashqlar bajariladi.

Bundan tashqari o'quvchilar o'tiladigan bu mashg'ulotlar davomida quyidagi saboqlarga ega bo'lishadi:

- ✓ Kompyuterni yoqish-o'chirish, sichqonchani to'g'ri ishlatish, asosiy dasturlar haqida boshlang'ich ma'lumotga ega bo'lish;
- ✓ Windows oynasida ishlash, masalan, yozish, chizish, hisoblash;
- ✓ Klaviatura bilan tanishish, harf terishni o'rganish;
- ✓ Paint dasturida turli suratlar yaratish;
- ✓ O'z tengdoshlari bilan tanishish, muloqot qilish, do'stlashish.

Hozirgi vaqtda an'anaviy o'quv qo'llanmalari bilan bir qatorda ko'plab o'quv elektron resurslari paydo bo'ldi. Raqamli texnologiyalarni o'rganish - bu o'rganishning yangi usuli, uning turlaridan biri o'quv, o'yin dasturlaridan foydalanish hisoblanadi. Kichik maktab yoshidagi o'quvchilarining hayotiga kompyuter va boshqa texnik qurilmalardan foydalanishni o'rgatishdan ko'zlangan asosiy maqsad - birinchi navbatda, ularning axborot texnologiyalaridan keng foydalaniladigan jamiyatda hayotga psixologik tayyorgarligini shakllantirishdir.

Bola har doim ham butun dars davomida diqqatini uning mazmuniga jamlay olmaydi. Diqqat bir qator xususiyatlarga ega: konsentratsiya, barqarorlik, o'zgaruvchanlik. O'quv o'yin dasturlari bolaga e'tiborning ko'rsatilgan xususiyatlarini o'ynoqi tarzda rivojlantirishga imkon beradi, bu esa unga o'quv faoliyati jarayonida ko'proq tirishqoq bo'lishga imkon beradi. Bundan tashqari, bola xotiraning barcha turlaridan foydalanadi: majoziy, hissiy, vizual, eshitish, mantiqiy.

Xotirani yaxshilashning asosiy amrlaridan biri bu takrorlashdir. Bolalar, qoida tariqasida, bir xil o'yinni ko'p marta katta qiziqish bilan o'ynaydilar va shu bilan ularning xotirasini mustahkamlaydilar. Darsdan darsga bolaga ma'lum bilim va ko'nikmalarga ega bo'lishni talab qiladigan turli didaktik topshiriqlar beriladi. O'yin jarayonida o'quv faoliyatiga qiziqish shakllana boshlaydi va bolaning o'yin motivatsiyasi asta-sekin o'rganishga o'tadi.

Bola ma'lumotni qabul qilish va qayta ishlashning yangi, sodda va tezroq usulini o'zlashtiradi, texnologiyaning yangi sinfiga va umuman, ob'ektlarning yangi dunyosiga munosabatini o'zgartiradi. Maktabgacha yoshdagi bolalar bilan ishlashda kompyuter texnologiyalaridan foydalanish hali ham noan'anaviy usul bo'lib qolmoqda, ammo u bolani maktabga tayyorlashga yordam beradigan ta'lim muammolarini yanada samarali hal qilish uchun ishlatilishi mumkin.

Sinfda musiqa dan foydalanish uchun magnitafon va CD-ROM; Rasmlar, harflar, raqamlar va boshqalarni chop etish uchun printer. Dars uchun turli didaktik materiallar (rasmlar, qog'oz rasmlari); Uyga vazifa va mukofotlashda rasmlardan foydalanish; Uy vazifasiga chizma elementini kiritish (daftarga chizish); Darslar uchun kompyuter dasturlari tanlovi (rangli, yorqin rasmlar, animatsiya, ovoz effektlari yordamida) uy vazifasi asosiy nuqtalardan biridir: u motivatsion faoliyatni, ijodkorlikni yaratishga ishonib topshiriladi, ya'ni. mustaqil ishlash, unutilganlarni qayta tiklash, o'zini faol shaklda saqlash qobiliyati. Uni amalga oshirishda bola ham, uning ota-onasi ham ishtirok etadi. Uy vazifasi sinfda nima sodir bo'lganligini tushunishga, darslarning mohiyatini aniqlashga, darslarning o'zi muhimligini his qilishga yordam berishi kerak. Maktab yoshidagi bola internetga ancha yaqinlashadi. Birinchi sinf o'quvchisiga kompyuterdan papka, fayl ochish, harf terishni o'rgataverish kerak.

"Sichqoncha" bilan tanishish uchun o'yin. Rasmlar bo'yicha suhbat "Kompyuterda qanday ishlash kerak". Didaktik o'yin "Kompyuter qurish". Kompyuter sichqonchasini ekran bo'ylab harakatlantirish, sichqonchaning chap tugmachasini bir marta bosish, sichqonchaning chap tugmasi bosilgan holda ob'ektlarni ekran atrofida harakatlantirish malakalarini mashq qilish. Kompyuterni yoqish va o'chirish. Bu harakatlar va didaktik o'yinlar bolalar uchun qiziqarli, esda qolarli va eng asosiysi ularda raqamli savodxonlik ko'nikmlarini rivojlantirishga yordam beradi.

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**GENRE FEATURES OF ENGLISH AND UZBEK DRAMA
(BASED ON THE WORKS OF RICHARD BRINSLEY SHERIDAN
AND ERKIN VAKHIDOV)**

Abstract: *This article presents a comparative analysis of the genre features of English and Uzbek drama through the works of Richard Brinsley Sheridan and Erkin Vakhidov. Special attention is given to comedic and socio-psychological aspects, structure, character systems, and stylistics. The research focuses on identifying cultural, historical, and artistic factors that influence the development of genre specificity in two distinct literary traditions.*

Keywords: *drama, genre, comedy, social drama, Sheridan, Vakhidov, English literature, Uzbek literature.*

Introduction

Drama as a form of literary creativity reflects not only the aesthetic preferences of an era but also social, cultural, and national peculiarities. In this context, a comparative study of authors from different linguocultural traditions allows a deeper understanding of genre-based thinking. Richard Brinsley Sheridan, a bright representative of 18th-century English comedy, and Erkin Vakhidov, an outstanding Uzbek poet and playwright of the 20th century, embody diverse forms of theatrical art reflecting the worldview of their respective epochs and peoples.

1. General Theoretical Concepts of Drama Genre

The genre in drama comprises a set of stable structural, thematic, and stylistic characteristics. Classical traditions define major genres such as tragedy, comedy, drama, and farce. Each has its own structure, types of conflict, character types, and functions. Genre characteristics are closely tied to the historical and cultural context in which the dramatic works are created.

2. Genre Specificity of English Comedy (Based on Sheridan)

Richard Brinsley Sheridan is one of the most prominent figures of English "comedy of manners." His plays, such as *The School for Scandal* and *The Rivals*, exhibit key traits of English satirical comedy:

- **Social satire:** exposing hypocrisy, greed, and pretense in aristocratic society;
- **Precise structure:** plot development through romantic entanglements and misunderstandings;
- **Character typification:** use of recognizable archetypes—gossips, ignorant elders, romantic heroes;
- **Witty dialogue:** language as a tool for satire and critique.

Sheridan, drawing on traditions of Beaumont, Congreve, and Molière, introduced realism and national color into his characters, making comedy not only entertaining but socially revealing.

3. Genre Specificity of Uzbek Drama (Based on Vakhidov)

Erkin Vakhidov is recognized in Uzbek literature as a humanist poet and playwright whose works are marked by deep philosophical and moral undertones. His notable plays include *Tilsiz dunyo* ("A World without Language"), *Sadoqat* ("Loyalty"), and *Meni kechiring* ("Forgive Me").

Key features of Vakhidov's drama include:

- **Social-psychological drama:** focus on inner conflict, moral choice, issues of duty and conscience;

- **Synthesis of realism and symbolism:** blending everyday details with philosophical reflection on life and destiny;

- **Meaning-rich dialogue:** expressions not only convey information but inner spiritual states;

- **National context:** use of Uzbek poetics, metaphor, and cultural codes.

Vakhidov addresses the viewer not as a passive observer, but as a participant in moral inquiry, encouraging reflection on universal human values.

4. Comparative Analysis

Category	Sheridan (English Drama)	Vakhidov (Uzbek Drama)
Genre	Comedy of manners	Socio-psychological drama
Main conflict	Social mask vs. true self	Inner struggle, conscience vs. duty
Characters	Archetypes with exaggerated traits	Deep individualities with philosophical depth
Language	Wit, irony, critique	Lyrical, metaphorical, ethical depth
Purpose	Entertainment through satire	Moral instruction through emotional involvement

This comparison shows that in the English tradition, comedy serves as a tool for social regulation through laughter and irony, whereas in Uzbek drama, the genre functions as a means of moral education, addressing the internal world of the individual.

Conclusion. The comparative analysis of the dramatic works of Richard Brinsley Sheridan and Erkin Vakhidov reveals not only genre-specific characteristics but also broader cultural and philosophical divergences between English and Uzbek literary traditions. Sheridan, operating within the framework of the 18th-century English "comedy of manners," utilizes humor, satire, and social critique to highlight the superficiality, hypocrisy, and moral inconsistencies of the aristocratic elite. His comedies are structured, witty, and aimed at eliciting laughter while promoting self-awareness and social reflection. The use of archetypal

characters and fast-paced dialogue reflects the rationalism and enlightenment spirit of the time.

In contrast, Vakhidov's drama is deeply rooted in the moral and ethical concerns of Uzbek society. His plays transcend mere social observation and delve into the spiritual and emotional struggles of individuals. Vakhidov's characters are not caricatures but rather psychological portraits of people facing existential dilemmas. His language is rich in symbolism and poetic devices, embodying the lyrical traditions of Eastern literature. The aim is not to entertain but to awaken the conscience, to provoke introspection, and to reinforce collective values such as faithfulness, honor, and compassion.

This juxtaposition illustrates that while Sheridan's genre leans toward external observation and social irony, Vakhidov's dramaturgy is focused on internal experience and ethical transformation. Genre here becomes a vessel through which cultural values are transmitted: English comedy privileges critique and reason, while Uzbek social drama emphasizes empathy and spiritual growth.

Furthermore, this analysis suggests that drama as a literary form is inherently dialogic—not only in its theatrical dialogue but also in its capacity to serve as a conversation between cultures. By exploring different dramatic traditions, we uncover not just contrasts, but also shared human concerns: identity, morality, societal roles, and the individual's relationship with the world. Sheridan and Vakhidov, each in their own way, affirm the enduring relevance of drama as a mirror of both society and the soul.

In the context of global literary discourse, such comparative studies foster intercultural understanding, reveal the richness of national literary canons, and encourage a more nuanced appreciation of how genre operates within specific historical and cultural milieus. They also highlight the potential of literature as a means of building bridges between different peoples and worldviews—making the study of genre not just an academic exercise, but a contribution to cross-cultural dialogue and mutual respect.

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ERTA YOSHDAGI BOLALARDA UMURTQA POG'ONASI SHAKLLANISHINI BAHOLASH UCHUN TADQIQOT USULLARINI TANLASH SAMARADORLIGI

***Annotatsiya.** Ushbu maqolada erta yoshdagi bolalarda umurtqa pog'onasining shakllanish jarayoni va bu jarayonni baholashda qo'llaniladigan tadqiqot usullarining ilmiy-nazariy asoslari, diagnostik imkoniyatlari va samaradorlik darajalari tahlil qilinadi. Bolaning skelet-mushak tizimi, xususan, umurtqa pog'onasi rivojlanishida erta aniqlanadigan nuqsonlar va ularni baholashga xizmat qiluvchi zamonaviy tibbiy-texnik vositalarning roli yoritiladi. Shuningdek, maqolada kuzatuv, klinik baholash, radiologik, funksional va harakat diagnostikasi kabi metodlar o'zaro solishtirilib, ularning samaradorlik ko'rsatkichlari tahlil qilinadi.*

***Kalit so'zlar:** umurtqa pog'onasi, erta yoshdagi bola, skolioz, holat diagnostikasi, tekshiruv usullari, pediatrik ortopediya, funksional baholash.*

KIRISH

Inson salomatligining asosi bo'lgan to'g'ri jismoniy rivojlanish, ayniqsa, erta yoshdagi bosqichlarda, morfofiziologik barqarorlikka va tizimli holat nazoratiga bevosita bog'liqdir. Shu nuqtai nazardan qaralganda, umurtqa pog'onasining shakllanishi bolalikning ilk yillarida jadal kechuvchi, ayni paytda tashqi va ichki omillarga ta'sirchan bo'lgan murakkab biologik jarayonlardan biridir. Bolaning orqa qismida ortopedik nuqsonlar, holat buzilishlari, simmetriyaning yo'qolishi, mushaklar disbalansi erta bosqichda aniqlanmasa, bu holatlar yillar davomida chuqurlashib, yurish, nafas olish, ichki a'zolar joylashuvi va faoliyatiga salbiy ta'sir ko'rsatishi mumkin [1].

Shu boisdan, bolalar salomatligini saqlashda umurtqa pog'onasining rivojlanishini erta bosqichda aniqlash, baholash va to'g'ri monitoring qilish muhim diagnostik va profilaktik vazifalardan biri hisoblanadi. Bunda, eng avvalo, qaysi tadqiqot metodlari yoshga, holatga va tashxislash maqsadlariga mos tushishini to'g'ri aniqlash muhim o'rin tutadi. Ushbu maqolada aynan shu muammo — ya'ni, erta yoshdagi bolalarda umurtqa shakllanishini aniqlashda ishlatiladigan tadqiqot usullarini tanlash samaradorligi ilmiy asosda yoritiladi.

ASOSIY QISM

Erta yosh davri (0–6 yosh) — bu skelet va mushak tizimining morfologik shakllanishi, harakat dinamikasining to'liq rivojlanishi uchun eng muhim poydevor bosqichidir. Bu davrda umurtqa pog'onasi odatda "C" shaklidagi holatdan "S" shaklga o'tadi: birinchi lordoz (bo'yin sohasida), keyin kifoz (ko'krakda), so'ng esa bel sohasida ikkinchi lordoz hosil bo'ladi. Har bir bosqich noto'g'ri yuklanish,

jismoniy faoliyatning cheklanishi, noto'g'ri holat yoki genetik omillar ta'sirida buzilishi mumkin [2].

Ilk bolalik davrida umurtqa pog'onasining shakllanishi — faqat jismoniy o'sish emas, balki mushaklar bilan bog'liq muvozanatli rivojlanish hamdir. Orqa mushaklarining rivojlanish darajasi, tortilish va bo'shashuv siklida muvozanat, harakat koordinatsiyasi, to'g'ri o'tirish va turish qobiliyati asosiy o'zgaruvchilar sifatida baholanadi.

Hozirgi zamonaviy tibbiyot yondashuvlarida erta yoshdagi bolalarda umurtqa pog'onasining holatini baholash va unga ta'sir etuvchi omillarni aniqlashda interdisiplinar metodologiya tobora keng qo'llanilmoqda. Ya'ni, bolani tekshirish va baholash jarayonida faqatgina pediatr yoki ortoped emas, balki nevrolog, fizioterapevt, bolalar psixologi, hamda rehabilitolog kabi mutaxassislarning hamkorlikdagi faoliyati muhim ahamiyat kasb etadi. Bu esa har bir bola organizmining individual xususiyatlarini chuqurroq o'rganish, rivojlanishdagi sezilarli yoki yashirin og'ishlarni aniqlash, va eng muhimi — ularni erta bartaraf etish uchun mos yondashuv ishlab chiqishga imkon yaratadi. Ayniqsa, mushaklarning reflektor javoblari, muvozanat va holat reaksiyalari, statodinamik harakatlar tahlili orqali umumiy holat baholansa, bu jarayon klinik tashxis qo'yish uchun tayanch mezon bo'lib xizmat qiladi [3].

Shuningdek, so'nggi yillarda bolalar holatini baholashda raqamli texnologiyalar asosidagi diagnostik vositalarning qo'llanilishi amaliy samaradorlikni sezilarli darajada oshirmoqda. Masalan, optik moire texnologiyasi orqali orqa qism geometriyasining uch o'lchamli skanerlash yo'li bilan aniqlanishi, yelkalar, tos va umurtqa segmentlaridagi og'ishlar milimetr aniqligida baholanishi mumkin. Shu bilan birga, posturografik platformalar yordamida bolaning muvozanatni saqlash qobiliyati, og'ish burchaklari, harakat trayektoriyasi dinamik tarzda aniqlanadi. Bunday texnologiyalar faqat mavjud nuqsonni ko'rsatib beribgina qolmay, balki fiziologik me'yorlarga mos individual rivojlanish trayektoriyasini aniqlashda ham muhim axborot manbasi bo'lib xizmat qiladi. Shuningdek, ilg'or mobil ilovalar, masalan, bolalarning holati monitoringi uchun mo'ljallangan Pose Estimator dasturlari orqaligina ham tezkor tahlil va taqqoslash imkoniyati yuzaga kelmoqda.

Bundan tashqari, sog'lomlashtirish tizimida erta skrining diagnostikasining joriy qilinishi — umurtqa pog'onasining shakllanishini nazorat qilishdagi yana bir samarali vosita hisoblanadi. Har yili amalga oshiriladigan profilaktik ko'riklar tizimida umurtqa shakllanishiga doir muayyan skrining mezonlarini kiritish orqali ko'plab ortopedik buzilishlarning erta aniqlanishi mumkin. Statistik ma'lumotlarga ko'ra, maktabgacha yoshdagi bolalarning 18–22 foizida turli darajadagi holat og'ishlari, eng avvalo, bo'yin lordozining keskinlashuvi, bel orqa mushaklarining asimmetriyasi va qisman skoliotik holatlar uchraydi. Bularni bolalar poliklinikalarida oddiy skoliometrlar, tezkor postural sinovlar va ortopedik pozitsion baholash testlari orqali aniqlash mumkin [4].

Demakki, zamonaviy texnologiyalar, interdisiplinar yondashuv va profilaktik skrining vositalari uyg'unligida tadqiqot usullarining samaradorligini bir necha

barobar oshirish mumkin. Eng muhimi, ushbu yondashuvlar bola organizmining morfofunktsional rivojlanishini to'g'ri yo'lga solish, umurtqa salomatligini saqlash va bolada sog'lom hayot tarzini shakllantirish uchun mustahkam poydevor bo'lib xizmat qiladi.

XULOSA VA MUNOZARA

Erta yoshdagi bolalarda umurtqa pog'onasi shakllanishini baholash va unga ta'sir etuvchi omillarni erda aniqlash — bolalar salomatligini saqlash va kelajakda yuzaga kelishi mumkin bo'lgan murakkab ortopedik muammolarni oldini olishda muhim tibbiy-gigiyenik va ijtimoiy zaruratdir. Tadqiqot usullarini tanlashda ularning diagnostik aniqligi, invazivlik darajasi, yoshga mosligi, iqtisodiy samaradorligi kabi ko'rsatkichlar hisobga olinishi zarur. Integratsiyalashgan yondashuv asosidagi tekshiruvlar esa umurtqa pog'onasi rivojining to'laqonli monitoringini amalga oshirish imkonini beradi.

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PEDAGOGICAL CONDITIONS OF PREPARING FUTURE TEACHERS FOR TOURISM ACTIVITIES THROUGH MUSEUM PEDAGOGY

Abstract: *This article is devoted to a scientific analysis of the pedagogical conditions for preparing future teachers for tourism activities through museum pedagogy. The study examines the role of museum pedagogy in the educational process, its importance in strengthening the professional training of future teachers, and the possibilities of adapting it to activities in the tourism sector. The article systematically examines such pedagogical conditions as the educational environment, adaptation of curricula, interactive teaching methods, and strategies for using museum resources. The purpose of the study is to develop an effective pedagogical model aimed at improving the quality of cultural and educational tourism by developing teachers' skills and competencies in the tourism sector.*

Keywords: *Museum pedagogy, future teachers, tourism activities, pedagogical conditions, professional training, educational integration, cultural tourism, interactive methods, museum resources, educational environment, competence development.*

INTRODUCTION

In the modern education system, the professional training of teachers requires not only the acquisition of academic knowledge, but also their adaptation to activities in the socio-cultural and economic spheres. In particular, the tourism industry is developing rapidly on a global scale, strengthening the integration processes between education and culture. In this process, museum pedagogy occupies a special place, enriching the educational process and appearing as an effective tool for preparing future teachers for tourism activities. Museums are important not only as institutions preserving historical and cultural heritage, but also as interactive learning environments. They allow students and teachers to develop practical skills, critical thinking, and cultural competencies.

The use of museum pedagogy in preparing future teachers for tourism activities serves to improve the quality of the educational process. This process requires pedagogical conditions, namely the integration of the educational environment, curricula, innovative methods and museum resources. A systematic analysis of these conditions allows not only to strengthen the professional training of teachers, but also to develop cultural and artistic directions in the field of tourism. This article is aimed at considering this issue on a scientific basis and aims to identify the pedagogical conditions for preparing future teachers for tourism activities on the basis of museum pedagogy and evaluate their effectiveness.

LITERATURE ANALYSIS

A number of scientific works have been carried out in recent years on the role of museum pedagogy in preparing future teachers for tourism activities. In particular, the works of such scientists as N.A. Ziyayeva, O.T. Musurmonova, M. Hojiahmedova substantiate the importance of using the educational potential of cultural heritage in the educational process. These sources highlight the importance of museums as non-traditional educational environments and the possibilities of forming socio-cultural competencies through them.

In pedagogical literature (G.Yo. Yo'ldoshev, M.M. Jo'raev), the concept of pedagogical conditions is analyzed based on a systematic approach, and factors such as personal development, motivation, environment, and methodological support are considered in a harmonious manner in the process of teacher training. In particular, the effectiveness of interactive methods based on cultural and historical context (quest, project-based education, excursion training) in the development of professional competencies is emphasized.

Also, in foreign sources (J. Falk, L. Dierking – The Museum Experience), museum pedagogy is assessed as an important tool that enhances active interaction between the student and the teacher. In their research, museums are seen not only as exhibitions, but as a learning platform that integrates social, cultural, and cognitive activities.

The scientific work of A. Uspenskaya and S. Ivanova is of great importance in the field of tourism education. They developed methodological approaches to teaching tourism based on regional cultures, archaeological monuments, and museum resources.

Also, the resolutions and decrees of the President of the Republic of Uzbekistan on youth education, patriotism, tourism development, and preservation of cultural heritage, in particular, "Youth is our future" and "Strategy for the development of tourism in the Republic of Uzbekistan for 2022–2026" have created the necessary regulatory and legal framework in this area.

RESULTS AND DISCUSSION

During the lessons organized in museums, students actively participate in theatrical and exhibition performances, staging the works of folk and author-creators. They can also perform everyday events such as a peasant's family lunch, a market, a matchmaking, a meeting of friends, and the celebration of the Navruz holiday.

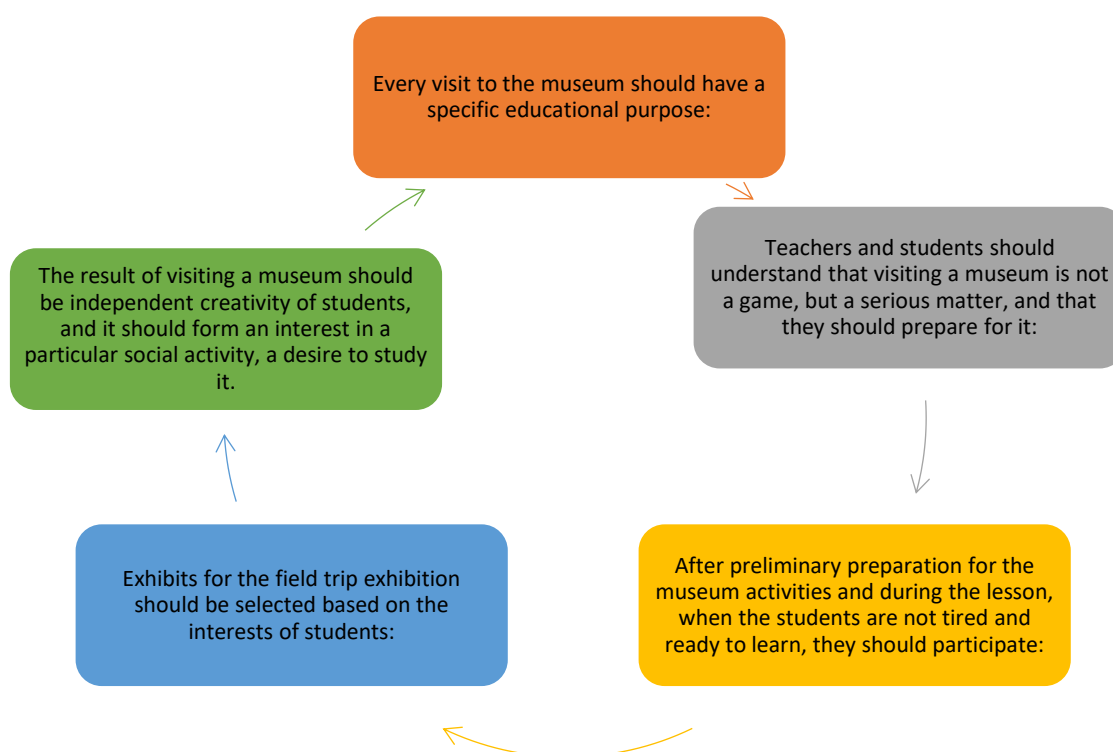
The interaction between a museum and an educational institution in Germany is based on helping the teacher solve specific educational tasks. In this sense, the art museum is no exception.

At the beginning of the 20th century, one of the founders of the German Museum of Natural History and Technology in Munich, G. Kerschensteiner, wrote the book "Theory of Education". In it, he justified the need to organize the activities of German museums on a pedagogical basis and outlined ways to achieve this goal. He links the basis of the concept of G. Kerschensteiner's pedagogical activity to museum pedagogy. In his opinion, "the organization of a museum that aims to

educate and train young people through knowledge is nothing more than educational construction, only here the construction works not with the shadows of objects, but with the objects themselves, as in schools." So, the role and importance of museum pedagogy in influencing is incomparable, and this scientist interprets this very correctly.

In Germany, the problems of museum pedagogy and its tasks were studied and systematized by the pedagogues of the "Central Institute of Education and Training" L. Pallat, D. Richter and G. Freudenthal.

Considering that the museum pedagogue is a specialist who can organize the process of educating students in the museum, G. Freudenthal recommended introducing students to historical, natural history and art museums, and technical and special museums for students. A. Reichwein, head of the department of the Ethnographic Museum in Berlin, was one of the first to use the term "museum pedagogy".

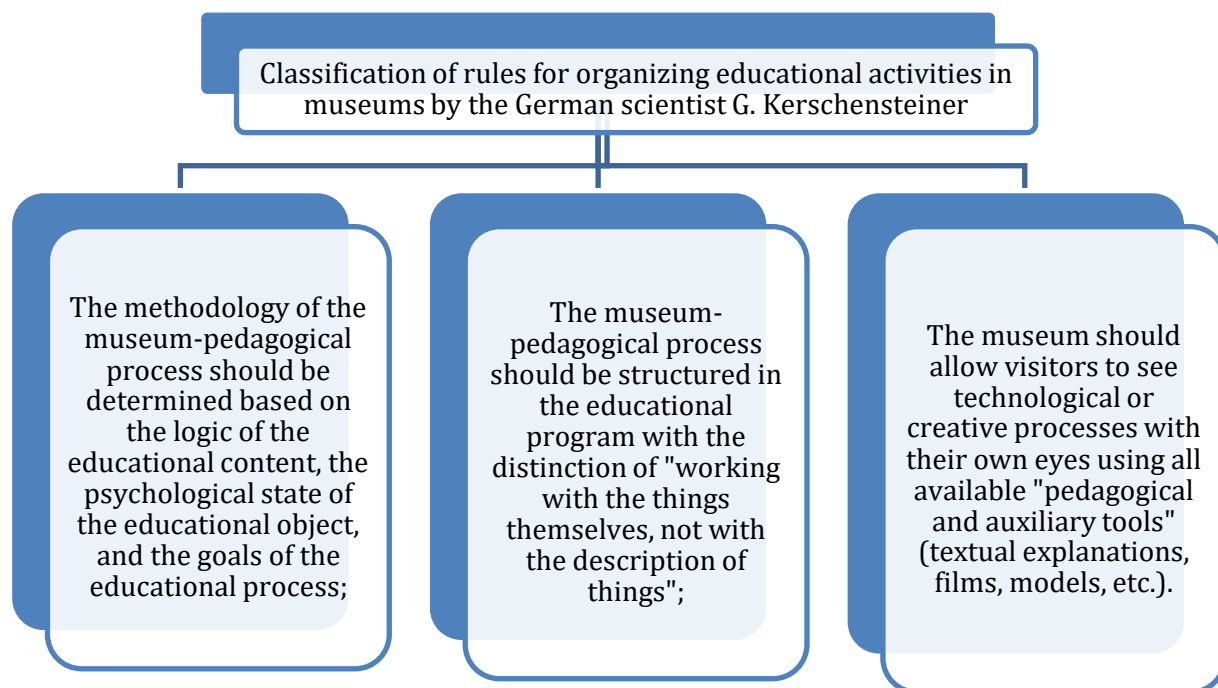


The basis for the success of lessons in the museum

The German scientist G. Freudenthal linked the success of lessons in the museum with the following conditions:

- organizing a museum excursion should be carried out in accordance with the plan, with a specific educational goal in mind;
- teachers are required to understand that their students need to prepare specifically for a visit to the museum;
- when visiting the museum, it is necessary to take into account the physical and psychological readiness of students, to participate when they are ready to perceive the exhibits;

- exhibits for the excursion exhibition should be selected based on the interests of students;
- the result of visiting the museum is a close study of the history and culture of the peoples of the world, acquaintance with historical monuments, which increases the independent creativity of students, increases interest in social activity, and forms a desire to study it;
- the introduction of modern technologies into the educational system based on their integration with the national traditions of our history helps to achieve educational effectiveness.



Classification of the rules for organizing educational activities in museums by the German scientist G. Kernsteiner

Museums are of particular importance among cultural and educational institutions in Uzbekistan. Therefore, in accordance with the resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On measures to ensure the accessibility of state museums to children and their parents", all state museums have designated every Tuesday and Friday as days of free admission to state museums of the republic for children under 18 years of age and their accompanying parents (or persons replacing them). This serves to widely promote the activities of museums among the public.

The focus on the general pedagogical tasks of development, education and upbringing has united museums that are diverse in terms of the scope of their collections and their specific features. Today, museum workers, striving to develop the younger generation's need for connection with the natural world, historical heritage and creative expression, are increasingly combining their main work with the work of professors and teachers, improving their professional skills.

An interdisciplinary approach began to develop in the field of art history, which made it possible to consider the visual arts, along with other arts, as one of

the areas of general humanitarian knowledge. The Metropolitan Museum of Art set the first example of conducting lessons in history, geography and other school subjects using costumes, furniture samples and other original historical objects.

The famous philosopher N.F. Fedorov, who considered museums to be moral and educational institutions that actively influence the social relations of students and the goals and content of their activities, described museums as "institutions of higher unity" in his work "The Museum - Its Content and Purpose". In his opinion, the museum "should be open to all members of society, and the museum should correctly carry out its three main functions, namely research, education and activity. He believed that only their joint implementation would contribute to the formation of spirituality and creativity.

Another museologist N.I. Romanov's article "On the tasks and methods of art excursions" occupied a special place among the publications. In it, the author emphasized that the process of teaching art should occur before a deep understanding of its impact on the human soul. A work of art should be studied not as an appendix to cultural history or general history, but as a valuable aesthetic object in its own right.

Another scientist F.I. Shmitt, in his book "Art as a Subject of Education", studied the goals and objectives of aesthetic education of young people. The author understands art as an active mental activity and proposes to include it in educational programs as a means of promoting the formation of a creative personality. Emphasizing the priority of the educational function over the learner, the scientist believed that, creating conditions for normal mental development, the educational institution prepares the student for both the process of active cognition of the world and the effective application of knowledge in practical life. In general, according to the scientist, "the educational process should be based on the laws of the student's natural development, and therefore education is nothing more than an active process of accumulating life experience, which includes the student's experience of interaction with the environment, mental and emotional impressions." It follows that to educate children, it is not enough to force them to sit still for several hours every day, but, on the contrary, they should be given the opportunity to move, engage in practical activities, and be active.

Theorist, art historian, critic, famous teacher of his time A.V. Bakushinsky, in his research, consistently combined the development of the theory of art education with the method of excursion work in art museums. He continued to strictly adhere to the age-specific characteristics of the viewer. The scientist paid great attention to the teacher in the practice of excursions, setting three mandatory conditions for him:

- 1) the ability to experience a work of art;
- 2) knowledge of the historical and art-historical content of a work of art;
- 3) the ability to psychologically approach the group.

Art museums are architectural, art, music and theater museums; a place where rare works of art are exhibited, promoted and stored. Although they differ in the

object of documentation, they perform a common task, namely, to satisfy the aesthetic requirements of a person.

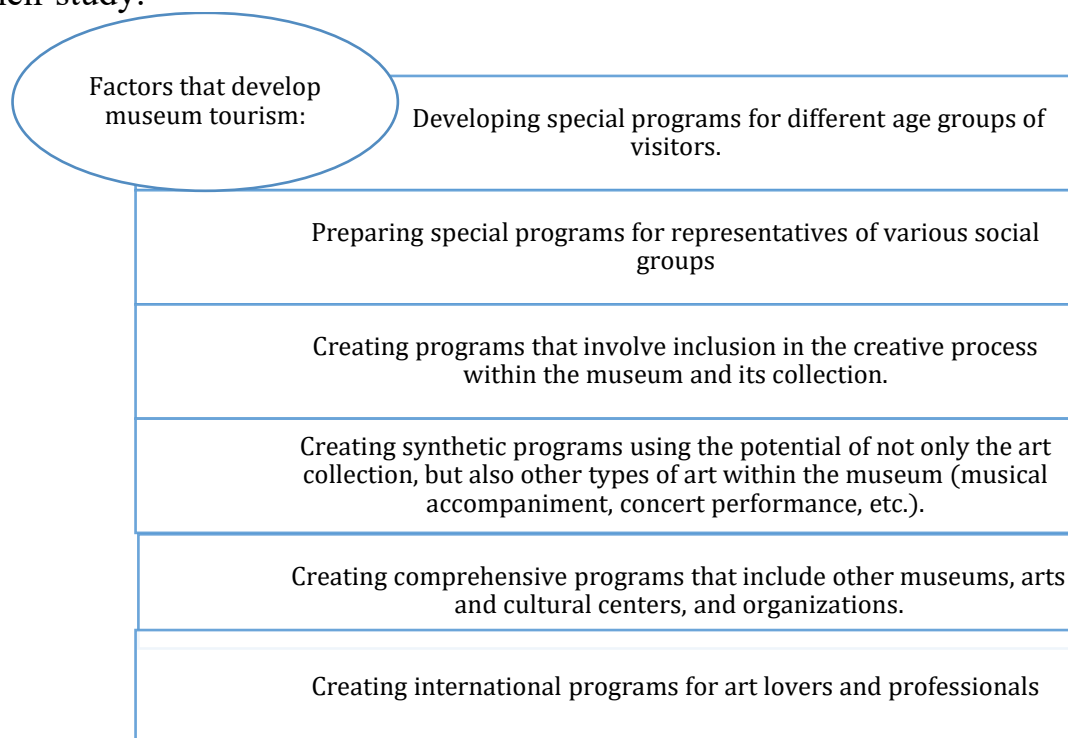
Architectural museums document the history of the development of this sphere of knowledge - the practical activity of man in the combination of art, science, and technology.

Art museums document the development of painting, sculpture, and applied and decorative arts. To this day, historical types of museums have been preserved and developed in this group: galleries, pinacotecas, glyptothecas, muenzkamas, panoramas, and so on.

Historical-architectural, historical-artistic museums-palaces, and memorial museums carry out the development of documentation of mixed fields of knowledge such as history, architecture, and art.

Music museums document the development of music, performing arts, and the process of development of this field. They are divided into museums of musical instruments, museums of musical culture, musical theaters, and concert halls. During the 20th century, museums in this specialized group moved from displaying musical culture at the local-ethnographic level to displaying it at the national, even world level, a systematic approach to exhibition work was implemented, and the main emphasis was placed on broadcasting musical and cultural experience.

Theater museums document theater and theatrical art, as well as the history of their study.



Factors driving museum tourism

A virtual museum is a computer-generated model of an invented museum that exists only in virtual space. It replicates some components of a real museum: "collections", "exhibition" catalogs, etc. As a rule, it is characterized by the presence

of three-dimensional "virtual expositions" that allow visitors to exchange ideas with the site, presented in large quantities through reproductions of "museum objects", and a virtual journey through the "exhibition".

Research on promoting the development of museums around the world, preserving their heritage and combating illicit trafficking in cultural property, raising the professional standards of museum staff, and establishing cooperation between museum institutions and specialists from different countries is carried out within the framework of the International Council of Museums (ICOM), a non-governmental professional organization founded in Paris (France) in 1946. This organization has the highest consultative status of category "A" at UNESCO and the Economic and Social Council of the United Nations. The International Council of Museums is an international organization of museums and museum professionals engaged in the preservation, development and interaction of society and the world's natural and cultural heritage, present and future, tangible and intangible heritage.

Also, scientific research is being conducted by the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), an international organization dedicated to the preservation of the world's cultural heritage through education, outreach, research, cooperation and community organizations, and the Museums Association (MA), a professional membership organization for museums, galleries and heritage organizations, and museum companies, based in London, the oldest museum association in the world.

Among the areas of activity of museums of various directions, there is cultural and educational tourism, which is closely related to the educational functions that have always been of great importance. While art, historical and local history museums are of interest to local and foreign visitors, natural science and technology museums are mainly in the focus of attention of the country's population, as well as students.

Museum tourism is a specific activity of museums in the field of cultural tourism, which includes the creation of expositions, internal and external excursions, educational seminars, lectures, public events, training courses, the presence of museum shops, the production and sale of museum tourist products. Museum tourism was not initially a traditional area of activity of museums. This phenomenon emerged in Russia in the mid-1990s, and in the West in the 1970s, in a situation where museums were faced with extreme self-determination, the search for new ways of development and extra-budgetary sources of funding, including participation in tourist activities.

Until the 20th century, the main thing in determining the status of a museum was its collections. Today, this point of view is changing, and a new approach to understanding the essence of the museum and its social purpose is being developed. Experts say that today the development of museum tourism depends on the following factors:

- 1) development of special programs for different age categories of visitors.
- 2) preparation of special programs for representatives of different social groups.

3) creation of programs that involve the process of creative activity within the museum and its collection.

4) creation of synthetic programs using the capabilities of not only the art collection, but also other types of art within the museum (musical accompaniment, concert performance, etc.).

5) creation of comprehensive programs that include other museums, art and cultural centers and organizations.

6) creation of international programs for art lovers and professionals.

The atmosphere created in a museum is part of the tourist product it offers, as well as the design and quality of the museum environment: exhibition and non-exhibition areas; buildings, territories, advertising, printed matter - everything that is in or associated with the museum. The museum offers:

1) expositions and exhibitions;

2) lecture tours;

3) special programs;

4) services determined by the capabilities of the museum's infrastructure;

5) copyright for reproduction of items included in the museum's collection;

6) books, catalogs, booklets and other printed matter, videos, slides and other publications using modern information technologies. The museum can also offer tourists a variety of products - tangible and intangible. Thus, the subject of museum tourism can be considered a broad range of objective laws related to obtaining and analyzing information about the tourist market and the consumer of museum products, creating conditions for the preparation and sale of museum products, and, on this basis, the legal and economic basis for its advertising and marketing.

The development of electronic communications and the Internet, as well as the spread of electronic visual aids, has a significant impact on the activities of museums. In an era when almost any reproductive information can be found on the Internet, real objects acquire a new meaning and value. In such a situation, museums are valuable as unique objects that offer a closer acquaintance with the real image or image of unique works of art. An important factor motivating museums to increase their interaction with society is the need to attract, retain visitors and expand their audience.

In conclusion, the museum can be an effective factor in the social adaptation of a person, the development of creative foundations, the upbringing of social activity of the individual and a means of overcoming negative life choices, helping to preserve and transmit spiritual and cultural values to the growing younger generation. Currently, the role of cultural institutions, in particular, museums, which are an integral part of the social education system, is significantly increasing.

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LIGHT INDUSTRY: THE NEED FOR DEVELOPMENT, GENERAL SITUATION, AND EXPORT CHALLENGES

***Abstract:** This article provides a detailed analysis of the significance of the light industry sector in the national economy and the necessity of its development. It examines the general state of the sector, analyzes production and export indicators, identifies existing challenges, and substantiates the impact of ongoing reforms on export performance. Additionally, the article offers recommendations and proposals to enhance export indicators.*

***Keywords:** light industry, sector, product, exports,*

Introduction

Light industry is one of the key sectors that ensures the stability of the national economy and meets the essential needs of the population. At the same time, several factors justify the necessity of developing this sector:

Firstly, light industry not only produces daily essential goods but also contributes to economic diversification, making it one of the crucial drivers of economic growth.

Secondly, the sector generates numerous job opportunities. As a labor-intensive industry requiring both skilled and unskilled labor, it plays a vital role in employment generation.

Thirdly, domestic production of light industry products reduces dependence on imports, thereby helping to preserve the country's foreign currency reserves and ensuring economic stability.

Fourthly, light industry enables the efficient use of local raw materials and resources. For example, processing cotton and other agricultural products shifts the economy from a raw material-based model to finished goods production.

Fifthly, exporting light industry products, such as clothing and footwear, strengthens economic relations with other countries and expands foreign trade opportunities.

Sixthly, the development of light industry can stimulate technological advancements and innovation, improving product quality, simplifying production processes, and reducing costs.

Seventhly, the sector employs a significant number of women and young workers, contributing to social stability and addressing key social issues, particularly in local communities.

Thus, developing the light industry sector is not only essential for economic growth but also for ensuring social stability and sustainable development.

Methods. In this study, several research methods were employed, including:

- Statistical analysis: Examining statistical data on the export of light industry products.
- Comparative analysis: Analyzing the dynamics of changes in export volumes and shares.
- Document analysis: Reviewing decisions and decrees issued by the Government of the Republic of Uzbekistan.

Results

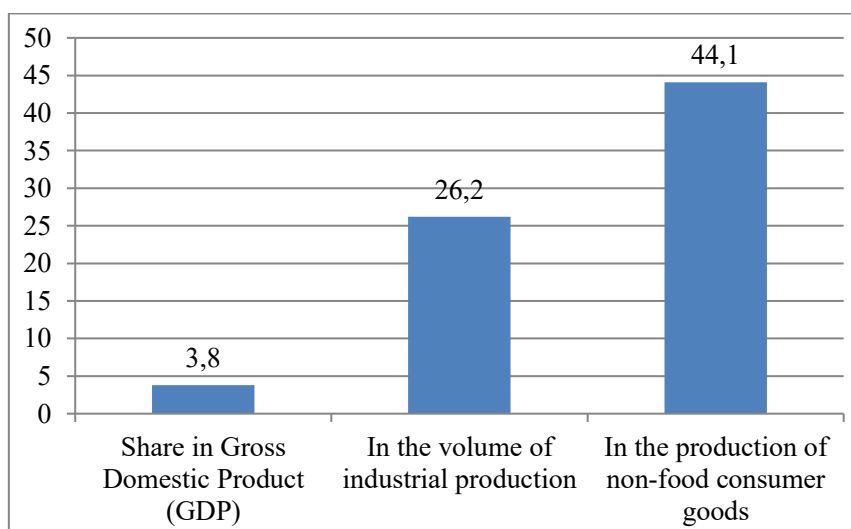
Today, Uzbekistan's light industry is one of the leading and rapidly developing sectors. Since gaining independence, the sector has secured a strong position within the country's macroeconomic framework. The following statistics highlight the crucial role of light industry in economic development:

The sector's share in GDP is 3.8%.

Its contribution to industrial production is 26.2%.

It accounts for over 44% of non-food consumer goods production⁶¹.

Figure 1. The Role of Uzbekistan's Light Industry in the Economy.



Uzbekistan's light industry has established a well-developed production chain, from raw cotton processing to finished textile products. The industry has expanded its capacity, modernized existing facilities, and now includes:

1,750 enterprises in textile, garment, and knitting production, including:

Textile factories (410): Focus on fabric production.

Garment/Knitwear (1,330): End-product manufacturing — key for exports.

Clusters (140): Likely vertical hubs combining cotton processing, spinning, weaving, and manufacturing.

⁶¹ <http://uzbekistan-geneva.ch/o-zbekiston-yengil-sanoati-mustaqillik-yillarida-mahsulotlar-eksporti.html>

These data identifies that the sheer number of garment/knitwear factories suggests the focus is labor-intensive, and it could mean: A growing workforce with textile skills and a focus on exports of ready-made clothing, not just fabric.

The sector has made significant progress in utilizing domestic cotton fiber, with 50% of local cotton fiber now processed within the country⁶². The industry has also seen remarkable growth in key product categories:

Yarn production: 426.5 thousand tons (106.7% growth)

Fabric production: 301 million square meters (109.1% growth)

Knitted fabric production: 95.8 thousand tons (111.9% growth)

Knitted products: 310 million pieces (116.8% growth)

Sock production: 181.5 million pairs.

As a result of implemented measures, the average utilization rate of production capacities has significantly improved: As a result of the activities carried out, the average power utilization rate reached 80 percent in yarn production, 72.8 percent in fabric production, 75.4 knitted fabric production, 76 percent in knitted production and 68.1 percent in garment production⁶³.

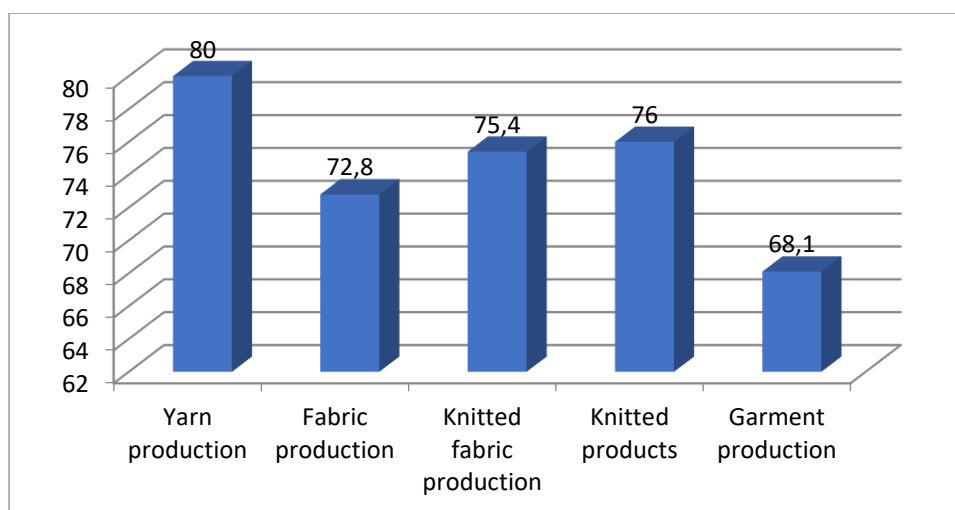


Figure 2. Production capacity Utilization rates by stages

Discussion

It is worth noting that exporting products provides numerous benefits and advantages for enterprises in the light industry sector. This process contributes to the growth, efficiency, and competitiveness of enterprises. In particular, exporting goods helps companies reach new customers through access to international markets, which in turn increases their overall sales volume. Moreover, engaging in export activities boosts the company's revenues, as it allows for sales expansion not only in the domestic market but also in foreign markets. Thus, export plays a crucial role in enhancing the sustainability and profitability of enterprises within the sector.

⁶² Development Strategies of the Textile Industry of Uzbekistan

⁶³ S. Umarova. O'zbekiston va GSP+ tizimi: to'qimachilik sanoatiga innovatsiyalarni jalb qilish va brend yaratish orqali eksportni oshirish. Center for progressive reforms. <https://prereforms.uz/uz/publications/ozbekiston-va-gsp-tizimi-toqimachilik-sanoatiga-innovatsiyalarni-jalb-qilish-va-brend-yaratish-orqali-eksportni-oshirish-228>

In addition to the previously mentioned benefits, entering international markets allows enterprises to test their products against competitors from other countries and to use their existing resources more efficiently. Exporting also increases foreign exchange earnings, which supports the national economy.

Furthermore, international markets—through their specific demands and standards—encourage enterprises to adopt new technologies and innovations. This, in turn, improves product quality and production efficiency.

Access to global markets helps enterprises adapt to various economic conditions. In times of economic instability or crises, having a presence in international markets can provide a buffer and ensure sustainability. It also allows enterprises to gain valuable experience and knowledge about working in international environments, which can be instrumental in shaping a more successful business strategy in the future.

Thus, product exportation carries not only economic but also strategic importance for enterprises, as it enhances their integration into the global market and increases their competitiveness.

On January 16, 2025, President Shavkat Mirziyoyev issued a decree titled *"On Additional Measures to Develop the Processing Chain in the Textile and Garment-Knitting Industry."* According to this decree, significant growth in light industry exports is planned for the coming years. The goals include:

- Increasing export volumes to \$4 billion in 2025,
- \$5 billion in 2026, and
- \$7 billion in 2027.
- It also envisions:
 - Raising the volume of ready-made garment exports to the U.S. and European markets to \$500 million,
 - Increasing the share of ready-made textile and knitwear products to 70% of total exports.

However, due to fluctuations in the global market, export prices for certain products have declined: yarn prices decreased by 9%, fabric prices by 15%, ready-made products by 13%.

Despite these challenges, Uzbekistan's light industry has demonstrated strong export growth in recent years. In 2024, the country exported \$2.9 billion worth of textile products to 77 countries.

The export structure is undergoing noticeable changes:

- Yarn (41.7%) still accounts for the majority of exports, indicating a continued focus on lower value-added products.
- Ready-made garments and knitwear (40.9%) have increased in share compared to previous years.
- Knitted fabrics (9.7%), fabrics (5.4%), socks (1.4%), and carpets (0.9%) make up smaller shares, but reflect growing market diversification.

Based on the results of all the analysis, the following problems can be identified:

- High reliance on raw material exports – Yarn still dominates the export structure, limiting the industry's value-added potential.
- Insufficient competitiveness of finished products – Locally produced garments and textiles face challenges in matching international standards in terms of quality, design, and innovation.
- Underdeveloped branding and marketing strategies – The lack of strong domestic brands and limited global marketing reduce the visibility of Uzbek products in international markets.
- Technological backwardness in some enterprises – Outdated equipment and production methods hinder efficiency and product quality.
- Barriers to entering global markets – Compliance with international certification and logistical issues restrict access to the U.S. and European markets.
- Limited support for small and medium enterprises (SMEs) – Many SMEs lack access to finance and resources needed to modernize and expand their production capacity.
- Low labor productivity – Productivity remains below international benchmarks, which affects cost-effectiveness and global competitiveness.

Conclusion

Based on the above considerations, the main objectives for increasing the export of products from the light industry sector include expanding exports to the U.S. and European markets, increasing the share of finished product exports to 70%, adapting to global market fluctuations, and boosting overall export volumes.

Additionally, it is essential to implement targeted measures to expand the capacity of local enterprises to produce finished goods, and to provide incentive-based subsidies and privileges for the domestic processing of raw materials.

However, there are still several challenges in increasing the export of finished goods. In particular, the competitiveness of finished products remains relatively low. Although Uzbekistan's textile and garment industry is developing, competing with international brands remains difficult.

To overcome these challenges, it is necessary to introduce modern designs and innovative technologies, strengthen marketing strategies, and promote Uzbek brands to the international level. Achieving success in these areas is crucial for ensuring sustainable growth and long-term competitiveness in the global market.

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VOLEYBOLCHILARGA QO'YILADIGAN TAKTIK-TEXNIK VAZIFALAR

Annotatsiya: Voleybolchi nafaqat o'rgatish (o'qitish) obyekti va subyektidir, balki u bo'lajak kasbiy-pedagogik faoliyatning ham (o'qituvchi, trener) obyekti va subyekti sifatida ta'lim oladi. Maqolada bo'lajak voleybolchilarga qo'yiladigan taktik-texnik vazifalar haqida so'z boradi.

Kalit so'zlar: sport, voleybol, o'qituvchi-trener, talaba, malakaviy talablar, pedagogik funksiyalar, jismoniy tayyorgarlik.

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TACTICAL AND TECHNICAL TASKS FOR VOLLEYBALL PLAYERS

Annotation: The student is not only the object and subject of learning, but also the object and subject of future professional and pedagogical activity (teacher, coach). The article discusses the requirements for future volleyball players.

Key words: sport, volleyball, teacher-trainer, student, qualification requirements, pedagogical functions, physical training.

Kirish. XXI asr inson va jamiyat taraqqiyotida ilm-fan, texnika va innovatsion texnologiyalarning global miqyosda jadal sur'atlar bilan shakllana borishi, ishlab chiqarish, uy-ro'zg'or, yo'l harakatlari, hatto intellektual jarayonlarni "avtomatlar", kompyuterlar va robotlar "qo'liga" topshirmoqda. Ushbu vaziyat bir tomondan odamzot uchun barcha qulayliklarni muhayyo etsa, ish sifati va samaradorligini oshirsa, ikkinchi tomondan jismoniy mehnat-mushaklar faoliyatini nihoyatda chegaralab qo'ymoqda. Aynan ikkinchi holatning ustuvorligi asta-sekin gipokineziya (kam harakatlanish) dardiga muhtalo qiladi. Gipokineziya esa, o'z navbatida hayotga xavf soluvchi zamon sivilizatsiyasiga xos hastaliklar (ishemiya, gipertoniya, bronx astmasi, nevroz, osteoxandroz va h.k.)ni keltirib chiqarishi isbot talab qilmaydi. To'g'ri, ushbu kasalliklardan xalos bo'lish uchun "o'tkir" doridarmonlar va zamonaviy muolaja usullari mavjud. Lekin bunday vositalar bir darddan "ozod" qilib, ikkinchi bir dardni "chaqirishi" ehtimoldan holi emas. Olimlar tomonidan azaldan ilmiy asosda isbot qilinganki, gipokine-

ziyani oldini oluvchi yoki davolovchi yagona va o'ta samarali "dori-darmon" – me'yorlangan jismoniy tarbiya va sport mashqlaridir.

Tadqiqot materiallari va metodologiyasi. Demak, iftixor bilan ta'kidlash mumkinki, Yurtboshimiz tomonidan qo'llabquvvatlanayotgan va davlat siyosati doirasida rivoj topayotgan jismoniy tarbiya va sport sharaflari sohaga aylanib bormoqda. Shunday ekan, ayni vaqtda jismoniy tarbiya hamda ommaviy sportni aholining, ayniqsa o'quvchi-yoshlar-ning kundalik hayotiy ehtiyojiga aylantirish va, albatta, yurtimiz bayrog'ini Olimp cho'qqilariga olib chiqishga qodir iste'dodli sport zahiralarini hamda raqobatbardosh sportchilar tayyorlovchi professional kadrlar yetishtirish soha-ning o'ta dolzarb vazifalaridan biridir.

Jismoniy tarbiya va xususan voleybol bo'yicha tayyorlanadigan o'qituvchilarning modelini "Ta'lim to'g'risida"gi qonun, "Kadrlar tayyorlash milliy dasturi" muvofiq ta'lim yo'nalishiga mo'ljallangan DTS va fan dasturi talablari bilan belgilanadi. Voleybol ixtisosligi bo'yicha bakalavriaturada ta'lim olayotgan talaba – bo'lajak o'qituvchi-trenerda dasturda belgilangan kasbiy-pedagogik bilim, amaliy ko'nikma va malakalarni o'zlashtirishga qaratiladi.

Voleybol ixtisosligi bo'yicha trener-o'qituvchining ko'p komponentli kasbiy-pedagogik funksiyalarining (boshqaruvchilik, mashq-lantirish, tashkilotchilik, tarbiyachilik va h.k.) tarkibiy tuzilishi, mohiyati, maz-muni haqida chuqur va keng tasavvurga ega bo'lishi, mavjud ilg'or tajribalar va ilmiy-tadqiqot natijalariga asoslangan nazariy bilimlar, amaliy ko'nikma hamda malakalarni o'zlashtirishini ta'minlash, ularni malakaviy amaliyotlar davomida mukammallashtirish, voleybolga tanlov o'tkazish, diagnostik, seleksion-prognostik ishlar kabi kasbiy-funksional qobiliyatlarga ega bo'lishi, turli yoshli va malakaga mansub voleybolchilar bilan mashg'ulot hamda musobaqalar o'tkazish, hakamlilik qilish va musobaqani boshqarish sirlarini o'rgatishga mo'ljallanadi.

Tadqiqot natijalari va muhokama. Ushbu fan dasturiga asosan talabaga quyidagi malakaviy talablar qo'yiladi. Talaba:

- "Voleybol nazariyasi va uslubiyati" fani dasturiga kiritilgan barcha ma'ruza mavzulari bo'yicha beriladigan nazariy bilimlar, seminar va amaliy mashg'ulotlar, malakaviy amaliyotlar davomida shakllantiriladigan kasbiy-pedagogik ko'nikma va malakalarni o'zlashtirishi;

- mazkur jarayonda mahalliy va xorijiy mutaxassislarning ilg'or tajribalari, innovatsion- pedagogik va axborot-kommunikatsion texnologiyalardan faol foydalanishi;

- fanga doir tarixiy-evolyutsion materiallar, jismoniy, texnik-taktik va psixologik tayyorgarlik jarayonlarining mohiyati, mazmuni hamda ushbu jarayonlarni amalga oshirish texnologiyasi, uslublari, vositalari va prinsiplarini bilishi;

- o'yin texnikasi va taktikasi, ularga o'rgatish, tanlov va seleksion ishlar, turli yosh va malakaga mansub voleybolchilar hamda jamoalar bilan mashg'ulot o'tkazish texnologiyasini chuqur egallashi;

- musobaqa qoidalari, hakamlar va hakamlilik qilish, musobaqalar tashkil qilish va o'tkazish, musobaqa samaradorligini ilmiy asosda aniqlash, olingan natijalar

yordamida jamoani boshqarish bilan bog'liq bilim va ko'nikmalarni o'zlashtirishi;
- tayyorgarlik turlari mohiyati va mazmunini bilish, ularni rivojlantirish, ularni shakllanish dinamikasini ilmiy-pedagogik uslublar, test mashqlari yordamida baholash ko'nikmalari va mezonlarini bilish hamda qo'llash malakalariga ega bo'lishi;

- o'qituvchi-trenerning ko'p komponentli kasbiy-pedagogik funksiyalari – boshqaruvchilik, tashkilotchilik, tarbiyachilik, ijodkorlik, loyihachilik, kommunikativlik, diagnostik, seleksion-prognostik ishlarni tashkil qilish ko'nikmalarini o'zlashtirishi;

- qayd etilgan kasbiy-pedagogik bilim, ko'nikma va malakalarni nazariy (ma'ruza), amaliy hamda seminar mashg'ulotlari, malakaviy amaliyotlar, turli ilmiy-amaliy anjumanlarda kurs ishlari va bitiruv malakaviy ishlarni bajarish davomida mukammallashtirishi;

Xulosa. Harakatlar zahirasi boyitish, texnik-taktik mahorat doirasini kengaytirish va sog'liqni mukammallashtirishda muhim rol o'ynovchi "o'naqay va chapa-qay" harakat funksiyalarini simmetrik tartibda shakllantirish texnologiyasi, vositalari hamda prinsiplarini o'rganish, o'zlashtirish va amalda qo'llash ko'nikmasiga ega bo'lishi;

Mashg'ulot va musobaqa davomida yuklamalardan toliqish alomatlarini vizual va maxsus testlar asosida aniqlash, ularni bartaraf etish vositalari, ish qobiliyatini tiklash bilan bog'liq bilim, ko'nikma va malakalarini o'zlashtirishi kerak.

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INCLUSIVE EDUCATION: AS AN INTEGRAL PART OF THE MODERN EDUCATION SYSTEM

***Annotatsiya:** In this article the essence of inclusive education, basic principles, advantages and referred the word about the complexity of their implementation in practice problems and their solutions.*

***Keywords:** inclusive education, special needs, equal opportunity, integration in flexible methods.*

Today, more people are considering the needs of the individual organization of the education system. In particular, to create equal conditions for children with special needs, inclusive education and development approach that enable socialization their actual importance. The purpose of boosting inclusive education system — education of all children and to ensure equal opportunity for individual properties, opportunities, previous educational achievements, the language, the culture, the social and economic status of parents in education is to create the conditions necessary to achieve success in spite of. What is inclusive education? that is the right question. Inclusive education – all these children, in particular, physical, mental or social institutions for children with special needs in general education approach is aimed at creating the opportunity to get quality education. This approach children without a separate training and development is based on the principle of them together. The complexity of the principles of inclusive education:

- equal opportunities: ensuring every child's right to education;
- individual approach: each student and let him determine the needs of the technical application of suitable training methods;
- a personalized environment: physical and psychological facilities;
- social inclusion: full add all children to the society.

Regardless of the features or capabilities of the basic principles of inclusive education for all children, is to create the conditions for full socialization. Thus, to adapt the training program, specialist support is achieved through various measures and individual approach to each child containing.

Inclusive the theoretical and practical aspects of education have been widely studied in the scientific literature. In particular, the possibility of D. Akhmedov and H. Rasulov the process of integration into the education of children limited research issues illuminated. The main principles of education as inclusive respect human rights, and the fight against diskriminatsion shows the principle of equality in education. Inclusive education in uzbekistan is one of the important directions of state policy in improving the system, this area has a number of positive changes are being implemented. In particular, the president of the Republic of Uzbekistan “to give education to children who have special educational needs on measures for

further improvement of the system” dated the legal basis for efforts to be done in this regard is intended.

With this decision, for the years 2020-2025 development of the concept of inclusive education in the public education system and its implementation in 2020-2021 year “road map”, as well as targeted education of children with special educational needs in 2025 from the years of development indicators (indicators) approved.

Notable, “Uzbekistan's development strategy for years 2022-2026 new” special needs at the person providing inclusive and active participation in social and economic life of society to be involved in the improvement of education and the employment system and provide quality education for young people open to all stages of education to ensure that they get the perfect education of youth in the regions as to create the conditions for the development of inclusive education fail to give priority to keep tasks. The individual approach and the use of special software inkluziv in the organization of education is important. At the same time the training of teachers and the use of modern educational technology, increases efficiency.

Inclusive education, as well as offers an individual approach to each child. Teachers should develop each child's needs and they analyze individual educational plans considering its features. Mastering this material will help you to create the optimal conditions for the child's development and successful. However, it is facing a number of challenges to the implementation of inclusive education. One of them the reach of qualified personnel. Inclusive education for the successful implementation of various ages and socio-economic status in children, as well as professionals working with children with special educational needs should be able to. However, teachers often have not enough knowledge and skills to work with such a diverse audience of children. Without paying enough attention to the educational needs of special children and they are inclusive approach to the traditional method is prepared

The lack of special equipment, personalized environment total lack of room or a set of such children can be to hinder the full integration of the educational process. As a result, if there are problems with the availability of quality education for all children, this is contrary to the basic principles of inclusive. The problem is this. I completely personalized for the special programs and materials the reach of child. In some schools, educational programs, there is not enough resources or knowledge to adapt to each child's needs. In addition, many people still prefer the traditional look with doubt and to the idea of inclusive education system. This is the introduction of inclusive education and obstacles in the way of resistance can lead to be produced by some participants of the educational process. In general, it is important that inclusive education requires serious consideration of the topic. It strives to create equal opportunities for all children to achieve their potential and to help. Despite the challenges, the introduction of inclusive education for exceptional children plus, the whole society can bring significant benefits for both. A number of obstacles and difficulties that face the implementation of inclusive education is

complex and multifaceted process. Inclusive education is an integral part of every child's right to education, although it can hinder the implementation of various factors. One of the main problems of the implementation of inclusive education teachers at a sufficient level of complexity of the composition is prepared. I have not enough knowledge and skills to work with a particular child, teachers are always completely. They in the educational process, adapted to the needs of a certain program children in the class and may encounter difficulties in creating a comfortable environment. Teachers on inclusive education issues on a regular basis, as well as the possibility of professional development should give them. Another problem-lack of sufficient funds for inclusive education. This special equipment for the successful implementation concept, teacher assistants and other support tools need additional resources such as educational materials. However, in most cases lack the funds to do this in school, this creates restrictions for the development of inclusive education. The problem of social adaptation of children in the class I completely inclusive in particular it should also be noted. They faced some difficulties in communicating with peers or children by the negative attitude of the audience may be the object. This insulator can lead to negative learning experiences and their institution.

The speed or specific learning different skills of traditional evaluation system that can be completely ineffective for children with special I can be. Instead, you should use more flexible methods of assessment which takes into account the individual characteristics of each child. And finally, one of the main problems of inclusive education to implement a part of this society a negative attitude to this concept. Some people, especially the children, I completely "healthy" children, but are better to study in specialized institutions. "My child's education to disabled children or with disabled children read my healthy does not also have a negative effect on the student's class like". It should be noted that, in healthy children and children with disabilities on the basis of the relationship between the lens, the difficulties arise. In relationships of mutual emotional tension appear, the relations between the children gradually occurs. Cautious than to defects in the development of healthy children by parents and sometimes children who have mainly negative attitude are formed. In many cases the parents of healthy children, their children and the process of inclusive education are not ready to have children they do not want allowed to read together with different functional properties. This look brings all the negative stereotypes and wrong and hinders the process to create a comfortable environment for children while inclusion inhibits this. Also, the number of students in the class many of the problems of children with special needs in school and in the community mass see, in many countries the regulatory documents that were not recorded in the state on the introduction of inclusive education, sexual discrepancies shrink depending on the possibility of the implementation of inclusive education as the problem of the dependence of others cheklanganlar complexity have looked as one of the actual problems.

In the context of inclusive education, children with special needs are educated together with their peers, which facilitates social integration for them. In general

classes, special teaching methods or auxiliary technologies are provided for them. Another important aspect is the individual approach. In inclusive education, the needs of each student are taken into account. Curricular or classes for students with special needs are compiled on the basis of a personal approach. This requires the development of adapted education plans and a continuous assessment of their development. Inclusive education aims not only at academic development, but also at social integration. Students with special needs or special needs learn social skills by being with other students in the class. Thus, a social environment is formed based on mutual understanding and respect in the classroom. Inclusive education is developing around the world.

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GOLSHTIN ZOTLI BIRINCHI TUG‘IM YOSHIDAGI SIGIRLARDA LAKTATSIYANING KECHISH XUSUSIYATLARI VA MAHSULOT ISHLAB CHIQUV KOB‘RSATKICHLARI

***Annotatsiya.** Sigirlarning nasl qiymatini va sutbop podalardan foydalanish samaradorligini baholashda ularning sut mahsuldorlik darajasi asosiy ko‘rsatkich bo‘lib hisoblanadi. Sut mahsuldorlikni ko‘paytirishga qaratilgan chora-tadbirlarni qo‘llash natijasida, sigirlarni mahsuldorligi bir necha o‘n marta oshgan. Sigirlarning sut mahsuldorligiga va xo‘jalik foydali belgilariga zoti, oziqlantirish darajasi sezilarli darajada ta‘sir qiladi. Ushbu maqolada, import yo‘li bilan chetdan olib kelingan golshtin zotli sigirlardan olingan avlodlarining birinchi tug‘im yoshidagi mahsuldorlik ko‘rsatkichlari, ularning laktatsiyaning kechish xususiyatlari va mahsuldorlikka ta‘sir etuvchi omillar hamda mahsulot miqdorining o‘zgarishlarini ularning tirik vazn ko‘rsatkichlariga bog‘liqligi bo‘yicha ma‘lumotlar keltirilgan.*

***Kalit so‘zlar:** Golshtin zoti, birinchi tug‘im, Germaniya va Polsha seleksiyasi, laktatsiya, tirik vazn, mahsulorlik koeffitsienti, sut yog‘i chiqimi.*

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FEATURES OF LACTATION AND INDICATORS OF PRODUCT PRODUCTION IN COWS OF THE FIRST CALDBEARING AGE OF THE GOLSHTIN BREED

***Annotation.** In assessing the breeding value of cows and the efficiency of using dairy herds, the main indicator is their milk productivity level. As a result of implementing measures aimed at increasing milk productivity, the productivity of cows has increased several dozen times. The breed of cows and the level of feeding have a significant impact on milk productivity and economically useful traits. This article presents data on the productivity indicators of first-calf heifers obtained from imported Holstein cows, the characteristics of their lactation process, factors*

influencing productivity, and the relationship between changes in milk production volume and live weight indicators.

Keywords: *Holstein breed, first-calving, German and Polish selection, lactation, live weight, milk yield coefficient, milk fat yield.*

Kirish. Chorvachilikda olib borilayotgan iqtisodiy islohotlar tarmoqlar kesimida asosiy hisoblangan qoramolchilik sohasini rivojlanishiga ham o'zining salmoqli darajadagi ijobiy ta'sirini ko'rsatmoqda.

Ma'lumki, sut va qoramol go'shtini ishlab chiqarishni ko'paytirishda seleksiya-naslchilik ishlari muhim rol o'ynaydi. Aynan ushbu tadbirni samarali tarzda qo'llash, qoramol zotlari va podalarini genetik jihatdan takomillashishini ta'minlaydi.

Sut yo'nalishidagi qoramollarda sut ishlab chiqarish samaradorligini oshirishda, podalarni yuqori mahsuldor sigirlar salmog'ini yaxshilashda va mahsuldorligini yanada ko'paytirishda, sohaning iqtisodiy samaradorligini oshirishda sigirlarning pushtdorlik xususiyatlari alohida o'ringa ega. Har bir bosh sigirdan yilda bir boshdan buzoq olish bunday podalarda asosiy vazifalardan biri hisoblanib, seleksiya ishlarining muhim vazifalaridan biridir.

Tadqiqotlar va uslublar. Sigirlarning asosiy xo'jalik-biologik foydali belgilaridan biri sut mahsuldorlik ko'rsatkichi bilan xarakterlanadi. Ma'lumki, sigirlarning sut mahsuldorligiga laktatsiya davridagi eng yuqori sog'im miqdori va uni davomiyligi bevosita ta'sir ko'rsatadi. Bu ko'rsatkich qancha yuqori va davomli bo'lsa, sigirning laktatsiya egri chizig'i shuncha turg'un kechadi, bunday sigirlar mahsuldor hisoblanadi.

Xorijdan import qilingan Golshtin zotli sigirlardan olingan avlodlarining I laktatsiyalardagi mahsuldorlik ko'rsatkichlarini va pushtdorlik xususiyatlari hamda boshqa seleksiya belgilariga oid ilmiy-tadqiqot ishlari 2023–2024 yillarda Andijon viloyati, Andijon tumanida joylashgan "Muqumiy" naslchilik fermer xo'jaligida o'tkazildi.

Xorijdan import qilingan Golshtin zotli sigirlardan olingan avlodlarining I laktatsiyalardagi mahsuldorlik ko'rsatkichlarini va pushtdorlik xususiyatlarini o'rganishda tajriba uchun o'hshashlik belgilari talablari asosida kelib chiqishi, zoti va zotdorligi, tirik vazni, sutdorlik koeffitsienti, yoshini hisobga olgan holda 2 guruhda golshtin zotli birinchi tug'um yoshidagi sigirlar tanlab olindi.

Sigirlarning laktatsiyasi davomidagi sut miqdori, har 10 kunda bir marta nazorat sog'imini tashkil etish orqali aniqlanadi. Sut tarkibidagi yog', oqsil, quruq modda, yog'siz quruq sut qoldig'i va sut tarkibidagi suv miqdori har bir nazorat sog'imi vaqtida LAKTAN-4 asbobi yordamida, 4 % - li yog'li sut miqdori, qand, mineral moddalar, sutning energetik qiymati. N.V.Barabanshikov (1984) usulida aniqlanadi. Tajribalarimizda biz, sigirlarni laktatsiya oylari bo'yicha sog'im miqdori asosida laktatsiya faoliyatini kechish xususiyatini o'rganishga harakat qildik.

Buning uchun ikkala guruhdagi sigirlarning sut mahsuldorligini aniqlash; laktatsiya oylari bo'yicha sog'im miqdorini pasayish dinamikasini aniqlash;

laktatsiyada sog'im miqdorini o'zgarish koeffitsientini hisoblash maqsad qilib quyildi.

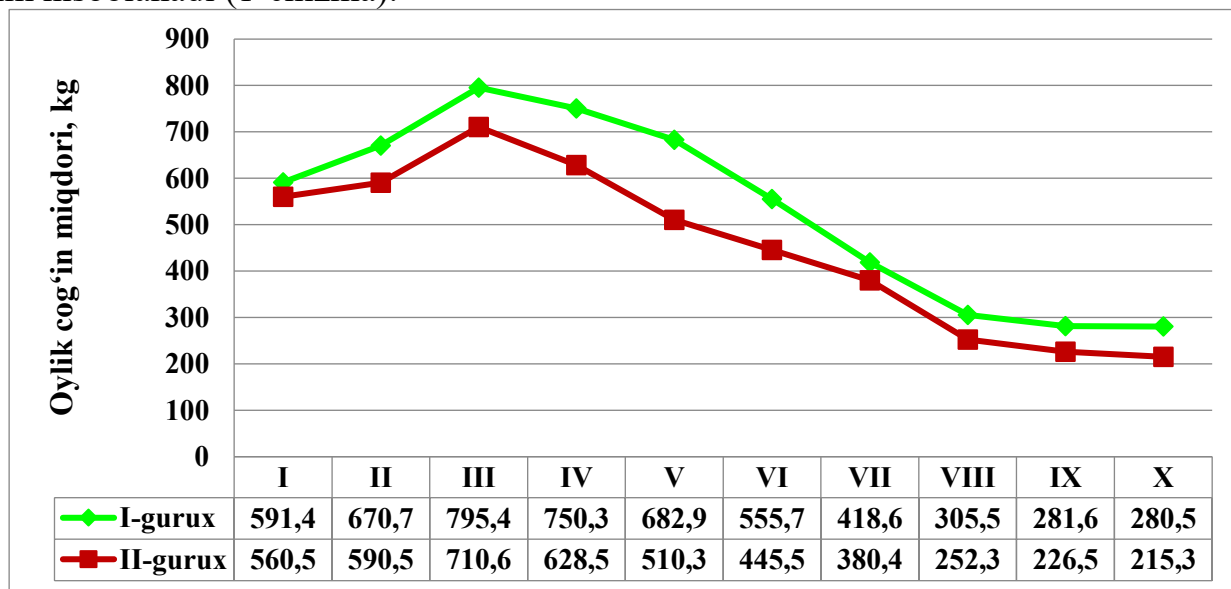
Quyidagi 1-jadval ma'lumotlarining ko'rsatishicha, har ikkala guruhda ham sigirlarning eng yuqori oylik sut miqdori ular laktatsiyasining uchinchi oyida kuzatildi va keyinchalik oylik sut miqdorining bir tekis pasayib borishi ko'zga tashlanadi. Germaniya seleksiyasiga mansub (I guruh) sigirlarning uchinchi oyidagi sut miqdori laktatsiya mobaynidagi sut miqdorining 14,9 % ni tashkil etgan bo'lsa, Polsha seleksiyasiga mansub (II guruh) sigirlarda 15,7 % ni tashkil etdi.

1-jadval

Tajribadagi sigirlarning laktatsiyasi mobaynida sut miqdori, sog'in davrinig doimiylik koeffitsientining va sut miqdorining pasayish indeksining o'zgarishi

Laktatsiya oylari	Guruhlar					
	I-gurux Germaniya seleksiyasi			II-gurux Polsha seleksiyasi		
	Sut miqdori, kg	Sog' in davrinig doimiylik koeffitsienti	Sut miqdorining pasayish indeksi, %	Sut miqdori, kg	Sog' in davrinig doimiylik koeffitsienti	Sut miqdorining pasayish indeksi, %
I	591,4	100,0	74,4	560,5	100,0	78,9
II	670,7	113,4	84,3	590,5	105,4	83,1
III	795,4	118,6	-	710,6	120,3	-
IV	750,3	94,3	94,3	628,5	88,4	88,4
V	682,9	91,0	85,9	510,3	81,2	71,8
VI	555,7	81,4	69,9	445,5	87,3	62,7
VII	418,6	75,3	52,6	380,4	85,4	53,5
VIII	305,5	73,0	38,4	252,3	66,3	35,5
IX	281,6	-	35,4	226,5	-	31,9
X	280,5	-	35,3	215,3	-	30,3
Sog'in davri bo'yicha, kg	5332,6	93,4	-	4520,4	91,8	-

Shuningdek, ikkala guruhlarda ham sigirlarning sogʻin davri bir tekis kechganligi koʻzga tashlanadi va laktatsiyaning oltinchi oyigacha yetarli tarzda yuqori darajada boʻlib sakkizinchi oyga borib, asta-sekinlik bilan pasayib borishi kuzatildi. Turli seleksiyadagi sigirlar sigirlar oylik sut miqdorining bir tekis oʻzgarishini sut miqdorining pasayish indeksi ham koʻrsatadi, uning bu koʻrsatkichi laktatsiyaning eng yuqori toʻrtinchi oyidan oʻninchi oyiga borib I guruhda 35,3% va II guruhda 30,3% ga kamaydi. Sigirlar laktatsiyasining birtekis kechish xususiyatlarini baholashda ularning laktatsiya egri chizigʻini oʻrganish muhim hisoblanadi (1-chizma).



3.4.1-chizma. Tajribadagi sigirlarining laktatsiyasi maboynda oylik sut miqdorining laktatsiya egri chizigʻining oʻzgarishi.

Ushbu chizmadan shuni koʻrish mumkinki, tajriba guruhlaridagi sigirlarning eng yuqori oylik sut miqdori laktatsiyaning uchinchi oyida kuzatilib, keyingi oylarida asta-sekin pasayishi namoyon boʻldi. Demak bundan shunday xulosa qilish mumkinki, har ikkala guruhdagi sigirlarda ham laktatsiya egri chizigʻi qariyb bir xil darajada, yaʼni turgʻunlik darajasi yuqori holda kechgan. Bu sigirlarni tugʻishga yaxshi tayyorlanganligidan darak beradi.

Sigirlardan sutbop podalarda foydalanish samaradorligini baholashda ularning har 100 kg tirik vazni hisobiga sut mahsuloti ishlab chiqarish koʻrsatkichlarini oʻrganish alohida ahamiyatga ega. 2-jadvalda tajriba uchun ajratilgan sigirlarning har 100 kg tirik vazni hisobiga sut mahsuldorlik koʻrsatkichlari keltirildi.

3.4.2-jadval

Tajribadagi sigirlarning har 100 kg tirik vazni hisobiga sut miqdori, sut yog'i va sut oqsili chiqimi ko'rsatkichlari

Ko'rsatkichlar	Guruhlar			
	I-gurux Germaniya seleksiyasi		II-gurux Polsha seleksiyasi	
	$X \pm Sx$	$C_v, \%$	$X \pm Sx$	$C_v, \%$
Tirik vazni, kg	$536,8 \pm 7,1$	4,8 4	$519,8 \pm 5,6$	3, 38
Jami sog'ib olingan sut miqdori, kg	$5332,6 \pm 84,1$	4,9 9	$4520,4 \pm 99,4$	6, 95
Sutdorlik koeffitsienti, kg	$993,4 \pm 14,4^*$	4,5 8	$869,6 \pm 26,5$	9, 60
Sut yog'i chiqimi, kg	$38,7 \pm 0,39$	3,3 9	$33,1 \pm 0,39$	3, 25
Sut oqsili chiqimi, kg	$32,2 \pm 0,28^{**}$	3,3 6	$28,1 \pm 0,39$	3, 65
4% li sut miqdori, kg	$967,5 \pm 7,48$	3,9 8	$827,4 \pm 6,66$	3. 85

*P<0,01; **P<0,001

2-jadval ma'lumotlari shuni ko'rsatdiki, Germaniya seleksiyasiga mansub I-guruhidagi sigirlar har 100 kg tirik vazni hisobiga Polsha seleksiyasiga mansub II-guruhidagi sigirlarga nisbatan yuqori ko'rsatkichlarga ega bo'ldi. Masalan, I-guruhdagi sigirlarda sutdorlik koeffitsienti II-guruhdagi sigirlarnikidan 123,6 kg yoki 14,2% (P<0,01), sut yog'i chiqimi 5,6 kg yoki 16,9% (P<0,001), sut oqsili chiqimi 4,1 kg yoki 14,6% (P<0,001), 4% li sut miqdori 140,1 kg yoki 16,9% (P<0,01) va tirik vazni 17,0 kg yuqori bo'lganligi aniqlandi.

Xulosa. Tajribalardan ma'lumki, yuqori tirik vaznga ega sigirlar odatda yuqori sut mahsuldorligiga ham ega bo'ldilar. Aynan xorijdan import yo'li bilan keltirilgan sigirlardan olingan avlodlarining ko'rsatkichlari har ikkala guruxda ham yuqori sut mahsuldorlik ko'rsatkichlarini namoyon eta oldilar.

Shunday qilib, o'rganishlarimiz yuqori mahsuldor Germaniya seleksiyasiga mansub sigirlari har 100 kg tirik vazni hisobiga Polsha seleksiyasiga mansub bo'lgan birinchi tug'im yoshidagi sigiralrga nisbatan ko'p miqdorda sut mahsuloti ishlab chiqardi, bu esa ulardan sutbop podalarda foydalanish va uni takomillashtirish samarali ekanligidan dalolat beradi.

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THE ROLE OF ENTERPRISES WITH THE PARTICIPATION OF THE BLIND IN INCLUSIVE EMPLOYMENT

Abstract. *This research aims to critically examine the employment problems of the visually impaired. The dynamics of the number of blind employees of production enterprises under the control of the Society of the Blind of Uzbekistan was analyzed in the period 2014-2023. Factors affecting the problems of these employees were grouped and analyzed. The economic results and social consequences of the reduction in the number of employees in enterprises were studied. Proposals and recommendations were developed to eliminate the above and other problems related to the employment of blind people.*

Key words: *blind employee, unemployment, social enterprises, modernization, typhlomeia, automation, technologies, social goods, innovation.*

Enter. Among all the economic and social activities of a person, the most important activity is working and getting a decent job. After all, the interests that arise between each economic subject will cause problems for any person who is not financially stable and does not turn his work into a hobby. In society, each individual chooses one of hundreds of occupations to determine his economic position and pursues a career in that direction. The classification of existing professions reflects the physical and mental abilities of a person. The freedom of professional choice of visually impaired persons is determined based on their limited health opportunities. This category of people is not provided with inclusive workplaces in the conditions of Uzbekistan, and they are forced to work in special enterprises.

The relevance of the topic is that the economic condition, profitability of the enterprises owned by the society of the blind, as well as the socio-economic status of the blind persons employed in these enterprises are analyzed.

Analysis of literature on the topic. The head of our state Sh. Mirziyoyev "we will move from the current medical model to the social model of determining disability"⁶⁴- they emphasized.

Confucius, who lived in the 6th and 5th centuries BC, wrote for the first time about the fact that has been proven in the history of mankind, that is, about the unique characteristics of blind people. He was the first to notice the strength of his memory and his kindness towards others.⁶⁵

About another characteristic of blind people worthy of recognition, Isayev Kabiljan mentions the following: "sensing, hearing extremely subtle and low

⁶⁴URL: <https://youtube.com/shorts/oAK7gYxgwmA?feature=share3>.

⁶⁵Respublika bolalar kutubxonasi // internet manba. URL: <http://taqvim.uz/uz/event/view/3402>

sounds, moving, hearing dozens of sounds and distinguishing them, imprinting them in memory, people's spirituality, to be able to enter the inner world through the eyes of the soul easily, in a special way, quickly, with a big imagination"⁶⁶- emphasized. Of course, these characteristics are valuable in the labor market.

Also, it has been scientifically proven that the investment made for adaptation of persons with disabilities to the labor process will show its results in a short time. As proof of this point, According to a South Carolina study, workers with disabilities earned \$15.29 for every dollar spent on their rehabilitation. Meanwhile, disabled workers in New Mexico saw a 251 percent increase in earnings after completing a similar vocational rehabilitation program."⁶⁷- we can bring.

Belkova approached the employment of people with disabilities from an economic point of view in her scientific studies and emphasized the following point: the economic category of employment of disabled people is "a set of relations related to their participation in labor activities, which is the satisfaction of their social and personal needs reflects the scale and potential efficiency of labor force participation."⁶⁸

Chairman of the Society of the Blind of Uzbekistan E. Norpolatov said: - "if 771 blind people work in the society's enterprises, we have at least a five- or six-fold increase in this indicator, but there are some problems there is an obstacle for us."⁶⁹

Razinov AY stated that in his scientific views, he imagines the prospect of ensuring the employment of persons with disabilities in the following direction: "In the conditions of innovative development of various spheres of society, including the sphere of employment, the formation of the information society, the peculiarities of the legal regulation of the employment of disabled people may become very conditional in the near future. Given the increasing trend of telecommuting jobs, this may become a reality."⁷⁰

Research methodology. Systematic, structural, retrospective, logical, comparative analysis methods, generalization, deduction and induction methods, statistical method of information processing were used in the research process. It was explained that the research work is of particular importance to increase the efficiency of the blind enterprise in ensuring the financial stability of the blind.

Analysis and analyses. In the present era, when the main mechanisms of the market economy prevail, every economic entity tries to have high profit and profitability. In order to achieve a high advantage in such competition, enterprises are obliged to introduce modern technology and equipment, effective methods of using labor force. The development of digital technologies day by day makes it possible to modernize production. There are 97 such enterprises in Uzbekistan,

⁶⁶ Q. Isayev, Har bir inson – bebaho kapital // xalq so'zi, № 34, 18.02.2023-y. 4-b.

⁶⁷ Novikov M.L. sozdaniy model trudoustroystva molodix invalidov. // ROOI perspektiva, 2006-y. 49-b.

⁶⁸ Belkova N.M Razvitiy trudovoy zanyatosti invalidov sovremennix usloviyax Rossii // Dne na soisk.uch. st.kand.ekon.nauk. spetsalnost 08.00.05. Moskva, 2012. – 13-b.

⁶⁹ URL: <https://youtu.be/0ui6-BQXZII?si=KvVKiGsQjSn8BtaH>

⁷⁰ Razinov A.Y. Razvitiye organizatsionno-ekonomicheskix mexanizmov sodeystviya zanyatosti invalidov // Phd dissertatsiya, Moskva – 2013. 18-b. jami 180-b.

where at least 50% of their workers are persons with disabilities, and they are production enterprises managed by the blind society.

There are 648 blind persons working in UzKOJ enterprises across the country. These enterprises are directly important in ensuring the employment of the blind.

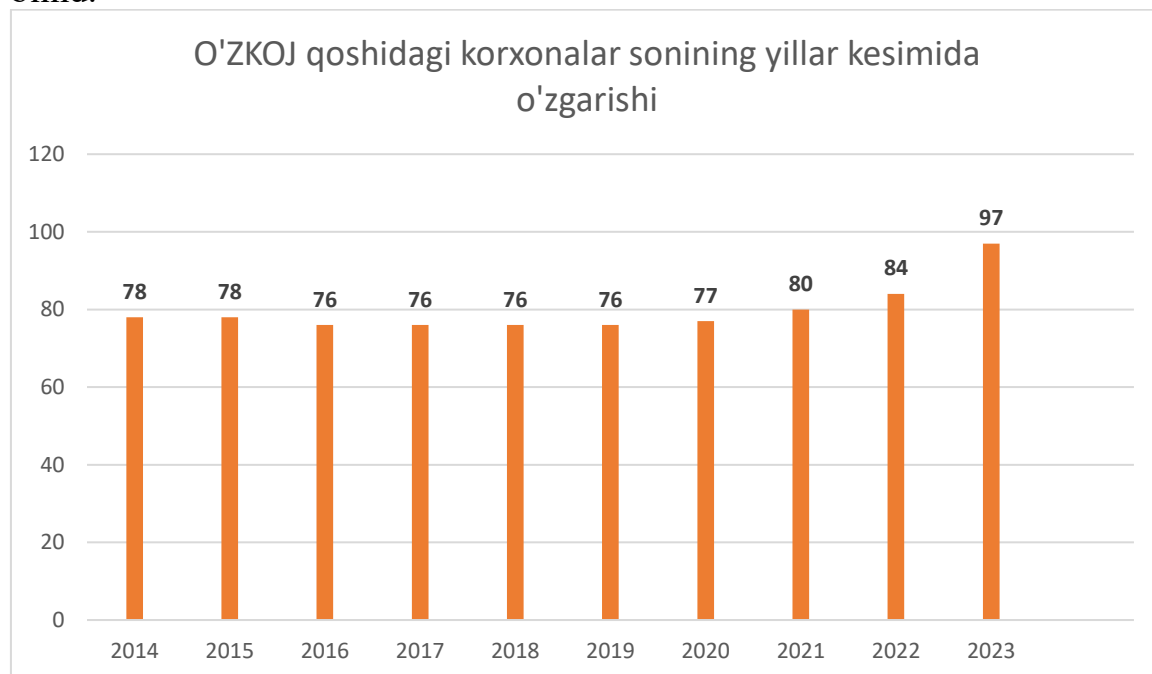


Diagram 1⁷¹

With the help of this chart data, we can see that over the last 10 years, the number of community entrepreneurs has increased from 76 in 2015 to 97, which is a positive trend. Also, the highest growth compared to 2022 was noticeable in 2023 and made about 15.5%. President Sh. Mirziyoyev's decision of October 12, 2022 PQ-390 "Until January 1, 2023, to organize the maintenance of a single register of legal entities and products produced by them (hereinafter referred to as the Register) that are public associations of persons with disabilities;"⁷² acceptance and the benefits and subsidies provided for in the decision to the enterprises included in this register were the cause.

We will consider the position of these enterprises in the employment of blind people in the analysis of the table below.

⁷¹O'zbekiston ko'zi ojizlar jamiyati markaziy boshqaruvi ma'lumotlariga asosan tuzilgan.// O'zkojmb.uz.

⁷²Sh. mirziyoyev, nogironligi bo'lgan shaxslar jamiyatlariga tegishli tashkilotlarni davlat tomonidan qo'llab-quvvatlash hamda nogironligi bo'lgan shaxslarning bandligiga ko'maklashishga oid qo'shimcha chora-tadbirlar to'g'risida, // lex.uz, PQ-390, 12.10.2022, Toshkent – 2022, 2-b jami 3 bet.

Table 1⁷³

Employment status of visually impaired persons by sector (2018-2023)

Years	The number of blind people	Busy with work	Production	Education	Special library
2018	72 355	2847	1293	438	87
2019	74 120	2813	1103	472	101
2020	75 612	2753	1195	512	107
2021	77 954	2543	1017	652	115
2022	76,020	2987	1074	738	138
2023	66503	3072	959	855	150

It can be seen that the manufacturing sector is the number 1 sector in which blind people are employed by weight. In the cross-year period, showing a decrease from 1293 persons in the initial period to 959 persons in the base year, this indicator decreased by 25.8% in 2023 compared to 2018. In 2023, 31.2% of the total employed blind people worked in the production sector, while in 2018 it reached the highest level of 45.4%, and in the following years, respectively, 39 We can see that it decreased by .2%, 43.4%, 40%, 36%.

The number of persons with disabilities working in public enterprises shows only a decrease in the period 2014-2023.

⁷³O‘zbekiston ko‘zi ojizlar jamiyati markaziy boshqaruvi ma’lumotlariga asosan tuzilgan. // O‘zkojmb.uz.

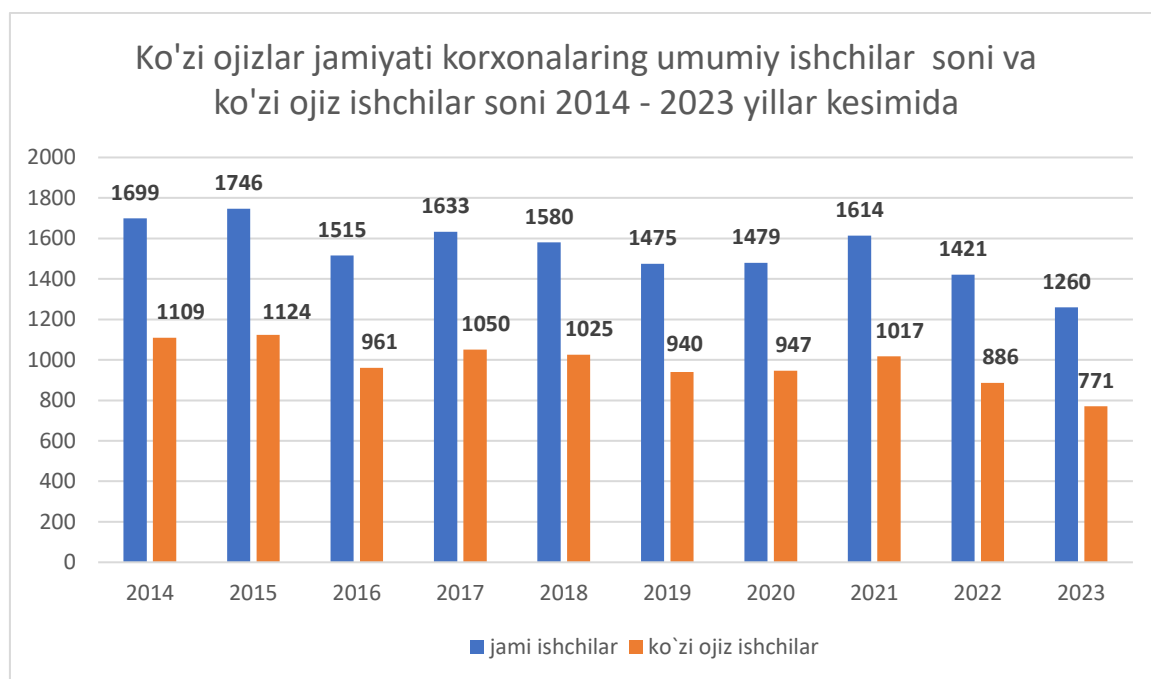


Diagram 2⁷⁴

Changes in the number of total employees of the enterprise of blind persons

This chart allows us to show and analyze the quantitative change in the total number of employees of enterprises as well as visually impaired employees. According to him, by 2023, the number of blind workers will fall to the lowest level, and their number will decrease over the years. For example, it is clearly visible that in 2023, the highest decrease compared to 2015 was 31.4%. -14.5%, 9.3%, -2.4%, -8.3%, 0.7%, 7.4%, -12.9%, -13%, respectively, from 2016 onwards can be seen changed to (here the minus sign means decrease and the rest means increase.)

Another aspect that I should pay attention to is the ratio between the total number of employees of enterprises and the number of visually impaired employees. The total number of workers shows a decreasing trend over the years, and only in 2021, breaking this balance, it reached 1614 people and increased, correspondingly, the number of disabled workers increased to 1017 people.

Based on the above statistics, the decrease in demand for blind workers depends on the following factors:

- technological factor in production;
- modernization factor:
- Changes in professional qualifications:
- availability of typhlomedial tools for blind personnel
- production automation factor:

If we briefly touch on the above factors, the application of advanced modern technologies to the economy is considered an important factor that allows to increase the competitiveness of the production sector and achieve high efficiency.

⁷⁴Muallif tomonidan tuzilgan.// O'zKOJMB ma'lumotlariga asosan, o'zkojmb.uz.

It is known that modern equipment and technologies minimize the need for manual labor, resulting in an increase in unemployment.

The next factor relates to the importance of modernization in order to ensure that the volume of production increases in an extensive manner. We can see this effect in the diagram below.

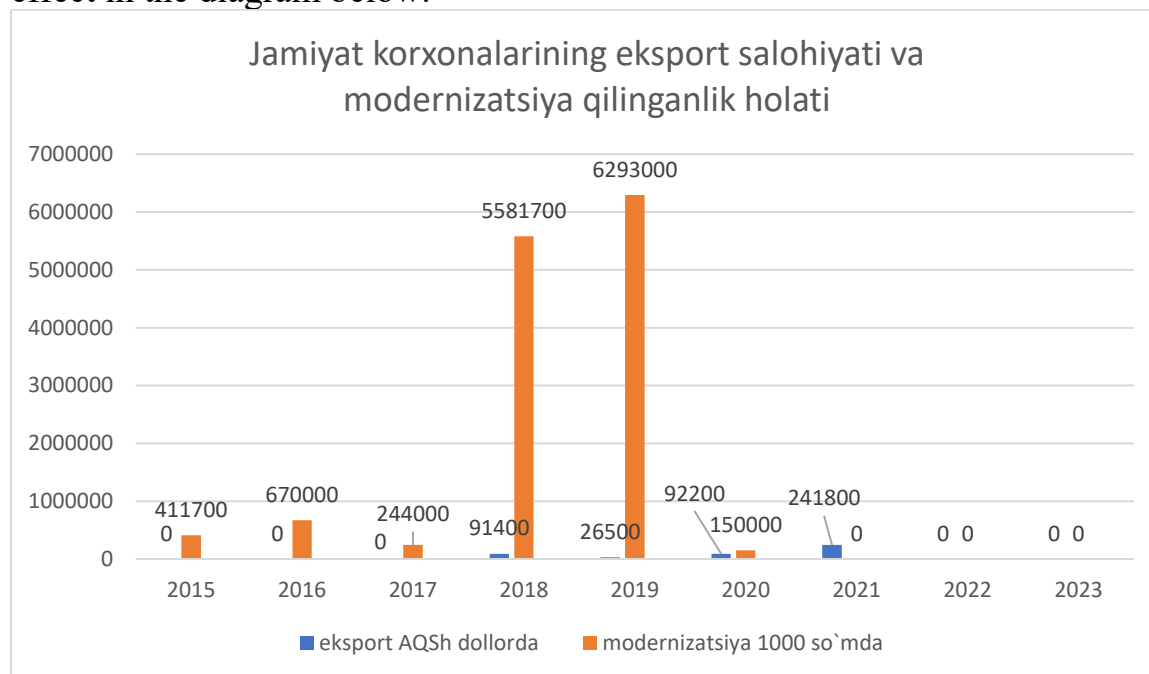


Diagram 3⁷⁵

The level of modernization of Uzbek-owned enterprises

Based on the data of this diagram, we can see that as a result of spending on modernization in 2015, from 2018, enterprises began to export their goods to the world market, and this process continued until 2021. Due to the stagnation of spending on modernization in recent years, although the number of enterprises has increased, the number of blind workers has disproportionately decreased.

It is known that the introduction of innovations in production requires the workforce to constantly improve their professional skills and keep up with the times. The limited opportunities of blind workers make it a long time and difficult for them to pass this stage. As a result, the number of unemployed among them is increasing.

One of the important factors is the creation of conditions in the labor process for the blind employees to continue their activities stably and their royalization with typhlomedial tools. The level of provision of such tools is extremely low.

The last factor is related to the process of automation of production, which is causing the demand for the labor of blind workers to drop sharply.

Suggestions and recommendations. As Uzbekistan is on the threshold of the 3rd renaissance in its history, it is necessary for our state to align the rights of persons with disabilities with international legal norms in order for every layer of society to fully utilize its capabilities. For this, first of all, it is desirable to develop

⁷⁵O'zbekiston ko'zi ojizlar markaziy boshqaruvi ma'lumotlariga asosan tuzildi.// O'zkojmb.uz.

practical solutions so that persons with disabilities can fully enjoy their rights to work.

In the digital economy, it is natural for production to be organized by the conveyor method. In this situation, it is necessary to find a golden mean in order to make the production highly profitable, analyzing the important aspects of using the manual labor of blind employees.

We present the following recommendations for the improvement and promising development of social enterprises, which have the greatest contribution to the employment of blind people:

- granting oligopolistic status only for the enterprises of this society, which gives the right to produce certain goods on the republican scale:

- Social enterprises should be re-economized to produce high-value goods based on manual labor:

- Providing a state guarantee for the production of export goods and ensuring their realization as an experiment:

- To provide education and training for the visually impaired to acquire continuous professional skills and modern occupations:

- Giving the status of "social goods" to goods produced by social enterprises and promoting them to consumers for their realization:

- production of souvenirs, pottery products and other goods of this category with the help of community enterprises in places where foreign tourists are crowded.

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REGBI O'YINI HAQIDA QISQACHA TAHLIL

Annotatsiya: Regbi o'yini — jismoniy kuch va strategik fikrlashni talab qiladigan sport turi bo'lib, uning tarixi, qoidalari, taktikalari va jismoniy tayyorgarligi sportshunoslar va o'yinchilar uchun katta ahamiyatga ega. Ushbu maqolada regbi o'yinining tarixi, rivojlanishi, asosiy qoidalari, jismoniy tayyorgarlik masalalari va dunyo bo'ylab tarqalishi haqida batafsil ma'lumotlar keltirilgan. Regbi o'yini sportdagi ijtimoiy va madaniy jihatlar, shuningdek, o'yinchilarning psixologik va jismoniy tayyorgarliklarini o'rganish orqali kengroq nuqtai nazar bilan tahlil qilinadi. Bunday yondashuv regbi o'yinini yanada chuqurroq tushunishga imkon beradi.

Kalit so'zlar: regbi, tarix, jismoniy tayyorgarlik, taktika, o'yin qoidalari, to'p, scrum, line-out, try, drop goal, rugby world cup, Six Nations, Rugby Championship, regbi jamoalari, himoya, hujum, tizimlar, jismoniy mashqlar, kuch, chidamlilik, psixologiya, sport, sport madaniyati, regbi so'zi, o'yinchilar, strategiya, taktikalar, xalqaro turnirlar, sport turlari, regbi musobaqalari.

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A BRIEF ANALYSIS OF THE GAME OF RUGBY

Annotation: Rugby is a sport that requires both physical strength and strategic thinking, with its history, rules, tactics, and physical conditioning being of great importance to sports scholars and players alike. This article provides detailed information about the history, development, fundamental rules, physical preparation issues, and the global spread of rugby. The social and cultural aspects of the sport, as well as the psychological and physical readiness of players, are analyzed from a broader perspective. Such an approach allows for a deeper understanding of the game of rugby.

Keywords: rugby, history, physical preparation, tactics, game rules, ball, scrum, line-out, try, drop goal, Rugby World Cup, Six Nations, Rugby Championship, rugby teams, defense, attack, systems, physical exercises, strength, endurance, psychology, sport, sports culture, the word rugby, players, strategy, tactics, international tournaments, sports, rugby competitions.

Regbi – bu jismoniy kuch, tezlik va strategiyani birlashtirgan sport turi bo‘lib, Angliyada XIX asrda paydo bo‘lgan. O‘yin to‘pni raqib maydoniga olib borib, uni yerga tekkizish orqali ochko to‘plashga asoslangan. Regbi o‘zining shiddatli harakatlari, jamoaviy o‘yin uslubi va an‘anaviy qadriyatlari bilan dunyo bo‘ylab millionlab muxlislarni o‘ziga jalb etgan.

O‘yin ikkita jamoa o‘rtasida o‘tkaziladi, har bir jamoada 15 nafar o‘yinchi ishtirok etadi. Harakatlar 80 daqiqa davom etadi va hakamlar tomonidan nazorat qilinadi. O‘yinda asosiy maqsad – "try" deb nomlanuvchi uslubda to‘pni raqib maydonida yerga tekkizib ochko olishdir. Bundan tashqari, to‘pni darvozadan tepib o‘tkazish orqali ham ochko olish mumkin.

Regbi o‘ziga xos qoidalar va pozitsiyalarga ega: har bir o‘yinchi o‘z roli bo‘yicha harakat qiladi, bu esa jamoaviy uyg‘unlikni talab etadi. O‘yin davomida himoya va hujum harakatlari jadal almashinib turadi. Ayniqsa, "tackle", "scrum" va "line-out" kabi elementlar regbining taktik jihatlarini namoyon etadi.

Zamonaviy regbi ikki asosiy shaklda mavjud: regbi union va regbi league. Har ikkisi o‘ziga xos qoidalar bilan farq qiladi, ammo umumiy jihatlar ko‘p.

Regbi o'yini Angliyada XIX asrning o'rtalarida paydo bo'ldi. Uning kelib chiqishi va rivojlanishi bilan bog'liq bir nechta nazariyalar mavjud. O'yinning nomi "Regbi" shahridan olingan bo'lib, bu shaharda regbi futboli asoslarini yaratgan bir nechta yirik futbol klublari tashkil topgan. Regbi o'yini, o'ziga xos qoidalar va o'yin strukturalari bilan, zamonaviy futbolning bir tarmog'i sifatida rivojlanib, butun dunyoda mashhurlik qozondi.

Regbi o'yini 15 nafar futbolchi tomonidan ikkita jamoa o'rtasida o'ynaladi. O'yin ikki yirik qismga bo'linadi va har bir jamoa raqib jamoaning maydoniga tryund qo'yishga harakat qiladi. O'yinda uchta asosiy shakl mavjud: Regbi union (eng keng tarqalgan shakli), Regbi league va Regbi sevens. Har bir shakl o'zining o'ziga xos qoidalariga ega bo'lsa-da, umumiy prinsiplar va asosiysi o'xshashdir.

Regbi union o'yinida har bir jamoa 15 o'yinchi bilan maydonga chiqadi va o'yin 80 daqiqa davom etadi.

Regbi leaguada esa jamoalar 13 o'yinchidan iborat bo'ladi va o'yin davomiyligi 80 daqiqa.

Regbi sevens - bu sevimli variant bo'lib, har bir jamoa 7 o'yinchi bilan maydonga tushadi va o'yinlar tezroq, ko'proq ofenziv xususiyatga ega bo'ladi.

O'yin 40 daqiqa davom etadigan ikki yarmdan iborat bo'lib, har bir jamoa raqib maydoniga ballni kiritishga harakat qiladi. Regbi o'yinida 4 xil tarzda ball olish mumkin: try (5 ball), penalti (3 ball), drop goal (3 ball) va conversion (2 ball).

Regbi - bu nafaqat jismoniy kuchni, balki strategik tafakkur va o'yin taktikasini ham talab qiladigan sport turidir. Har bir jamoa o'yinda qanday taktikalar ishlatishini oldindan rejalashtiradi. Bunda o'yinchilarning tezligi, texnikasi, va kooperatsiyasi katta rol o'ynaydi.

Regbi o'yini bugungi kunda eng mashhur sport turlaridan biri bo'lib, uning eng yirik turnirlari, jumladan Rugby World Cup va Six Nations Championship, har yili minglab muxlislarni o'ziga jalb qiladi. Regbi nafaqat Angliya, balki Fransiya, Yangi Zelandiya, Avstraliya va Janubiy Afrika kabi mamlakatlarda ham juda ommabopdir.

Regbi o'yinchilari yuqori darajada jismoniy tayyorgarlikni talab qiladi. Ular tezkor, kuchli, bardoshli bo'lishlari kerak va har bir o'yinda maksimal darajada to'liq ishtirok etishlari lozim. Shu bilan birga, regbi o'yinchilari jamoa o'yinida yaxshi ishlashlari va guruh bo'lib muvaffaqiyatli strategiyalarni amalga oshirishlari kerak.

Regbi o'yinining taktikasi bu sport turining eng muhim jihatlardan biridir. Regbi — bu nafaqat kuch va tezlik, balki strategik fikrlash, jamoaviy harakat, maydonni to'g'ri taqsimlash va o'yin holatiga qarab tezda qaror qabul qilishni talab qiladigan o'yin. Quyida regbi o'yinining asosiy taktik jihatlari haqida batafsil ma'lumot beraman.

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VOLEYBOL O'YININING O'ZBEKISTONGA KIRIB KELISHI VA RIVOJLANISH BOSQICHLARI

Annotatsiya: Mazkur maqolada voleybol sportining O'zbekistonga kirib kelishi, uning tarixiy shakllanishi va turli rivojlanish bosqichlari batafsil tahlil qilingan. O'zbekiston voleybolining taraqqiyotida ijtimoiy, madaniy va siyosiy omillarning roli ko'rib chiqilgan. Milliy va xalqaro musobaqalar, sport maktablari, professional klublar va yoshlar o'rtasidagi turnirlarning o'rni yoritilgan. Shuningdek, O'zbekiston Voleybol Federatsiyasining faoliyati, davlat tomonidan sportga qaratilgan e'tibor, hamda voleybolning jamiyatdagi ijtimoiy ahamiyati xolis yondashuv asosida o'rganilgan. Maqola voleybolning bugungi kundagi holati va uning istiqbollari haqida xulosa bilan yakunlanadi.

Kalit so'zlar: Voleybol, O'zbekiston, sport tarixi, voleybol federatsiyasi, yoshlar sporti, Superliga, xalqaro musobaqalar, sport klublari, sog'lom turmush tarzi, jismoniy tarbiya, gender tengligi, sport siyosati, musobaqalar, voleybol rivoji.

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THE INTRODUCTION AND DEVELOPMENT STAGES OF VOLLEYBALL IN UZBEKISTAN

Annotation: This article provides a detailed analysis of the introduction of volleyball to Uzbekistan, its historical formation, and various stages of development. The role of social, cultural, and political factors in the development of volleyball in Uzbekistan is discussed. The importance of national and international competitions, sports schools, professional clubs, and youth tournaments is highlighted. Additionally, the activities of the Uzbekistan Volleyball Federation, the government's attention to sports, and the social significance of volleyball in society are studied from an objective perspective. The article concludes with an overview of the current state of volleyball and its prospects.

Keywords: Volleyball, Uzbekistan, sports history, volleyball federation, youth sports, Super League, international competitions, sports clubs, healthy lifestyle, physical education, gender equality, sports policy, competitions, volleyball development.

Sport inson hayotida muhim o'rin tutadi. U nafaqat jismoniy salomatlikni mustahkamlashga xizmat qiladi, balki ijtimoiy faoliyatning ajralmas qismi sifatida

insonni jamoaviylik, qat'iyat, fidoyilik va raqobatbardoshlikka o'rgatadi. Turli sport turlari orasida voleybol bugungi kunda dunyo miqyosida keng tarqalgan, ommabop va sevimli jamoaviy o'yinlardan biri hisoblanadi. Voleybolning soddaligi, dinamik harakatlarga boyligi, sog'lom raqobat muhitini yaratishi uni har bir yoshdagi insonlar uchun jozibador qiladi.

Voleybol o'yini ilk bor 1895-yilda AQShda Uilyam G. Morgan tomonidan yaratilgan bo'lib, qisqa vaqt ichida butun dunyo bo'ylab ommalasha boshladi. Ayniqsa, XX asr davomida bu sport turi jahon miqyosida keng yoyilib, xalqaro musobaqalar, Olimpiada o'yinlari va turli kontinental chempionatlarning ajralmas qismiga aylandi. Hozirda voleybol federatsiyasi (FIVB) dunyo bo'ylab yuzlab davlatlarda faoliyat yuritib, millionlab sportchilarni birlashtiradi.

O'zbekiston uchun ham voleybol begona emas. Bu sport turi mamlakat hududiga XX asrning dastlabki yillarida, xususan Sovet Ittifoqi davrida kirib kelgan va asta-sekin rivojlanib, bugungi kungacha yetib kelgan. Dastlab maktablar, oliy ta'lim muassasalari va ishlab chiqarish korxonalarida ommaviy tarzda o'ynalgan voleybol, hozirgi kunda professional sport darajasiga ko'tarilgan. Mustaqillik yillaridan boshlab voleybolni rivojlantirish borasida olib borilgan islohotlar, tashkil etilgan turnirlar va milliy terma jamoalarning xalqaro maydondagi ishtiroki O'zbekistonda ushbu sport turiga qanchalik e'tibor qaratilayotganini yaqqol ko'rsatadi.

Mazkur maqolada voleybol sportining O'zbekistonga kirib kelishi, uning turli bosqichlardagi rivojlanishi, sportchilar va murabbiylarning bu boradagi hissasi, shuningdek, bugungi kundagi holati va istiqbollari atroflicha yoritiladi. Maqola voleybol sportining tarixi va taraqqiyoti orqali O'zbekiston sporti tarixida tutgan o'rnini chuqurroq anglashga xizmat qiladi.

Voleybol — jahon sporti tarixida o'zining qisqa muddat ichida butun dunyoda ommalashgan sport turlaridan biridir. Uning yaratilishiga va rivojlanishiga alohida e'tibor qaratish zarur, chunki voleybolning tarixi faqatgina jismoniy faoliyatning rivojlanishi emas, balki insoniyatning jamiyat sifatida yangi sportlarga qiziqishi va o'yinlar orqali birlashishining timsolidir. Voleybolning jahon miqyosida shakllanishi va ommalashishi, bir tomondan, ijtimoiy ehtiyojlardan kelib chiqqan bo'lsa, boshqa tomondan, texnologik va madaniy o'zgarishlarning natijasi edi.

Voleybol o'yini 1895-yilda AQShning Massachusets shtatidagi Holyoke shahrida, sport o'yinlari mutaxassisi va YMCA (Young Men's Christian Association) tashkiloti a'zosi Uilyam G. Morgan tomonidan yaratilgan. Morgan o'zining yangi sportini boshlang'ich o'yin bo'yicha barcha yoshi kattalar va yoshlarni jalb qilish uchun mo'ljallagan. Dastlab uni "mintonet" deb atagan bo'lsa, keyinchalik o'yin "volley ball" deb nomlanadi. Morganning asosiy maqsadi — odamlarga o'zaro hamkorlikda jismoniy mashqlarni bajarish imkonini beruvchi sport o'yinini yaratish edi. Shuning uchun voleybol o'yini jismoniy faollik, tezkorlik, va strategiyaning muvaffaqiyatli uyg'unlashuvi sifatida shakllandi.

Voleybolning dunyo bo'ylab ommalashishi 1900-yillarning boshlariga borib taqaladi. O'yin tez orada AQShdan tashqariga chiqdi va 1900-yillarning boshlari uchun jahon miqyosida bir nechta sport jamoalarining rivojlanishiga turtki berdi.

Boshqa davlatlar, xususan, Kanada, Braziliya, Fransiya va Italiya, voleybolni o'zlarining milliy sportlaridan biri sifatida qabul qildilar. Xususan, 1913-yilda Braziliya voleybolni mamlakatda ommalashtirishga muvaffaq bo'ldi va bugungi kunda voleybol Braziliya sporti uchun ajralmas qismga aylangan.

Voleybolning xalqaro miqyosda rivojlanishi 1947-yilda, Voleybol bo'yicha Xalqaro Federatsiya (FIVB) tashkil topganidan keyin yangi bosqichga o'tdi. FIVB, o'z navbatida, voleybolning jahon bo'ylab normativlarini belgilab berdi va yangi qoidalar kiritdi. Ushbu tashkilot, shuningdek, xalqaro musobaqalar tashkil etishga, jahon chempionatlari va Olimpiadada voleybolni rasmiy sport turiga aylantirishga katta hissa qo'shdi. Voleybolning 1964-yilda Tokioda bo'lib o'tgan Olimpiada o'yinlarida dastlabki marta olimpiyadaga kiritilishi, sportning jahon miqyosida mashhurligini yanada oshirdi.

Voleybolning rivojlanish jarayoni faqatgina musobaqalarga ishtirok etish bilan cheklanmagan. Sport turi sifatida voleybolning yanada mukammallashishi va rivojlanishi jismoniy tayyorgarlikning yangi usullarini, o'yin strategiyasini, texnik ko'nikmalarni va sportchilarning professional darajadagi mahoratini oshirishga olib keldi.

Oliy darajadagi musobaqalar: FIVB tashkil etilganidan keyin, 1949-yilda erkaklar va 1952-yilda ayollar o'rtasida jahon chempionatlari tashkil etildi. Ushbu musobaqalar voleybolning xalqaro miqyosda yanada ommalashishiga turtki bo'ldi. Boshqa yirik musobaqalar, jumladan, Osiyo va Yevropa chempionatlari, xalqaro turnirlar va Olimpiada o'yinlari voleybolning rivojlanishida katta ahamiyat kasb etadi.

Texnologik rivojlanish: Voleybolning jahon miqyosidagi ommalashishiga texnologik o'zgarishlar ham katta ta'sir ko'rsatdi. Yangi avlod sport uskunalari, masalan, professional voleybol to'plari, maydon va yotish joylari, maxsus kiyimlar va o'yin maydonlari sportchilarning jismoniy holatini yaxshilashga yordam berdi. Shuningdek, video texnologiyalar va komputer tizimlari yordamida o'yinning tahlili va strategiyalari yangi bosqichga chiqdi.

Olimpiada va jahon chempionati: 1964-yilda voleybol rasmiy Olimpiada o'yini sifatida joriy etilgandan so'ng, bu sport turi jahon miqyosida yana bir necha bor ommalashdi. 1968-yildan boshlab, voleybolning erkaklar va ayollar o'rtasidagi musobaqalari yagona va mustaqil Olimpiada dasturiga kiritildi.

Yoshlar va o'quvchilarni tayyorlash: Voleybolning jahon miqyosida kengayishi yosh sportchilarni tayyorlashga katta e'tibor qaratilishini taqozo etdi. Xalqaro miqyosda yoshlar o'rtasida o'tkaziladigan turnirlar, klublar va akademiyalar yordamida voleybolning sifatli va zamonaviy o'yinchilari yetishtirilib kelinmoqda.

Voleybolning jahon miqyosida shakllanishi va rivojlanishi juda qisqa davr ichida amalga oshdi, ammo bu sport turi bugun butun dunyo bo'ylab millionlab insonlarning sevimli o'yiniga aylandi. U nafaqat jismoniy faollikni oshirishga, balki xalqaro do'stlikni mustahkamlashga, turli madaniyatlarni birlashtirishga xizmat qiladi. Voleybolning tarixi orqali biz insoniyatning sportga bo'lgan qiziqishini va o'yinlar orqali birlashishni ko'rishimiz mumkin.

Voleybol sportining O'zbekistondagi rivojlanishi shunchaki sport o'yini doirasidagi hodisa emas, balki ijtimoiy, siyosiy, madaniy va ta'limiy jarayonlar bilan chambarchas bog'liq murakkab evolyutsion harakatdir. Bu sport turi bir necha bosqichlarda rivojlangan bo'lib, har bir bosqich o'ziga xos xususiyatlarga ega.

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BASKETBOLCHILARGA MASLAHATLAR: O'YINDAGI YAXSHI NATIJALARGA ERISHISH YO'LI

Annotatsiya: Ushbu maqolada yosh basketbolchilarga sportda muvaffaqiyatga erishish uchun beriladigan asosiy maslahatlar va tavsiyalar ko'rib chiqiladi. Basketbol o'yinchilari uchun jismoniy, ruhiy va psixologik tayyorgarlik, o'z ustida ishlash, to'g'ri ovqatlanish va sog'lom turmush tarzini saqlash kabi jihatlar muhim ahamiyatga ega. Shuningdek, o'yinchilarga treninglar, jamoaviy ish va raqobatni yengish bo'yicha amaliy tavsiyalar ham beriladi. Maqola yosh sportchilarning muvaffaqiyatga erishish uchun zarur bo'lgan texnik ko'nikmalarni rivojlantirish, stressni boshqarish va jarohatlarni oldini olish kabi masalalarni yoritib, ular uchun samarali psixologik yondashuvlarni taqdim etadi.

Kalit so'zlar: yosh basketbolchilar, sportchilarga maslahatlar, psixologik tayyorgarlik, jismoniy tayyorgarlik, sog'lom turmush tarzi, texnik ko'nikmalar, stressni boshqarish, jamoaviy ish, raqobatni yengish, jarohatlarni oldini olish, ovqatlanish, trening, basketbol mashg'ulotlari, motivatsiya, fitness.

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ADVICE FOR BASKETBALL PLAYERS: THE PATH TO ACHIEVING GOOD RESULTS IN THE GAME

Annotation: This article examines the key advice and recommendations for young basketball players to achieve success in sports. Physical, mental, and psychological preparation, self-improvement, proper nutrition, and maintaining a healthy lifestyle are crucial aspects for basketball players. Additionally, practical tips on training, teamwork, and overcoming competition are provided. The article addresses important issues such as developing the technical skills necessary for success, managing stress, and preventing injuries, offering effective psychological approaches for young athletes.

Keywords: young basketball players, advice for athletes, psychological preparation, physical preparation, healthy lifestyle, technical skills, stress management, teamwork, overcoming competition, injury prevention, nutrition, training, basketball practice, motivation, fitness.

Basketbol — jismoniy va mental kuchni birlashtiradigan, tezkor qarorlar qabul qilishni talab qiladigan murakkab va dinamik sport turidir. Yosh basketbolchilar uchun o'zini rivojlantirish va muvaffaqiyatga erishishning ko'plab yo'llari mavjud. Bu maqolada, yosh basketbolchilarga o'yinda muvaffaqiyat qozonish uchun zarur bo'lgan ba'zi maslahatlarni taqdim etamiz.

Basketbolni o'ynashni boshlagan yosh sportchilar uchun eng muhim narsa — asosiy texnikalarni to'liq va mukammal o'zlashtirishdir. Har bir o'yinchi ushbu texnikalarni rivojlantirishga alohida e'tibor qaratishi kerak.

Dribbling — basketbolning eng muhim elementlaridan biridir. To'pni boshqarishning to'g'ri uslubi, o'yinchi uchun ko'plab imkoniyatlarni yaratadi. Yosh basketbolchilar uchun dribblingni yaxshi o'zlashtirish, to'pni turli pozitsiyalarda ishonchli va samarali tarzda boshqarish kerak. Buning uchun:

To'pni ikki qo'lda boshqarishni o'rganing, shu bilan birga to'pni pastga tushurmasdan yuqoriga ko'tarish va harakatni tezlashtirishni o'rganing.

Har xil vaziyatlarga moslashish uchun dribblingni turli sur'atlarda, tezlikda va burchaklarda bajarishni mashq qiling.

Basketbolning ikkinchi muhim elementlaridan biri — to'g'ri va aniq uzatmalarni bajarish. O'yinda yaxshi uzatma qilishni bilish, to'pni jamoangizga tezda yetkazib berish imkonini yaratadi. Yosh basketbolchilar:

Qisqa va uzoq uzatmalarni boshqarish, shuningdek, boshqalar bilan o'zaro yaxshi aloqada bo'lishga harakat qiling.

To'pni uzatishda aniqlik va kuchni muvozanatlashga e'tibor bering.

To'pni tor joylardan ham, masofadan ham aniq qilib tashlash — yaxshi o'yinning muhim qismi. To'pni to'g'ri joylashtirish, yaxshi texnika va moslashuvchanlikni talab qiladi.

Ko'krakdan tashlash: Ko'krakdan tashlashni to'g'ri o'rgangan yosh basketbolchi, aniq va kuchli o'qni yaratadi.

Yuqoridan tashlash: To'pni yuqoridan, bilakni kuchli ishlatib tashlash ham o'yinda katta ahamiyatga ega.

Yosh basketbolchilarga muvaffaqiyatga erishish uchun ko'plab omillar ta'sir qiladi. Asosiy texnikalarni o'zlashtirish, jismoniy va mental tayyorgarlik, taktikalarga rioya qilish, jamoaviy ishlash va sog'lom turmush tarzini saqlash — bularning barchasi o'yindagi muvaffaqiyatga olib keladi. O'z ustida doimiy ravishda ishlash va motivatsiya saqlash yosh o'yinchilarga katta yutuqlarga erishishga yordam beradi.

Maqolani yanada to'ldirish va kengaytirish uchun qo'shimcha quyidagi bo'limlar yoki ma'lumotlarni qo'shishingiz mumkin:

Yosh basketbolchilar o'zlarining sport faoliyatlari bilan birga, maktab yoki kundalik hayotdagi boshqa mas'uliyatlarini ham bajarishlari kerak. O'z vaqtini boshqarish va barcha mas'uliyatlarni muvozanatlash juda muhimdir.

Tugallanmagan o'yinlarni qanday yengish kerak: To'liq e'tibor va professional yondashuv orqali har qanday vaziyatda muvaffaqiyatga erishish mumkin.

Yosh basketbolchilarga muvaffaqiyatli bo'lish uchun nafaqat sport texnikalarini o'zlashtirish, balki jismoniy va mental tayyorgarlikni ham rivojlantirish zarur. O'z vaqtini boshqarish, boshqa sport turlarini o'rganish, jarohatlardan saqlanish, va raqobatga tayyorlanish yosh o'yinchining muvaffaqiyatiga ta'sir ko'rsatadigan omillardir. Har bir yosh sportchi o'z maqsadlariga erishish uchun yuqori motivatsiya, qat'iyat va mehnat bilan harakat qilishi kerak.

Agar o'yinchilar o'zlarini doimiy ravishda rivojlantirib, jismoniy va ruhiy jihatdan tayyor bo'lsa, ular katta yutuqlarga erishishlari mumkin.

Albatta! Mana, yosh basketbolchilarga qo'shimcha maslahatlar va ma'lumotlar bilan maqolani yana kengaytirishingiz mumkin bo'lgan ba'zi yangi bo'limlar:

Yosh basketbolchilar o'zlarini sportda muvaffaqiyatli bo'lish uchun turli jihatlardan rivojlantirishlari kerak. Texnik ko'nikmalarni o'zlashtirish, jismoniy va ruhiy tayyorgarlik, sog'lom turmush tarzini saqlash, va taktikalarga yondashishning o'ziga xos yo'llari bor. Basketbol o'yinchilari uchun muvaffaqiyatga erishish uchun samarali psixologik tayyorgarlik va o'zini rivojlantirish ham muhim omillardir. Eng muhimi, yosh sportchi doimiy ravishda o'z maqsadlariga erishish uchun mehnat qilib, sabr-toqatli bo'lishi lozim.

Yosh basketbolchilar faqat sportda emas, balki hayotda ham muvaffaqiyatga erishish uchun bu maslahatlardan foydalanishlari mumkin. Agar o'z ustida ishlashni davom ettirsalar, ular katta yutuqlarga erishishi mumkin.

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REGBI O'YINING KELIB CHIQISH TARIXI VA RIVOJLANISHI

Annotatsiya: Ushbu maqolada regbi sportining kelib chiqish tarixi, rivojlanish bosqichlari, asosiy turlari (regbi union va regbi league), xalqaro turnirlar, ijtimoiy va madaniy ta'siri, iqtisodiy ahamiyati hamda bugungi kundagi holati keng yoritilgan. Regbining jahon sportidagi tutgan o'rni, jamiyatdagi ijtimoiy vazifasi va kelajakdagi rivojlanish istiqbollari tahlil qilingan. Maqola sport sohasida ta'lim olayotgan talabalar, sport tarixiga qiziqqan tadqiqotchilar va keng jamoatchilik uchun mo'ljallangan.

Kalit so'zlar: Regbi, sport tarixi, regbi union, regbi league, Jahon Kubogi, jamoaviy o'yin, madaniy ta'sir, sport rivoji, xalqaro musobaqalar, sport va jamiyat.

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THE HISTORY AND DEVELOPMENT OF THE GAME OF RUGBY

Annotation: This article extensively covers the history of the origin of rugby, its stages of development, the main types (rugby union and rugby league), international tournaments, its social and cultural impact, economic significance, and its current state. The article also analyzes rugby's role in world sports, its social function in society, and its prospects for future development. This work is intended for students studying in the field of sports, researchers interested in sports history, and the general public.

Keywords: Rugby, sports history, rugby union, rugby league, Rugby World Cup, team sports, cultural impact, sports development, international competitions, sports and society.

Regbi — jismoniy faollik va strategiyaning ajoyib uyg'unlashuvi bo'lgan, dunyoning ko'plab mamlakatlarida keng tarqalgan sport turi. Uning tarixi XVII asrning oxiriga borib taqaladi, lekin hozirgi regbi o'yinining shakllanishi va rivojlanishi XIX asrning o'rtalariga to'g'ri keladi. Regbi futbolining o'ziga xos xususiyatlari, qoidalari va o'yinchilari orasidagi o'zaro hamkorlik bu sportni boshqa futbol turlaridan ajratib turadi.

Regbi futbolining aniq kelib chiqish tarixi haqida bir necha turli versiyalar mavjud, lekin eng mashhuri Angliyaning Regbi shahrida yuz bergan voqea bilan bog'liq. 1823 yilda Regbi maktabining o'quvchisi, nomi tarixda qolarli — William Webb Ellis, futbol o'yini davomida to'pni qo'llari bilan ushlab, maydonning boshqa chekkasiga olib borgan. Bu harakat, albatta, o'sha davr futboli qoidalariga ziddir. Ammo, Ellisning bu qarori regbi futbolining boshlanishiga asos bo'ldi, chunki u ushbu yangi o'yin shaklini yaratishga turtki bo'ldi. Keyinchalik bu o'yin "regbi futboli" deb atalgan.

XIX asrning o'rtalariga kelib, regbi o'yini Angliyada keng tarqala boshladi. 1863 yilda, Angliyadagi futbol assotsiatsiyasi (FA) tashkil topdi, va u futbol o'yinining yangi qoidalarini belgiladi. Biroq, regbi futboli o'zining original qoidalarini saqlab qoldi. 1871 yilda Regbi Futboli Ittifoqi (Rugby Football Union, RFU) tashkil topdi va regbi o'yinining umumiy qoidalari ishlab chiqildi. Ushbu tashkilot regbi futbolining rasmiyligiga asos solgan va uni tashkil etishda markaziy rol o'ynagan.

Regbi futbolining ikkita asosiy turi:

Regbi union: Bu regbi o'yini ikki jamoa o'rtasida 15 nafar o'yinchi bilan o'ynaladi. Jamoalar to'pni olib, raqib maydonida maxsus joyga tushirishga harakat qilishadi.

Regbi league: 13 nafar o'yinchi bilan o'ynaladigan bu tur regbi unionga qaraganda bir oz tezroq va kamroq taktika talab qiladi. Regbi league, 1895 yilda tashkil topgan va o'ziga xos qoidalar bilan ajralib turadi.

Xalqaro rivojlanish

Regbi o'yinining Angliyadagi muvaffaqiyatidan so'ng, u tezda boshqa mamlakatlarga tarqala boshladi. 1870-80 yillarda, Shvetsiya, Fransiya, Avstraliya, va Yangi Zelandiya kabi mamlakatlar regbi o'yinini o'zlashtira boshladi. Shunday qilib, regbi sporti jahonning ko'plab mamlakatlarida ommalashdi.

Xalqaro regbi turnirlari ham 20-asr boshlarida tashkil etildi. 1899 yilda Shvetsiya va Fransiya regbi jamoalari o'rtasida birinchi xalqaro o'yinlar o'tkazildi. 1987 yilda esa, Regbi Jahon Kubogi tashkil etilib, bugungi kunda bu musobaqa regbi sportining eng yuqori darajadagi turnirlaridan biriga aylandi.

Regbi sportining rivojlanishi va ommalashishi

XX asrning ikkinchi yarmidan boshlab regbi sporti dunyoning ko'plab burchaklarida rivojlanib, xalqaro turnirlar va musobaqalar tashkil etildi. Yangi Zelandiya, Avstraliya, Janubiy Afrika, Angliya, va Fransiya kabi mamlakatlar regbi jamoalari orasida yetakchi o'yinchilarga ega bo'lishdi. Regbi union va regbi league o'rtasida o'zaro raqobat davom etayotgan bo'lsa-da, regbi unionning jahon miqyosidagi turnirlari keng tarqaldi.

1995 yilda Jahon Kubogi Yangi Zelandiyada o'tkazildi va shu bilan regbi sportining xalqaro miqyosda ommalashishiga turtki bo'ldi. 1995 yildan keyin, Jahon Kubogi musobaqasi har to'rt yilda o'tkazilib kelmoqda.

Regbi va professionalism

1995 yilda regbi sporti uchun yana bir muhim bosqich boshlangan edi. Shu yil regbi sporti professionalizatsiya qilindi. Bunga qadar regbi jamoalari asosan amaliyot va xayriya ishlarida qatnashgan va o'yinchilar ko'pincha amateur edi. Lekin 1995 yildan so'ng, o'yinchilarni to'lovli shartnomalar bilan jalb qilish boshlandi va regbi professional sportga aylandi.

Hozirgi kunda regbi dunyoning ko'plab mamlakatlarida keng ommalashgan. 2019 yilda Yaponiya, regbi unionining Jahon Kubogini muvaffaqiyatli o'tkazdi. Regbi jahonida, Yangi Zelandiya, Janubiy Afrika, Angliya, Fransiya va Avstraliya kabi davlatlar yetakchilik qilmoqda.

Regbi o'yini yirik tarixiy jarayonning natijasidir va bugungi kunda bu sport butun dunyoda e'tiborli, qadrlanadigan va yaxshi rivojlangan sport turlaridan biri hisoblanadi. O'yin ham jismoniy kuchga, ham aql-idrokka asoslanganligi tufayli juda ko'p muxlislarni o'ziga jalb etadi. Regbi futbolining kelib chiqishi va rivojlanishi, sportning dinamik va kuchli taraflarini ko'rsatib, o'zining global miqyosdagi o'rnini mustahkamladi.

Regbi sportining tarixini va rivojlanishini yanada chuqurroq o'rganish uchun, quyidagi qo'shimcha ma'lumotlar, regbi o'yini va uning asosiy jihatlarini tahlil qilishga yordam beradi:

Regbi o'yini nafaqat jismoniy, balki intellektual va ruhiy jihatdan ham o'yinchilardan yuqori darajadagi malaka talab qiladi. Regbi o'ynash, o'yinchilarni jamoaviy ishga, hamkorlikka, strategiya yaratishga va qaror qabul qilishda tezkorlikka o'rgatadi. Bu xususiyatlar o'yinchilarga nafaqat sportda, balki kundalik hayotda ham foydali bo'lishi mumkin.

Regbi sporti nafaqat professional darajada, balki amator va yoshlar darajasida ham keng tarqalgan. Ko'plab yirik klublar va tashkilotlar o'quvchilarni regbi sportiga jalb qilishga harakat qilmoqda. Bunday klub va akademiyalar orqali yoshlar o'z malakalarini oshirib, kelajakda milliy jamoalar uchun tayyorlanmoqda.

Regbi o'yinining tarixi, rivojlanishi va jahon bo'ylab keng tarqalishi, bu sportning nafaqat jismoniy qobiliyat, balki o'zaro hamkorlik, strategiya va ijtimoiy ahamiyatga ega ekanligini ko'rsatadi. Regbi bugun nafaqat professional darajada, balki dunyoning turli burchaklarida kichik jamoalar tomonidan ham o'ynaladi va rivojlanadi. O'yinning professionalizatsiyasi va xalqaro muvaffaqiyatlari, regbini global miqyosdagi eng yirik va e'tiborli sport turlaridan biriga aylantirgan.

Regbi sporti faqat jismoniy faollikni o'z ichiga olmay, balki jamiyat va madaniyatga ham katta ta'sir ko'rsatadi. Bu sport turining ijtimoiy jihatlarini o'ziga xos va uning rivojlanishiga hissa qo'shadi:

Birlik va hamkorlik: Regbi jamoasidagi har bir o'yinchi o'z vazifasini bajarish, jamoa manfaatlarini birinchi o'ringa qo'yish orqali muvaffaqiyatga erishadi. Shu tarzda regbi o'yinchilari o'zaro hamkorlik, ishonch va bir-birini qo'llab-quvvatlashni o'rganadilar. Bu, ayniqsa, yoshlar orasida jamoaviy ish va etika nuqtai nazaridan muhim ahamiyatga ega.

Ayollar regbisi: Ayollar o'rtasidagi regbi o'yini ham tez sur'atlar bilan rivojlanmoqda. Yirik xalqaro turnirlar, masalan, Ayollar Regbi Jahon Kubogi va boshqa turnirlar, ayollar regbisining sport sifatida yanada rivojlanishiga yordam beradi. Ayollar regbisi sportining professionalizatsiyasi va yirik homiylik shartnomalarining mavjudligi, bu sport turining yanada rivojlanishiga turtki bo'ladi.

Regbi o'yini, o'zining boy tarixiga va kelajakka bo'lgan istiqbollariga qaramay, hali ham o'zining jahon sportidagi nufuzini kuchaytirmoqda. Regbi nafaqat jismoniy faollik, balki strategiya, jamoaviy ish, madaniy va ijtimoiy o'zgarishlarning ramzi sifatida rivojlanib bormoqda. Bu sport turining ijtimoiy, iqtisodiy va madaniy ta'siri uni dunyo bo'ylab eng mashhur va hurmatli sport turlaridan biriga aylantirgan. Regbi o'yini doimo yangi imkoniyatlar yaratishda davom etadi va kelajakda yangi sportchilar, yangi klublar va yangi ligalar bilan yanada rivojlanishi kutilmoqda.

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SPORT TURLARI VA UNING INSONLAR HAYOTIGA AHAMIYATI

Annotatsiya: Ushbu maqolada sport turlari va ularning insonlar hayotiga bo'lgan ahamiyati keng yoritilgan. Maqola sportning tarixiy rivojlanishini, uning jamiyatdagi o'rni va ahamiyatini, shuningdek, sportning jismoniy va ruhiy salomatlikka ta'sirini o'rganadi. Sport turlari, jumladan futbol, basketbol, tennis, voleybol, regbi va boshqalar, nafaqat jismoniy tayyorgarlikni, balki jamoaviy ruh va ijtimoiy aloqalarni rivojlantirishda ham muhim rol o'ynaydi. Maqolada sportning salomatlik, karyera va jamiyatdagi ijtimoiy va madaniy ta'siri haqida batafsil tahlil keltirilgan. Sportning insonlarning umumiy farovonligiga qo'shgan hissasi va uning jamiyatdagi o'rni xulosa tarzida tahlil qilinadi.

Kalit so'zlar: sport turlari, jismoniy salomatlik, ruhiy holat, jamiyat, madaniy ta'sir, ijtimoiy taraqqiyot, jamoaviy ish, sog'lom turmush tarzi, karyera, sport va jamiyat, stressni boshqarish, sport va salomatlik, sportning ahamiyati, sport strategiyasi, yengil atletika, futbol, basketbol, tennis, voleybol, regbi, ijtimoiy aloqalar, motivatsiya, sportning rivojlanishi.

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SPORT TYPES AND THEIR SIGNIFICANCE IN PEOPLE'S LIVES

Annotation: This article provides a comprehensive overview of sports types and their significance in people's lives. It examines the historical development of sports, their role and importance in society, as well as their impact on physical and mental health. Sports such as football, basketball, tennis, volleyball, and rugby not only promote physical fitness but also play a crucial role in fostering team spirit and social connections. The article analyzes the influence of sports on health, career development, and their social and cultural impact on society. The article concludes by assessing the contribution of sports to overall well-being and their place in society.

Keywords: sports types, physical health, mental well-being, society, cultural impact, social development, teamwork, healthy lifestyle, career, sports and society, stress management, sports and health, importance of sports, sports strategy, track and field, football, basketball, tennis, volleyball, rugby, social connections, motivation, sports development.

Sport – bu insonlar uchun jismoniy va ruhiy salomatlikni yaxshilash, birbirlariga bo'lgan munosabatlarni mustahkamlash va jamiyatda ijtimoiy birlashuvni

ta'minlash maqsadida amalga oshiriladigan faoliyatdir. Sport turlari asrlar davomida turli shakllarda rivojlanib, jamiyatning ayrim ehtiyojlarini qondirishga xizmat qilib kelgan. Dastlabki sport turlari odamlar o'rtasida jismoniy quvvatni sinovdan o'tkazish maqsadida tashkil etilgan. Biroq, vaqt o'tishi bilan sport nafaqat jismoniy tayyorgarlikning, balki madaniy va ijtimoiy jarayonlarning muhim tarkibiy qismiga aylangan. Har bir millatning o'ziga xos sport turlari mavjud bo'lib, ular uning tarixiy, ijtimoiy va madaniy qadriyatlarini aks ettiradi. Ushbu maqolada sport turlari, ularning insonlar hayotiga ta'siri va jamiyatdagi o'rni haqida kengroq tahlil qilinadi.

Sportning tarixi juda qadimiy davrlarga borib taqaladi. Dastlabki sport turlari odamlar o'rtasida jismoniy quvvatni sinovdan o'tkazish maqsadida tashkil etilgan. Biroq, vaqt o'tishi bilan sport nafaqat jismoniy tayyorgarlikning, balki madaniy va ijtimoiy jarayonlarning muhim tarkibiy qismiga aylangan. Har bir millatning o'ziga xos sport turlari mavjud bo'lib, ular uning tarixiy, ijtimoiy va madaniy qadriyatlarini aks ettiradi. Birinchi olimpiyadalar miloddan avvalgi VI asrda Yunonistonda o'tkazilgan. Bu davrda sport jismoniy kuch va mahoratni sinash uchun mavjud bo'lsa, keyinchalik, sportning ijtimoiy, madaniy va iqtisodiy ta'sirlari yuzaga kelgan.

Shuningdek, o'sha davrlar sportning rivojlanishiga katta ta'sir ko'rsatgan qadimgi davlatlar, shaharlar va imperiyalar haqida gapirish mumkin. Misol uchun, Rim imperiyasida gladiator janglari, Yunonistonning o'zida esa yunon sporti juda rivojlangan edi. Bugungi kunda esa, sport ko'plab turli shakllarda rivojlanib, dunyoning eng yirik madaniy va iqtisodiy hodisalaridan biriga aylangan.

Sportning ko'plab turlari mavjud, har biri o'zining o'zgacha xususiyatlariga, qoidalariga va strategiyalariga ega. Futbol, basketbol, regbi, voleybol, tennis, suzish, yengil atletika va boshqa sport turlari – har biri o'ziga xos uslub va o'yinchilarni talab qiladi. Futbol dunyoning eng mashhur sport turlaridan biri hisoblanadi. Uning sadolarini eshitgan har bir inson ushbu o'yinning ahamiyatini va ta'sirini tushunadi. Futbol nafaqat jismoniy tayyorgarlikni talab qiladi, balki psixologik va ijtimoiy jihatdan ham o'ta muhim rol o'ynaydi. Futbol o'ynash orqali insonlar jamiyatga qo'shilish, turli davlatlar o'rtasida hamkorlikni rivojlantirish va yangi do'stlik aloqalarini o'rnatish imkoniyatiga ega bo'ladilar.

Basketbol ham yuqori darajadagi tezkor va dinamik harakatlarni talab qiladigan sport turi sifatida o'zining alohida o'rniga ega. Jamoaviy sportlardan biri sifatida basketbol individual qobiliyatni, shuningdek, jamoaviy strategiya va taktikaning muhimligini namoyon etadi. Shu bilan birga, regbi va voleybol kabi sport turlari ham o'zlarining maxsus qoidalari, strategiya va jamoaviy ruh bilan ajralib turadi. Har bir sport turi o'zining jismoniy, ruhiy va psixologik talablari bilan mashhur.

Sportning inson organizmiga ta'siri juda katta. Birinchidan, sport jismoniy salomatlikni yaxshilashga yordam beradi. Masalan, yurak-qon tomir tizimini mustahkamlash, mushaklarni kuchaytirish, immun tizimini mustahkamlash kabi foydalari mavjud. Yengil atletika yoki suzish kabi sport turlari, masalan, butun tana mushaklarini ishlatish orqali salomatlikni yaxshilaydi. Ikkinchidan, sport ruhiy

holatni yaxshilashga yordam beradi. Mashqlarni muntazam ravishda bajarish stressni kamaytiradi, kayfiyatni ko'taradi va psixologik barqarorlikni ta'minlaydi. Bundan tashqari, sport jismoniy jihatdan faollikni ta'minlab, insonni depressiya va tashvishlardan xalos etishga yordam beradi. Bu jarayon sport orqali olingan o'zgarishlar va yangi maqsadlar qo'yish orqali sodir bo'ladi.

Sportning jamiyatdagi o'rnini juda katta. Jamoaviy o'yinlar, masalan, futbol, basketbol, voleybol, insonlarni birlashtiradi, ular o'rtasida hamkorlik va hamjihatlikni rivojlantiradi. Shu bilan birga, sportning iqtisodiy ahamiyati ham katta — sport turlari turli tarmoqlarni rivojlantiradi, shu jumladan sport sanoati, turizm, reklama va sponzorlash. Bularning barchasi sportning iqtisodiy sohasini kengaytiradi va jamiyatda yangi ish o'rinlarini yaratadi.

Sportning jamiyatdagi ijtimoiy ta'siri nafaqat insonlar o'rtasida aloqalarni mustahkamlash, balki madaniy almashinuvni va boshqalarni ham o'z ichiga oladi. Misol uchun, xalqaro sport musobaqalarida ishtirok etish orqali turli mamlakatlar o'rtasida do'stlik, o'zaro hurmat va hamkorlikni rivojlantirish mumkin. Bundan tashqari, sport ijtimoiy masalalar, masalan, gender tengligi, irqiy diskriminatsiya va boshqa masalalar yuzasidan katta rol o'ynaydi.

Sportning insonning jismoniy salomatligi uchun nafaqat foydali ekanligi, balki zarur ekanligi ham ta'kidlanadi. Odamlar har kuni muntazam ravishda sport bilan shug'ullanish orqali o'zlarining umumiy salomatlik holatini yaxshilashlari mumkin. Sportning salomatlikka ta'siri nafaqat jismoniy kuchni oshirish, balki yurak va qon tomir tizimining sog'lom ishlashini ta'minlash, ortiqcha vaznni nazorat qilish va turli kasalliklarni oldini olish kabi foydalarga olib keladi. Sport shuningdek, jismoniy faollikni ta'minlab, stressni kamaytiradi va ruhiy holatni yaxshilaydi. Bu esa insonlarning umuman sog'lom turmush tarzini saqlashda yordam beradi.

Sportni professional ravishda mashq qilish, shuningdek, professional sportchi bo'lish ham o'ziga xos kasbdir. Bu jarayon sportchilarni o'zlarining imkoniyatlarini kashf qilishga, maqsadlar qo'yishga va ularga erishishga undaydi. Bundan tashqari, sport orqali olingan tajriba va ko'nikmalar boshqalar bilan aloqalarni rivojlantirish, jamoa bilan ishlash va liderlik kabi qobiliyatlarni oshirishga yordam beradi.

Sport nafaqat jismoniy salomatlikni yaxshilash, balki madaniyat va ijtimoiy taraqqiyotga ham katta hissa qo'shadi. Sportning ijtimoiy ta'siri orqali jamiyatdagi ijtimoiy masalalar, masalan, gender tengligi, irqiy diskriminatsiya va boshqa masalalar yoritiladi. Sport orqali insonlar bir-birlariga yordam berish va birgalikda ishlashni o'rganadilar. Shu bilan birga, sportning madaniy ta'siri xalqaro aloqalarni mustahkamlash va madaniy almashinuvni rivojlantirishda muhim rol o'ynaydi.

Xulosa

Sport turli shakllarda, turli xil madaniyatlarda va ijtimoiy qatlamlarda mavjud bo'lib, har bir inson uchun o'ziga xos ahamiyatga ega. Sport nafaqat jismoniy salomatlikni yaxshilash, balki ijtimoiy, madaniy va psixologik jihatlarni ham rivojlantiradi. Har bir sport turi o'zining o'zgacha xususiyatlari va foydalari bilan ajralib turadi, ammo barcha sport turlari insonning umumiy farovonligini oshirishga

yordam beradi. Sportning jamiyatdagi o‘rni va ijtimoiy ta’siri, shuningdek, kelajakda uning rivojlanish istiqbollari yanada kengroq bo‘lishi kutilmoqda.

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THE ROLE OF CHOLESTEROL LDL IN ATHEROSCLEROSIS

***Annotation:**Over a century has passed since the lipid theory of atherosclerosis was first proposed. Still, several writers have questioned how hypercholesterolemia contributes to its development.*

Numerous clinical, epidemiological, and experimental findings support this connection. The world's leading cause of death is still atherosclerotic cardiovascular disease.

In this article, recent genetic research on Mendelian randomization and randomized therapeutic trials for lowering LDL cholesterol are compiled. They categorically support the idea that LDL cholesterol plays a part in the genesis of atherosclerosis.

***Keywords:** LDL cholesterol; Atherosclerosis; Lipid theory; Mendelian randomization; Clinical trials*

Introduction

Despite the lipid hypothesis of arteriosclerosis being over a century old, the cycle of proving causation was not concluded until the end of the twentieth century due to the conclusive findings of numerous investigations on pharmaceutical interventions (2). Ironically, during the past few years, there have been multiple attempts by scientists to discredit the role of cholesterol in the development of arteriosclerosis (3) in the communication media and in certain forums. Luckily, the paper Intervention 2 (fig. 1) provides a strong foundation for the important role of cholesterol, and specifically the cholesterol transported by low-density lipoproteins (LDL-c) as a causative agent of arteriosclerosis, with epidemiological, genetic, experimental, and research pillars(1).

In the majority of individuals, 90% of circulating cholesterol is carried by LDL, which explains the strong link between total cholesterol and LDL-C levels: The Friedewald equation, which states that LDL cholesterol is a function linear of total cholesterol, is used to estimate LDL cholesterol levels in ordinary practice rather than actually measuring them(4). This is why total cholesterol and LDL calculations yield results that are nearly identical in many epidemiological studies.

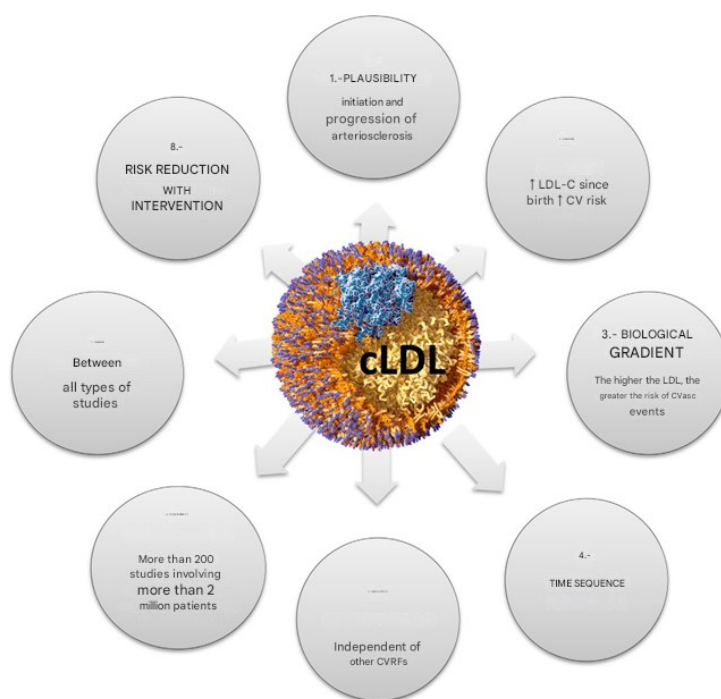


Figure 1 Criteria for causality: low-density lipoproteins (LDL) and arteriosclerosis. Adapted from Ference et al.2.

Materials and methods

Despite the robust, dose-dependent, and repeatable correlation between LDL-C, observational epidemiological studies lack randomized testing and are unable to prove causation due to a number of potential biases, including unknown reasons of confusion. A different kind of observational study known as "Mendelian randomization studies" has received a lot of interest lately (fig. 3)(5). The random distribution of both parents' genes during meiosis gives the cells' germinal emula 23 chromosomes, which is similar to the "assignment random" procedure of clinical trial treatments. Several gene variations have been identified as being linked to variations in c-LDL 10 levels.

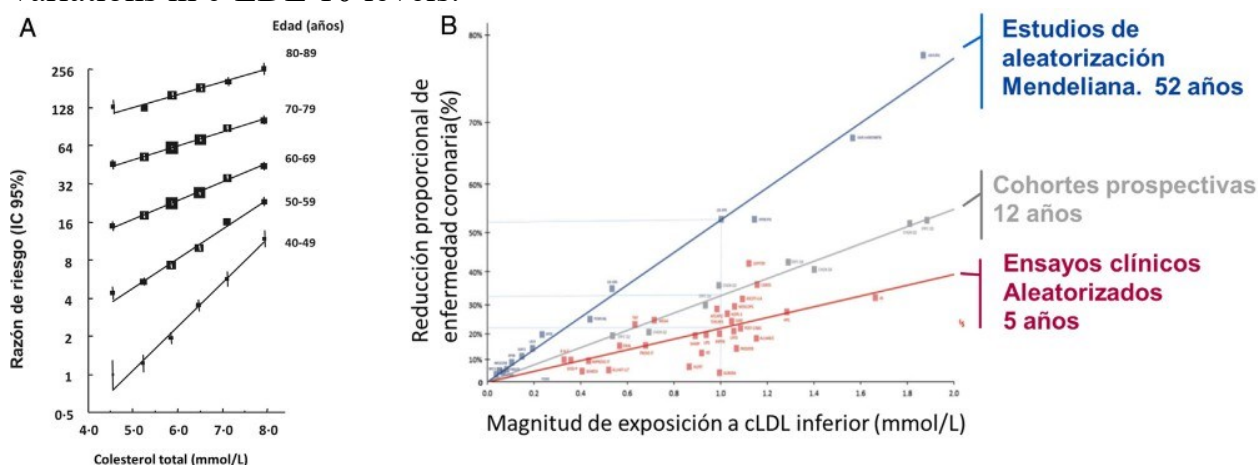


Figure 2 shows the association between coronary heart disease mortality and cholesterol in traditional epidemiological studies (A), randomized Mendelian and

Essays clinicians (TO and B). For all cholesterol ranks and age groups, epidemiological classics show a correlation between changes in cholesterol levels and coronary heart disease mortality. Based on Lewington et al. (8).

Changes in cardiovascular morbidity and cholesterol exhibit the same log-linear connection in classic cohort studies(6), Mendelian randomization studies, and interventionist essays. The effects on morbidity depend largely on changes in cholesterol levels during a shorter period of time: five years in intervention studies, twelve years in cohort studies, and more than fifty years in Mendelian randomization studies. From Ference et al. (2) with adaptation.

Results and Discussion

All of the previously discussed evidence is crucial for confirming the causal relationship between c-LDL and atherosclerosis, but it is particularly important to show that lowering c-LDL HE levels is linked to a regression in the size of atherosclerosis plates or a decrease in cardiovascular events(9). Great transcendence 2 turns out to be the case. In this regard, it is crucial to emphasize the data from primary and secondary prevention studies showing that a decrease in the rates of cardiovascular events in the elderly is linked to a reduction in c-LDL levels in the elderly that is accomplished with statins and other treatments.

The strongest evidence in this area comes from statin-induced inhibition of HMG-CoA reductase. This contained information from 26 clinical trials with 170,000 individual participants. I show that, over a median of five years, the risk relative of major cardiovascular events decreases by 22-23% with statin treatment for every mmol/l (about 39 mg/dl) decrease in c-LDL levels(7). This advantage was minimal in the first year of follow-up, but it was irrespective of the baseline level of c-LDL and grew during the course of treatment years. Furthermore, when HE reaches levels of c-LDL of 70 mg/dL 22, studies using ultrasonography intravascular of the coronary atheromatous plaque have clearly shown that treatment with high-intensity statins stabilizes the progression or even recovers the volume of the plate atherosclerotic(10).

Not only does this affect heart disease ischemic and coronary arteries, but numerous studies have demonstrated that intensive statin treatment lowers the risk of ischemic stroke and the advancement of arteriosclerosis in the carotid arteries, which is also correlated with the degree of c-LDL 23 reduction.

But statins are not the only factor responsible for these positive effects of lowering LDL-C levels. Other therapies have also been demonstrated to lower the incidence of cardiovascular events by lowering c-LDL without blocking HMG-CoA reductase.

In conclusion

In the development of atherosclerosis, c-LDL plays a role that is either etiological or causative. The targets (HMG-coA reductase, NPC1L1, and PCSK9) that were identified from a genetic perspective using Mendelian randomization studies have been validated in intervention studies, which demonstrate that lowering LDL-c levels through procedures or medication treatments is associated with a regression of atheroma plates and a decrease in cardiovascular events linked to

atherosclerosis.

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JANUBIY OSIYO ARXITEKTURASIDA BETON MUHANDISLIGINING SHAKLLANISHI

Annotatsiya: Ushbu maqolada Janubiy Osiyo me'morchiligida betonning keng tarqalishi, Hindiston va Pokiston mustaqillikka erishgandan so'ng subkontinent arxitekturasining rivojlanishi, bu borada dengiz yo'li bo'yidagi turar-joy binolari va mehmonxonalar loyihalashtirilishida hamda yirik shaharlardagi temir yo'l chetida joylashgan, past qavatli, o'rta sinf uylarida Le Korbuziening "Domino" sxemasining keng qo'llanilgani, shu bilan birga Louis Kanning betonga nisbatan uch xil yondashuvi bayon etilgan.

Kalit so'zlar: Beton, muhandis, loyiha, arxitektura, rekonstruksiya, shakl, zamonaviy.

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THE FORMATION OF CONCRETE ENGINEERING IN SOUTH ASIAN ARCHITECTURE

Abstract: This article describes the widespread use of concrete in South Asian architecture, the development of subcontinental architecture after the independence of India and Pakistan, the widespread use of Le Corbusier's "Domino" scheme in the design of residential buildings and hotels along the sea route, and in low-rise, middle-class houses located along the railways in large cities, as well as Louis Kahn's three different approaches to concrete.

Keywords: Concrete, engineer, project, architecture, reconstruction, form, modern.

Kirish: Beton o'rganishda asosan tarixchilar Fransiya, Germaniya va Qo'shma Shtatlardagi materialni ishlab chiqishga bo'lgan etiborga o'z nazarini qaratgan [1], [2], [3]. Butun dunyo bo'ylab betonning qo'llanilishi va tarqalishi xaritasini yaratish uchun qilingan say harakatlar va tadqiqotlar yetarli emasligi ayon, ammo bu jarayon juda tez sodir bo'lganligi aniq. Albatta, u juda tezlik bilan keng qo'llanila boshlagan. Temir-beton 1901-yilga kelib mustamlaka Hindistonda ishlatilgan va asrning ikkinchi choragida yirik shaharlarda, xususan Bombeyda (hozirgi Mumbay) keng tarqalgan. Mustamlaka Hindistondagi beton

konstruksiyalarning aksariyati ingliz muhandislari tomonidan nazorat qilingan, ammo hind muhandislari tomonidan bajarilgan. Tez orada sement ham, armatura ham mahalliy ishlab chiqarila boshlandi. Bunga, mehnatning arzonligi, betonning ko'p qismini qo'lda aralashtirilishi sabab bo'lgan. Tropik iqlimni to'g'ri hisobga olinmaganligi va Britaniya standartlariga rioya qilinganligi sababli, bu ishlardan ba'zilarining sifati unchalik yaxshi emas edi [4]. Mustamlaka Hindistonga betonning tez tarqalishi Janubiy Osiyo zamonaviyligining noyob hodisasidan uzoq edi. Mustamlaka Hindistonda me'morchilik bo'yicha kasbiy ta'lim ancha orqada qolgan edi. Yirik shaharlarda ingliz muhojirlari boshchiligida nufuzli loyihalar amalga oshirilgan bo'lsa-da, mustaqillikka qadar bir nechta me'moriy maktablar ochilgan. Ammo, me'morlar muhandislarga qaraganda ancha kam edi [5]. Bu hol arxitekturaga chuqur ta'sir ko'rsatdi, chunki nufuzli loyihalar muntazam ravishda chet elliklarga topshirilgan.

Arxitektorlarning yetishmasligi hind me'morchiligining zamonaviy uslubi va qurilishga to'sqinlik qilmadi. Ikkinchi jahon urushi boshlanishining so'nggi yillarda odatda yirik shaharlarda zamonaviy Art Deco uslubi ofis binolari va turar-joy binolari uchun ishlatilgan. Arxitektorlar Bombay dengiz yo'lini qoplagan turar-joy binolari va mehmonxonalar kabi eng murakkab loyiha namunalarning ko'pini loyihalashtirgan [6]. Bundan tashqari, u yirik shaharlardagi temir yo'l chetida joylashgan, mustaqillikdan ancha oldin qurilgan past qavatli, o'rta sinf uylarida keng qo'llanilgan [7]. Ikkala holatda ham Le Korbusierning Domino sxemasining versiyasi ustunlik qilgan. Yigirmanchi asrning o'rtalarida Janubiy Osiyo me'morchiligida beton nisbatan arzonligi va mustahkamligi bilan qulaylik yaratdi.

1947-yilda Hindiston va Pokiston mustaqillikka erishgandan so'ng, subkontinent 1950 va 60-yillarning eng zamonaviy arxitekturasining diqqat markaziga aylandi, uning ko'p qismi chetdan tashrif buyurgan mutaxassislar tomonidan temir-betondan qurilgan. Butun qit'a bo'ylab yangi mustaqil mamlakatlarning rahbarlari o'zlarining yangi davlatlarining zamonaviyligini ko'rsatish uchun chetdan chaqirilgan mutaxassislar tomonidan ishlab chiqilgan zamonaviy arxitekturadan foydalanganlar. Yangi shaharlar ko'paydi, shu jumladan Hindistonning o'zida yangi poytaxtlar Bhubanesvar, Chandigarh va Gandinagar. Pokistonning yangi poytaxti Islomobod bir qancha yevropalik va amerikalik arxitektorlar, jumladan Konstantinos Doksiadis va Edvard Durrell Stoun yordamida loyihalashtirilgan [8; 169 – 182-b.].

Louis Kan o'zining kontekstda betonga nisbatan uch xil yondashuvi mavjud bo'lib. Birinchisi, skeletli ramka bo'lib, u soyabon shakli bo'lib, beton va g'isht bilan qoplanadi. Ikkinchisi, odatda, juda qo'pol qoplamali monolit beton edi. Uchinchisi esa yengil qobiq konstruksiyasi bo'lib. Ularning barchasi Yevropada kashf etilgan, lekin faqat birinchisi 1962-yilda Dakkada keng qo'llanilgan; Kan ikki yondashuvini qayta ko'rib chiqdi. Uchinchisini esa faqat zarurat tug'ilganda ishlatishni ilgari surdi. Betondan foydalanishning bu usuli zamonaviy arxitekturani keng qamrab olgan bo'lib u uzoq tarixga ega, Le Korbusierning 1914-yildagi Masion Domino sxemasi ushbu tizimning dastlabki Yevropa ifodasi edi [9].

1914-yil kuzida Flandriyaning vayron bo'lishi Le Korbusierni kelgusi rekonstruksiya ishlari uchun standartlashtirilgan qurilish tizimini Maison Domino loyihasini yaratishga ilhomlantirdi. Ustunlar va zinapoyalarga qo'yilgan beton plitalardan iborat standartlashtirilgan ikki qavatli uy chizmasi bir asr davomida arxitekturani hayratda qoldirdi. Darhaqiqat, ushbu dizayn keyingi o'n yil davomida uning ko'pgina me'morchiligi uchun asos bo'ldi.

Le Korbuser oldingi loyihalarda sinab ko'rgan va takomillashgan ixtirolarini namoyish qilish uchun Parijning Puissy chekkasidagi qishloqda Villa Savoye uyini 1928-1931-yillarda temir-beton yordamida qurilgan, Ushbu innovatsion loyiha Le Korbuserning "arxitekturaning beshta boshlang'ich nuqtasi"ni mukammal ko'rsatadigan misol sifatida keltiriladi. O'z paytda arxitektura jamoatchiligida shov-shuvga sabab bo'lgan Villa Savoy zamonaviy arxitekturaning dekorsiz geometrik shakllar, silliq oq jabhalarga egaligi va ichki ramkadan foydalanish uslublarini o'zida mujassam etganligi sabab ushbu binoni "xalqaro uslub" arxitekturasining o'ziga xos manifestiga aylanishiga yordam berdi.

Ikkinchi jahon urushidan keyin temir-beton arxitektura hamjamiyatida yangilik bo'lib undagi mavhumlik to'laqonli ochilmagandi. 1920-yillarda xalqaro uslubni saqlab qolish qiyin bo'lgan, bir vaqtlar avangard bo'lgan narsa endi odatiy holga aylandi. Lotin Amerikasida misli ko'rilmagan shaharlarning o'sishini hisobga olmasa, Yevropada, Sharqiy va Janubi-Sharqiy Osiyoda urushdan vayron bo'lgan shaharlarni qayta tiklash va postkolonial Janubiy Osiyo infratuzilmasini yaratish, arzon qurilishni talab qilar edi. Bu ishlarni tugatish kam vaqt talab qilganligi sababli, XX-asrning birinchi choragida amaliyotda keng qo'llanilgan, 1920-yillarning avangardchilari orasida keng ommalashmagan monolitik betonga qaytishdi.

Betonning o'ziga xos afzalliklaridan biri shundaki, uni turli xil shakllarga solish va aylantirish mumkin bo'lib, ularning monumentalligi temir ramkaga nisbatan zaif ko'rinishiga kontrast edi. Masalan, 1911-1913-yillarda Germaniyaning Breslau shahrida (hozirgi Vrotslav, Polsha)da qad rostlagan Centennial Hallda oraliqlardagi aniqligi va materialning mustahkamligi bilan juda qadrlangan [10].

Temir-beton binolar tabiatan skeletli binolardir. Og'irlikni ko'taradigan to'sinlar va og'irlikni ko'tarmaydigan devorlar konstruksiyasidir. Ya'ni, teri va suyaklardan iborat binolardir.

Urushdan keyin monolit beton qisman arzon bo'lganligi va Le Korbuserning sa'y harakatlari tufayli qaytib keldi. Le Korbuser va uning shogirdlari ko'pincha betonning plastikligidan foydalanishgan, Hech bir joyda bu model Hindistonning yangi poytaxti Panjobdagidek ishtiyoq bilan ishlatilmagan. Le Korbuser shaharni qurish bilan birga, uning asosiy fuqarolik inshootlarini loyihalashtirdi. U bu yerda, Marselda kabi, loyihani yuqori darajada tugatish uchun haykaltaroshlik plastisiyasiga katta e'tibor berdi va doimgidek malakasi yuqori bo'lmagan ishchi kuchi muvofiqlashtirish jarayonini osonlashtirdi [11].

Nihoyat, urushdan keyingi betonning texnologik jihatdan nozik qobiqlardan foydalanila boshlashdi. Urushdan keyingi zamonaviy arxitekturani xarakterini Per Luidji Nervi va Feliks Kandela kabi muhandislar erishgan nafis yengillik bilan

bog'lash mumkin. Bunday qobiqli tuzilmalar Dakkaga juda erta yetib keldi, ular me'moriy eksperimentlar to'loqining bir qismi bo'lib, ularning qatoriga Yelda birga o'qigan va Kanni ikkinchi poytaxt loyihalari bilan ta'minlashga harakat qilgan Muzharul Islom va amerikalik Stenli Tigermanning binolari ham kiradi [12]. Amerikalik arxitektorlar Daniel Dunham va Robert Boui tomonidan ishlab chiqilgan Kamalapur temir yo'l stansiyasi 1960-yillarda qurib bitkazildi. U mintaqada keng tarqalgan lotus gullari shaklini aks ettirishi kerak bo'lgan nisbatan kichik qobiqlardan iborat (Islom, 2011 yil). Ushbu yengil tuzilmalar materiallarda kam xarajat evaziga katta maydon uchun poydevor hamda egiluvchan qoplama hosil qilishga sabab boldi.

Louis Kan 1962-yilgacha Dakkada ish boshlashdan oldin o'n yildan ko'proq vaqt davomida, shakl va tuzilishni birlashtirish uchun betondan foydalanish ustida izlanish olib bordi [13], [14], [15]. 1953-yilda qurib bitkazilgan Nyu-Xeyvendagi Yel universiteti san'at galereyasi, 1960-yilda Filadelfiyadagi Pensilvaniya universiteti qoshidagi Richards tibbiy tadqiqot binosi va 1965-yilda qurib bitkazilgan La Jolladagi Salk instituti uning rivojlanish yo'nalishini tasvirlaydi.

1953-yilda Kan Yel universiteti galereyasini qurib, Amerika arxitekturasida o'zining eng muhim shaxs ekanligini isbotladi [16].

Xulosa: Louis Kan shakl va tuzilish integratsiyasiga bag'ishlab tajribalar o'tkazishda davom etdi. Kan Dakkada "Ikkinchi poytaxt" nomi bilan atalgan loyiha ustida ish boshlaganida, o'zining aniq yondashuvidagi yuksak nuqtasini namayon etdi. U Sharq va G'arbning monumental an'alarini uyg'unlashtirib, o'z me'morchiligi bilan davlatning ideal ramziy sxemasini yaratdi.

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MAKTABGACHA YOSHDAGI BOLALARNI ATROF-MUHITNI KUZATISHGA OʻRGATISHNING SAMARALI SHAKLLARI

***Annotatsiya:** Mazkur maqolada maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga oʻrgatishning samarali shakllari hamda ularda ekologik madaniyatni shakllantirishda tabiat va ilm-fan markazlarida tashkil etiladigan kuzatishlarni olib borish, ularga tarbiyachining tayyorgarligi, ularni tashkil etish yoʻllari haqida soʻz boradi.*

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EFFECTIVE FORMS OF TEACHING PRESCHOOL CHILDREN TO MONITOR THE ENVIRONMENT

***Annotation:** The article examines effective forms of teaching preschool children to observe the environment and to develop an ecological culture in them, including conducting observations in natural science centers, training teachers for them and ways of organizing them.*

Maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga oʻrgatishda bola uchun dastlabki yosh davrda osmonda uchib yurgan kapalak ham, katakdagi kapalak ham, rasmda tasvirlangan jonsiz kapalak tasviri hamma-hammasi bir xil tuyuladi. Bola ularni faqat «kapalak» sifatida qabul qiladi. Bunda hali bola «jonli», «jonsiz», «erkin», «ozod» yoki «tutqun» degan tushunchalarni anglamaydi. Lekin jonsiz kapalakka, jonli qushga nisbatan boshqacha qiziqish bilan qaraydi. Biroq buning sirini ham anglab yetmaydi. Shunda kattalar bolaga mana shu farqni, sirni tushuntirib berishlari juda muhim. Shu orqali bola tirik tabiatga nisbatan boshqacha qiziqish bilan qarab, uning eʼtibor va mehriga muhtojligini his qiladi.

Maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga oʻrgatishga qoʻyiladigan talablar. Maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga oʻrgatish meyoriy xususidagi xujjatdir. Ushbu talablarda koʻrsatilgan meyor va talablar maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga oʻrgatish uchun oʻlchovdir. Maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga oʻrgatish maqsadi:

- Maktabgacha yoshdagi bolalarni tabiatni sevadigan, uni asrab avaylovchi, odobli, erkin fikrlovchi, milliy g'urur egasi, barkamol sog'lom avlodni tabiyalashdan iboratdir.

Maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga o'rgatishning ta'limiy vazifalari:

- Maktabgacha yoshdagi bolalarda dastlabki atrof-muhit haqidagi tushunchalarni shakllantirish;

- Bolalarning atrof-muhitni asrab-avaylashga unga mehr-muhabbatli, munosabatlarini, qiziqishlarini tarbiyalash.

Maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga o'rgatishda ta'lim-tarbiya bo'yicha tuzilgan «Bolajon» dasturi asosida tabiatda o'zini tutish va atrof muhitni muxofaza qilish malakasini shakllantirish va izchillikda o'stirib borishdan iborat bo'ladi.

Tabiatda har xil vositalar bo'lib turadi, shu tufayli ham ularga ehtiyotkorlik bilan munosabatda bo'lish talab etiladi. Tabiatdagi barcha mavjudodlarning barchasidan turmushda foydalaniladi, hayotda keraksiz narsa yo'q, mavjud barcha narsalar hayotning yagona tizimida bo'lib, tizimning bittasi buzilsa, qolganlari ham shu yo'nalishda buzilib ketishi mumkin. Shuning uchun tabiatdagi hamma narsalarga ehtiyotkorlik bilan yondashishni bolalar ongiga bog'cha yoshidan boshlab singdirib borishni hayot taqozo etadi.

Maktabgacha yoshdagi bolalarni atrof-muhitni kuzatishga o'rgatishda unga yaqin, tanish bo'lgan joylar, o'z uyi, ko'chasi, bolalar bog'chasi, bog'cha hovlisidagi narsalar bilan tanishtirishdan iborat.

Maktabgacha yoshdagi bolalarni tabiatdan ta'lim-tarbiya o'zbek xalq ijodiyoti, sharq allomalari, yozuvchilar tomonidan yaratilgan ertaklar, xikoyalar tasvirlangan tabiat manzaralari haqida ularga tushunchalar berib, maqollar yod oldiriladi.

Bu ishlarning hammasi bolalarni yoshlikdan boshlab tabiatni sevib asrashga, unga muhabbat hissini uyg'otishga yordam beradi.

Maktabgacha 6-7 yoshdagi bolalarni tabiatdan egallashi lozim bo'lgan bilim, ko'nikma va malakalari quyidagilardir:

- Tut, terak, chinor, tol, qayrag'ochlar haqida;
 - Tulki, bo'ri, ayiq, yo'lbars, ilonlar haqida;
 - Tovuq, xo'roz, kurka, o'rdak, g'ozlar haqida;
 - Ninachi, chumoli, chayon, qo'ng'iz, qurt, chigirtka, kapalak haqida;
 - Erta gullaydigan o'tsimon, butasimon o'simliklar haqida;
 - Qurbaqa, asalari, cho'lbaqa haqida;
 - Jonli va jonsiz tabiat haqida;
 - Mehnat qurollari haqida;
 - Tibbiy materiallar bilan ishlash haqida;
 - Dorivor o'simliklar bilan va ularni yig'ish haqida;
 - «Qizil kitob»ga kiritilgan noyob hayvon o'simliklar haqida.
- 6-7 bolalar tabiat haqida quyidagi ko'nikmalarni egallashi kerak:
- Ozoda va saranjomlikni;

- Atrof-muhitdagi turli-tuman narsalar bilan qilish madaniyati;
- Uy hayvonlarini parvarishlashi;
- Tabiatni muhofaza qilishning oddiy elementlari;
- Tut, chinor, terak, tollarni o'zaro farqlay olishlari;
- Mevali va manzarali daraxtlarni farqlay olishlari;
- Yovvoyi hayvonlarni uy jonivorlaridan farqlay olish va ular bilan muomala qilish madaniyati;
- Tabiiy va sun'iy o'simliklar bilan tanishtirish;
- O'simlik va hayvonot dunyosiga nisbatan g'amxo'rlik, raxm shavqatda bo'lish madaniyati va bilimni egallashlari lozim.

Maktabgacha ta'lim muassasalarining ba'zi hayvonlarni parvarishlab boqiladigan tabiat burchagi bolalarni tabiat bilan tanishtirishga unga mehr-muhabbat uyg'otishga yordam beradi.

Tabiat burchagida yashaydigan hayvonlarni bolalar har kuni ko'rib turishadi. Yana ularni istirohat bog'lari, bog'cha yer maydonchalariga, parklarga olib borib turish maqsadida muvaffaqiyatliligini tarbiyachi-pedagoglar unutmasliklari, bolalardagi hayvonlar olami bilan tanishtirish jarayonida tarbiyalash zarurligini maqsad, vazifa deb bilishlari zarur. Bu tarbiyachining ishini yengillashtiradi; uning rahbarligi ostida bolalar tirik mavjudotlarni muntazam kuzatib borish bilan birga ularni parvarish qilib borish jarayonida bolalar hayvonlar olamining turli-tumanligi to'g'risida, hayvonlar qay tariqa o'sib, rivojlanib borish, ularga qanday sharoitlar yaratib berish zarurligi to'g'risida tasavvur hosil qiladilar. Tarbiyachi bolalarni qiyosiy analiz, ya'ni tahlil qilishga, hayvonlarni bir-biriga solishtirib ko'rib, ular orasidagi o'xshashliklar va farqlarni topishga o'rgatib boradi, hayvonlarning tashqi ko'rinishidagi, hatti-harakatdagi qiziq xususiyatlarni payqab bilib olishga yordam beradi.

Hayvonlarni muntazam ravishda parvarish qilib, ularga bilim berib borish jarayonida tarbiyachi bolalarda ma'lum atrof-muhit xaqidagi bilimlarni shakllantirib, ularni tabiat burchagidagi hayvonlarga e'tibor bilan qarashga, tirik mavjudotlar to'g'risida g'amxo'rlik qilishga o'rgatib boradi va shu tariqa bolalarda tabiatga qiziqishni, natijaga erishishda ekologik madaniyat hissini mustahkamlaydi. Tabiat burchagi uchun mo'ljallanadigan hayvonlar «Bolajon» tayanch dasturiga muvofiq tanlanadi. Tabiat burchagiga bolalar muassasasi qaysi iqlim mintaqasida joylashgan bo'lsa, birinchi navbatda shu iqlim mintaqasiga xos bo'lgan hayvonlarni joylashtirilishi kerak. Katta guruh tabiat burchaklari boshqa iqlim zonalaridan keltirilgan hayvonlar bilan to'ldirib boriladi. Tabiat burchagida saqlanadigan hayvonlarning hammasida ularning sinf, turkum belgilari yaqqol ifodalanib turadigan bo'lishi zarur, masalan, kapalaklar tana tuzilishi, ularning turlari, shuningdek foydali, zararkunanda hayvonlarni bir-biridan farqi, ahamiyatini bilishlari kerak.

Qaysi guruhning burchagi uchun tirik obyektlar tanlanayotgan bo'lsa, o'sha guruhdagi bolalarning yosh xususiyatlari ham hisobga olinishi lozim.

Bolalar bemalol parvarish qila oladigan bo'lishlari uchun kichik va o'rta guruh tabiat burchaklariga eng kamtalab hosharatlar qo'yiladi. Katta, maktabga

tayyorlov guruhlarida yashash sharoitlariga bir muncha talabchan hayvonlar bo'lishi, bularning soni ko'proq bo'lishi zarur. Tabiat burchagina barcha hayvonlari biologik xususiyatlari mos holda va yashash sharoitlariga qanday talablar qo'yishga qarab joylashtiriladi. Boshqa turdagi hayvonlarni xonasining bir joyiga to'p qilib qo'yish yaramaydi, bunday sharoitda hayvonlarni kuzatish va ularni parvarish qilib borish, zarur bo'lganda ulardan birortasini boshqalari orasidan ajratib olish bolalarga qiyin bo'ladi. Maktabgacha yoshdagi bolalarni atrof-muhit bilan tanishtirishda ana shu narsalarga e'tibor berish juda ham zurur estetik talablarni ham hisobga olish kerak: har xil turdagi hayvonlarni shinam qilib joylashtirish lozim.

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GEOGRAFIYA TA'LIMIDA TOPONIMIKA VA GEOGRAFIK TERMINLAR

***Annotatsiya:** Toponimlar va geografik atamalar haqidagi ta'limot geografiya fanlarini bilish bilan qo'shilib, o'qituvchi, o'quvchini Yer sayyoramizning oby'ektlari va tabiatini ko'z oldimizda gavdalanitirishning zaruriy talabi deb qarash kerak. Ushbu maqolada Vatanimizning kelgusi istiqboli uchun bilimli, ma'naviy yetuk avlodlarni tarbiyalash, olib borilayotgan islohotlarning asosiy maqsadi ekanligi, shu sababdan O'lkashunoslik fanining o'qitilishi talabalarning hudud haqidagi tasavvurlarini kengayishiga, yurtimizdagi geografik ob'yektlar, me'moriy obidalar, arxeologik ob'yektlar, voqea va hodisalar, tabiat haqidagi bilimlarini boyitishga xizmat qilishi bilan uzviy bog'liqlik borligini ilmiy jihatdan asoslashga harakat qildik.*

***Kalit so'zlar:** O'lkashunoslik, Obva, Lobva, Vodva, Finn, Ugart, Desna.*

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TOPONYMY AND GEOGRAPHICAL TERMS IN GEOGRAPHICAL EDUCATION

***Abstract:** The doctrine of toponyms and geographical terms is combined with the knowledge of the subjects of geography, and the teacher, the student should be viewed as a necessary requirement to embody the objects and nature of the planet Earth before our eyes. This article tells about the fact that the education of educated, spiritually mature generations for the future future of our Motherland is the main goal of the reforms being carried out, for this reason, the teaching of local history science allows students to expand their perception of the territory, geographical objects, architectural objects, archaeological objects in our country, we tried to scientifically substantiate that events and phenomena are inextricably linked with the fact that they serve to enrich their knowledge of nature.*

***Keywords:** Local history, Obva, Lobva, Vodva, Finn, Ugart, Desna.*

Dunyo tabiiy manzarasi bilan bog'liq umuminsoniy madaniyatning tarkibiy qismi bo'lgan geografik madaniyatni tarbiyalaydi. Qayerda qanday geografik obyekt joylashgan, ular bir-biriga nisbatan qanday o'rinda ekanligini o'rganish orqali har bir obyektning o'z atoqli oti, obyektning xususiyatini ifodalovchi hodisa va jarayonlarning maxsus geografik terminlardan iborat ekanligi va uning mohiyatini o'quvchi bilib oladi. Qayerda qanday joylashuv obyektning nomi mazmuni va terminlar ta'rifini bilish geografik bilim va geografik dunyoqarash hisoblanadi. Shuning uchun ham "Maktab geografiyasini qayta qurishning ilmiy, uslubiy konsepsiyasi" ning ta'lim mazmunining majburiy minimumi bo'linadi.

- geografiyaning nazariy asoslari

- geografik tadqiqot me'todlari

- tabiiy va iqtisodiy obyektlar

- hodisa va jarayonlar

- olamni idrok etishning moddiy va ma'naviy madaniyatga ifodalanishi

- hudud geografik tavsifining tuzilishi kabi olti yo'nalish ko'rsatilgan bo'lib bular; tabiiy va iqtisodiy ob'yektlarda toponimikani bilish, hodisa va jarayonlar bo'limida geografik terminlarni o'rganish talab etiladi. Geografik obyektlar nomi va joylashivini xaritadan ko'rsata olish, muayyan jarayon va hodisaning mohiyatini ifodalovchi terminning mazmunini ta'riflay olish bu toponimika va geografik terminshunoslik mazmunidagi ta'limiy ishdur. Har qanday geografik nomni bilishda birinchi va asosiy vazifa obyektning shu xildagi obyektlardan alohida ajratilishi va nomlanishida namoyon bo'ladi. Obyekt nomidan foydalanib og'zaki va yozma nutqda ushbu toponimning biror bir predmet yoki hodisa bilan bog'lash imkoniyati paydo bo'ladi. Nomlar ayni shu obyektning shu singari boshqa obyektlarga nisbatan hududiy joylashishi boshqalari bilan hududiy bog'liqligi hamda geografik hodisa va jarayonlarni obyekt bilan bog'lashga yordam beradi. Ta'lim mazmunining majburiy minimumida o'quvchilar egallashi shart bo'lgan ko'nikma va malakalar – ayta, (ko'rsata) olish, aniqlay (o'lchay) olish, tasvirlay olish tushuntira olish va bashorat qila olish kabi ko'rsatkichlar vositasida ifodalangan bular asosan obyektning xaritadan ko'rsata olish va uning xususiyatini tariflay olish toponimika va geografik terminlarni bilish bilan bog'liq ekanligi ko'pchilikka ayon. Nomning hududiy o'rnini belgilash natijasida yangi nomlar yasaladi. Chunonchi, Sibir -G'arbiy Sibir pasttekisligi O'rta Sibir yassi tog'ligi shimoliy orollari, namlik hududiy doirasini aniqlash geologik geografik ifodalar, ilmiy atamalar yasash uchun qulaylik yaratadi. Baykal burmalanishi – perm davri, Toshkent geologik asri, Qo'qon shamoli, Tyanshan sirtlari, Sibir frontlari, Sibir antisekloni, Yenesiy Kryaji, Aldan qalqoni va boshqalar. Toponimlar obyektning o'rne, obyektning turi, turli tabiiy hodisa va jarayonlarni aniqlash maydonida voqeyi bo'lishini ifodalashi bilan geografik ta'limda katta ahamiyat kasb etadi.

Toponimlar geografik obyektning joylanishi bilan birga uning turini, obyektning qanday xildagi tabiiy voqelikka mansubligini ham bildiradi. Chunki qadimgi odamlar tabiat bilan yuzma yuz kelganda tabiatni tashkil etgan tarkibiy qismlarga ajratish ehtiyojini sezganlar, odamlarni o'rab turgan tabiatni qismlarga ajratish, har bir qismning xususiyatini aniqlash lozim bo'lgan, lekin ularda so'z

boyligi yetishmagan shuning uchun suv, daryo, dengiz, ko'l va boshqa shu kabi oddiy so'zlar bilan ifodalab qoya qolganlar. Shu boisdan ham hozirgi toponimlar ichida-suv (Oqsuv, Qorasuv) - shu (Xeyshue) va (Obva, Lobva Vodva, Fin, Ugart tillarda - va-suv) - don (ardon, sardon, nordon, razdon, ositikcha – don daryo) ko'plab uchraydi. Keyinchalik bu oddiy so'zlar bilan ifodalangan oby'ektlarni bir-biridan ajratish kerak bo'lgan, natijada bu so'zlar yoniga -oldiga – old qo'shimcha sifatida bu oby'ekt rangi, tezligini bildiruvchi sifatlar qo'shimchalar qo'shilgan, natijada Qizilsuv, Sarisuv, Sovuqsuv, Jilisuv, nomlari paydo bo'ladi. Shuni aytish kerakki geografik nomlarning paydo bo'lishi juda murakkab va uzoq davom etgan tarixiy jarayon. Shu tufayli ko'pgina gidronimlarni ularning paydo bo'lgan aniq tarixiy voqiyiligi bilangina to'g'ri tushuntirib berish mumkin. Darhaqiqat har bir geografik oby'ektning aniq o'ziga xosligini ifodalash uchun tashqi qiyofasi jihatdan inson tanasining azolari yoki tanish narsalarga shakllariga o'xshashlikni bildiruvchi so'zlarni ayni shu oby'ektning shakliga muqova qilingan. Shu jihatdan olganda, daryolarimiz irmoqlari nomidagi "ko'l" so'zi harakterlidir. Geografik nomlar tarkibidagi og'iz (og'zi keng qishloq, yaylov, Chiroqchi tumanida, Oq dahana Qishloq Qamashi tumanida) ko'z-(chashma-Hazorchashma Tojikistonda) nomlarni ko'rsatish mumkin. Inson tanasining a'zolariga o'xshatib ataladigan geografik nomlar rus va boshqa xalq tillarida ko'pchilik Ob'gubasi (Ob daryosining qo'ltig'i,) qo'ltiq, ko'rfazi O'lik qo'ltiq, Oqbosh tog', Ural tog'i (Osiyo va Yevropani belbog' singari bog'lab turadigan tog'lar zanjiri) Beltog'-(Hisor tog'ining tarmog'i) Qoraqo'l- (Qirg'izistondagi shahar-1925-1992 yillarda Priyivalskiy deb atalgan) va boshqalar.

Oddiy sifatiy ma'nodagi so'zlarning geografik nomlarga aylanishi barcha xalqlarda uchraydi. Sahroi Kabir - arabchada Katta Sahro Gobi-mo'g'ilcha-suvsiz cho'l, Pireniy basklar tilida piren-tog', Denepir irmog'i "Desna"ning nomi- o'ng irmoqi Ivanova viloyatidagi Shuya shahri daryochasi. Nomi-chap irmoq so'zlari ekanligini geograflar bilishi lozim. Shu misollar geografiya fani uchun nomning kelib chiqishi bilan birgalikda uning ma'nosini bilish ham katta ahamiyatga ega ekanligini ko'rsatadi. Odatda nomlar ma'nosini tahlil etish semantika deb ataladi.

Toponimlar va geografik atamalar haqidagi ta'limot geografiya fanlarini bilish bilan qo'shilib, o'qituvchi, o'quvchini Yer sayyoramizning oby'ektlari va tabiatini ko'z oldimizda gavdalantirishning zaruriy talabi deb qarash kerak.

Geografiya ta'limi jarayonida geografiyani qiziqarli tomonini oshirish uchun ta'riflanayotgan atama termin va nomlarning ma'no mazmuni va kelib chiqishini bilishga intilish buni imkon boricha o'qituvchi o'quvchiga yetkazish muhim ahamiyat kasb etadi. Shu fikrlar nuqtai nazaridan o'z o'lkasining tarixi, tabiati, boyliklarini o'rganadigan ekskursiyalar tashkil etish, to'garak ishini joylashtirish kabi sinfdan va maktabdan tashqari ishlar muhim ahamiyatga ega.

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BOLALAR UCHUN INTERAKTIV O'YINLI ONLAYN TA'LIM PLATFORMASI UCHUN BERILGANLAR BAZASINI SAMARALI LOYIHALASH VA AXBOROT XAVFSIZLIGINI TA'MINLASH USULLARI

Annotatsiya: Mazkur maqolada bolalar uchun mo'ljallangan interaktiv o'yinli onlayn ta'lim platformasini yaratishda berilganlar bazasini samarali loyihalash va axborot xavfsizligini ta'minlash masalalari tahlil qilingan. Platformaning funksional imkoniyatlarini to'liq qo'llab-quvvatlaydigan, modullashtirilgan va kengaytiriluvchan berilganlar bazasi strukturasini ishlab chiqishning asosiy yondashuvlari bayon etilgan. Shuningdek, axborot xavfsizligini ta'minlashda zamonaviy usullar – foydalanuvchi autentifikatsiyasi, shifrlash texnologiyalari, SQL hujumlariga qarshi himoya, rolga asoslangan ruxsatlar boshqaruvi kabi mexanizmlar muhokama qilingan. Maqola yakunida ta'lim platformalarining ishonchliligini ta'minlash va kelajakda qo'llanishi mumkin bo'lgan texnologiyalar yuzasidan tavsiyalar berilgan.

Kalit so'zlar: Berilganlar bazasi, onlayn ta'lim, interaktiv o'yinlar, axborot xavfsizligi, autentifikatsiya, gamifikatsiya, bolalar ta'limi, SQL himoya, veb-platforma, ta'lim texnologiyalari.

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EFFECTIVE METHODS OF DATABASE DESIGN AND INFORMATION SECURITY FOR AN ONLINE EDUCATIONAL PLATFORM WITH INTERACTIVE GAMES FOR CHILDREN

Abstract: This article analyzes the issues of effective database design and information security in the development of an online educational platform with interactive games designed for children. It outlines key approaches to developing a modular and scalable database structure that fully supports the platform's functional capabilities. Modern methods of ensuring information security—such as user authentication, encryption technologies, protection against SQL injections, and role-based access control—are also discussed. The article concludes with recommendations for ensuring the reliability of educational platforms and potential future technologies for implementation.

Keywords: Database, online education, interactive games, information security, authentication, gamification, children's education, SQL protection, web platform, educational technologies.

Kirish

Zamonaviy axborot-kommunikatsiya texnologiyalari ta'lim sohasida ko'plab innovatsion yondashuvlarning paydo bo'lishiga zamin yaratdi. Ayniqsa, onlayn ta'lim platformalari bolalar uchun interaktiv va o'yin elementlariga ega bo'lgan tarzda yaratilayotgani ta'lim jarayonini yanada qiziqarli va samarali qilish imkonini bermoqda. Interaktiv o'yinli muhit o'quvchilarning fanlarga bo'lgan qiziqishini oshiradi, ularni mustaqil o'rganishga undaydi va bilimni mustahkamlashga yordam beradi.

Bunday platformalarning asosiy texnik negizi — berilganlar bazasi (BB) hisoblanadi. Chunki barcha foydalanuvchilar, o'yin jarayoni, testlar, natijalar va rag'batlantirish tizimlari haqidagi ma'lumotlar aynan BB orqali boshqariladi. Shu bilan birga, bolalar auditoriyasi bilan ishlovchi tizimlarda axborot xavfsizligi masalasi ham dolzarb bo'lib, ma'lumotlarning maxfiyligi, yaxlitligi va himoyalanganligi ta'minlanishi lozim.

Mazkur maqolada bolalar uchun mo'ljallangan o'yinli onlayn ta'lim platformasi uchun berilganlar bazasini samarali loyihalash tamoyillari, arxitektura yondashuvlari va axborot xavfsizligini ta'minlashning amaliy usullari tahlil qilinadi.

1. Interaktiv o'yinli ta'lim platformalarining tuzilmasi va talablar

Interaktiv o'yinli onlayn platformalar ko'p funksiyali tizimlar hisoblanadi. Bunday tizimlar quyidagi asosiy modullarni o'z ichiga oladi:

Foydalanuvchi moduli — o'quvchilar va o'qituvchilarni ro'yxatdan o'tkazish, avtorizatsiya qilish va foydalanuvchi ma'lumotlarini boshqarish;

O'yinli ta'lim moduli — informatika faniga oid topshiriqlarni o'yin shaklida taqdim etish (masalan, drag-and-drop, to'g'ri kod terish, test o'yinlari);

Statistika va kuzatuv moduli — foydalanuvchining faoliyati va natijalarini qayd etish va tahlil qilish;

Rag'batlantirish tizimi — ballar, darajalar va reytinglar orqali gamifikatsiya elementlarini joriy etish.

Bunday murakkab tizimlarda barcha modullar o'zaro o'zaro bog'liq holda ishlaydi va bu bog'liqlikni boshqarish uchun ma'lumotlar bazasining tuzilmasi juda muhim hisoblanadi.

2. Berilganlar bazasini samarali loyihalash tamoyillari

Onlayn o'quv tizimining samarali ishlashi uchun ma'lumotlar bazasini to'g'ri va puxta loyihalash zarur. Asosiy tamoyillar quyidagilardan iborat:

Normallashtirish (Normalization) – BB jadvallarini takroriy ma'lumotlardan xalos etish va ma'lumotlar yaxlitligini ta'minlash. Bu foydalanuvchi ma'lumotlari, topshiriqlar, ballar, natijalar va testlar orasidagi munosabatlarni aniq ajratish imkonini beradi.

Modullik (Modularity) – har bir funksiya uchun alohida jadval (masalan, foydalanuvchilar, topshiriqlar, ballar, darajalar) yaratish, bu esa tizimni kengaytirish va parvarishlashni osonlashtiradi.

Yuqori bog‘liqlik va optimallik – indekslar orqali tezkor qidiruv va yozuvlarni ta’minlash, ko‘p foydalanuvchili muhitda kechikishlarni kamaytiradi.

Zaxiralash (Backup) va tiklash (Restore) mexanizmlarining mavjudligi — tizim ishdan chiqqan holatlarda ma’lumotlarni yo‘qotmaslik uchun muntazam nusxa olishni ta’minlaydi.

Bunday platformalar uchun PostgreSQL, MySQL, yoki Firebase Realtime Database kabi ma’lumotlar bazasi tizimlari eng optimal hisoblanadi. Ular real vaqt rejimida ishlash, kengaytirilish imkoniyati va xavfsizlik choralarini taqdim etadi.

3. Axborot xavfsizligini ta’minlash usullari

Bolalarga mo‘ljallangan onlayn ta’lim platformalarida axborot xavfsizligini ta’minlash alohida e’tibor talab etadi. Chunki foydalanuvchilarning shaxsiy ma’lumotlari, o‘quv faoliyati, test natijalari va reytinglari tizimda saqlanadi. Bunday platformalarda axborot xavfsizligini ta’minlash quyidagi asosiy usullar orqali amalga oshiriladi:

Foydalanuvchi identifikatsiyasi va autentifikatsiyasi: Har bir foydalanuvchining yagona login va parol orqali tizimga kirishi, parollarni himoyalashda zamonaviy hashlash algoritmlaridan (masalan, bcrypt) foydalanish.

HTTPS protokoldan foydalanish: Ma’lumotlar uzatishda shifrlangan protokol (SSL sertifikatlari) orqali foydalanuvchi va server o‘rtasidagi aloqani xavfsiz qilish.

Rolga asoslangan ruxsat nazorati: Har bir foydalanuvchiga (o‘quvchi, o‘qituvchi, administrator) faqat o‘z vakolatiga mos funktsiyalarni bajarishga ruxsat berish.

SQL injeksiya va XSS hujumlaridan himoya: Ma’lumotlar bazasiga kirishda tayyor so‘rovlar (prepared statements) va foydalanuvchi kiritgan ma’lumotlarni to‘liq validatsiya qilish orqali xakerlik hujumlarining oldini olish.

Zaxira va audit tizimi: Ma’lumotlar muntazam ravishda avtomatik zaxiralanadi, tizimdagi har qanday o‘zgarishlar maxsus audit jurnallarida qayd etiladi.

Mazkur xavfsizlik choralarini to‘liq joriy qilish orqali ta’lim platformasining ishonchliligi, uzluksizligi va foydalanuvchi ma’lumotlarining himoyasi ta’minlanadi.

4. Amaliy yondashuv: Ta’lim platformasi uchun DB strukturasi namunasi

Ta’lim platformasi uchun berilganlar bazasini loyihalashda real ehtiyojlar asosida quyidagicha jadval strukturalari ishlab chiqilishi mumkin:

foydalanuvchilar (id, ism, familiya, login, parol_hash, rol)

topshiriqlar (id, sarlavha, bo‘lim, matn, to‘g‘ri_javob)

javoblar (foydalanuvchi_id, topshiriq_id, tanlangan_javob, vaqt)

ballar (foydalanuvchi_id, umumiy_ball, oxirgi_faollik_vaqti)

reyting (foydalanuvchi_id, daraja, o'tgan_bosqichlar)

Struktura modullashtirilgan va kengaytiriladigan tarzda tuzilgan bo'lib, yangi fanlar yoki yangi o'yin turlarini qo'shish uchun katta o'zgarishlar talab etilmaydi. Tizim PostgreSQL yoki Firebase asosida qurilishi mumkin, real vaqt rejimidagi monitoring uchun Firebase juda mos keladi.

5. Kelajakda qo'llanilishi mumkin bo'lgan texnologik yechimlar

Kelajakda ushbu ta'lim platformalarini takomillashtirishda quyidagi texnologik va ilmiy yondashuvlar asos bo'lishi mumkin:

Sun'iy intellekt asosidagi tahlil vositalari – o'quvchilarning faolligiga qarab individual tavsiyalar ishlab chiqish;

Ovozli interfeyslar va AR (augmented reality) – darslarni yanada jonli va qiziqarli qilish uchun;

Blockchain asosidagi baholash tizimi – natijalarning o'zgarmasligini kafolatlash va ishonchlilikni oshirish;

Gamifikatsiyani chuqurlashtirish – misol uchun, virtual mukofotlar, avatarlar va ijtimoiy faollik uchun ball berish tizimlari.

6. Xulosa va takliflar

Tadqiqot natijalariga ko'ra, bolalar uchun interaktiv o'yinli onlayn ta'lim platformasi yaratishda berilganlar bazasini puxta va samarali loyihalash, shuningdek, axborot xavfsizligini ishonchli tashkil etish zaruriy hisoblanadi.

Xulosa:

Platformaning barcha funksiyalarini qo'llab-quvvatlaydigan modullashtirilgan BB strukturasini yaratish zarur;

BB jadvallari normallashtirilgan, indekslangan va kengaytiriluvchan bo'lishi lozim;

Axborot xavfsizligi foydalanuvchi ma'lumotlarini ishonchli himoya qilish darajasiga ega bo'lishi kerak.

Tavsiyalar:

Foydalanuvchilarni ro'yxatdan o'tkazishda xavfsiz autentifikatsiya tizimlari joriy etilsin;

BB serverlarida muntazam zaxira olish va xavfsizlik auditi olib borilsin;

Kelgusida AR va sun'iy intellekt elementlari asosida platformani yanada interaktiv qilish yo'nalishida ilmiy izlanishlar olib borilsin.

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**YANGI O'ZBEKISTON TA'LIM TIZIMIDA INTEGRATSIYA ASOSIDA
BOSHLANG'ICH SINIF O'QUVCHILARINING O'ZLASHTIRISH
SAMARADORLIGINI TA'MINLASH (TABIIY FAN VA TARBIYA FANI
MISOLIDA)**

***Annotatsiya.** Ushbu maqolada Yangi O'zbekiston ta'lim tizimi doirasida boshlang'ich sinf o'quvchilari bilim o'zlashtirishining samaradorligini oshirishda fanlararo integratsiya yondashuvining o'rni va ahamiyati ilmiy asosda o'rganiladi. Ayniqsa, tabiiy fan va tarbiya fanlarining o'zaro integratsiyalashgan holda o'qitilishi orqali o'quvchilarda nafaqat nazariy bilimlar, balki amaliy ko'nikmalar, ekologik madaniyat va ma'naviy-axloqiy qadriyatlarning shakllanishi tahlil qilinadi. Tadqiqot jarayonida integrativ yondashuv qo'llangan tajriba sinflari va an'anaviy metodlar asosida o'qitilgan nazorat sinflari o'rtasidagi bilim o'zlashtirish ko'rsatkichlari solishtirildi. Olingan natijalar fanlararo integratsiyaning o'quvchilarning faolligini oshirish, mustaqil va tanqidiy fikrlash qobiliyatlarini rivojlantirish hamda ta'lim jarayonining natijadorligini ta'minlashdagi yuqori samaradorligini ko'rsatdi. Maqola zamonaviy pedagogik metodlar, kompetensiyaga asoslangan ta'lim yondashuvlari va xalqaro tajriba asosida ishlab chiqilgan tavsiyalarni o'z ichiga oladi. Tadqiqot natijalari Yangi O'zbekistonning ta'lim sifatini oshirish va yosh avlodni har tomonlama barkamol shaxs sifatida shakllantirish strategiyasiga amaliy hissa qo'shadi.*

***Kalit so'zlar:** Integratsiya, boshlang'ich ta'lim, tabiiy fan, tarbiya, o'zlashtirish samaradorligi, zamonaviy ta'lim, kompetensiyaga yo'naltirilgan ta'lim.*

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**ENSURING LEARNING EFFECTIVENESS OF PRIMARY SCHOOL
STUDENTS THROUGH INTEGRATION IN THE NEW UZBEKISTAN
EDUCATION SYSTEM (ON THE EXAMPLE OF NATURAL SCIENCE
AND ETHICS SUBJECTS)**

Abstract. *This article explores the scientific foundations of the role and importance of interdisciplinary integration approaches in increasing the effectiveness of primary school students' learning within the framework of the New Uzbekistan education system. Particular attention is given to the integrated teaching of natural science and ethics subjects, which not only imparts theoretical knowledge but also fosters practical skills, ecological awareness, and the formation of moral and ethical values among students. The research compares the academic performance of students in experimental classes, where integrative approaches were applied, with control classes taught using traditional methods. The results demonstrate the high effectiveness of interdisciplinary integration in enhancing student engagement, developing independent and critical thinking skills, and improving the overall efficiency of the educational process. The article also includes recommendations based on modern pedagogical methods, competency-based learning approaches, and international experience. The findings contribute to improving the quality of education in New Uzbekistan and support the strategy of nurturing a well-rounded and fully developed young generation.*

Keywords: *Integration, primary education, natural science, ethics, learning effectiveness, modern education, competency-based education.*

Kirish. *O'zbekiston Respublikasida amalga oshirilayotgan keng ko'lamli ta'lim islohotlari, xususan, "Yangi O'zbekiston – yangi ta'lim" tamoyiliga asoslangan holda ta'lim sifatini tubdan oshirish, kompetensiyaga yo'naltirilgan yondashuvni joriy etish, integrativ ta'limni rivojlantirish kabi maqsadlarni ko'zlamogda.*

Boshlang'ich ta'lim bosqichi shaxsning intellektual, ma'naviy va axloqiy rivojlanishining poydevorini tashkil etishi sababli, bu bosqichda o'qitish samaradorligini oshirish strategik ahamiyat kasb etadi. Ayniqsa, tabiiy fan va tarbiya fanlari o'rtasida integratsiyani yo'lga qo'yish orqali bilimlarning mukammal o'zlashtirilishini ta'minlash, o'quvchilarda atrof-muhitga ongli munosabat va ijtimoiy qadriyatlarni shakllantirish imkonini beradi.

Mazkur maqola boshlang'ich ta'limda integrativ yondashuvni tadqiq etadi va amaliy tajribalar asosida o'zlashtirish samaradorligini oshirish usullarini taqdim etadi.

Materiallar va metodlar. *Tadqiqot 2023–2024 o'quv yili davomida Yangi O'zbekistonning ta'lim tizimida faoliyat yuritayotgan boshlang'ich ta'lim muassasalarida olib borildi. Tajriba va nazorat sinflari sifatida Toshkent shahri, Samarqand va Buxoro viloyatlarining umumiy o'rta ta'lim maktablaridan jami 6 ta boshlang'ich sinf tanlab olindi (3 ta tajriba, 3 ta nazorat sinfi).*

Tanlangan sinflar bir xil shart-sharoitga ega bo'lib, o'quvchilar soni 28–32 nafar atrofida bo'ldi. Tajriba sinflarida tabiiy fan va tarbiya fanlari integratsiya asosida birgalikda o'qitildi, nazorat sinflarida esa ushbu fanlar an'anaviy alohida-alohida metodikalar asosida o'rgatildi.

Tadqiqot metodlari. *Tadqiqotda sifat va miqdoriy tahlil metodlari uyg'unlashtirildi. Quyidagi metodlar qo'llandi:*

Nazariy tahlil

Yangi O'zbekiston ta'lim tizimi konsepsiyasi, "Boshlang'ich ta'lim standarti" va zamonaviy ta'lim metodikalari, xususan, integrativ yondashuv asoslari o'rganildi.

Fanlararo integratsiyaning psixologik-pedagogik asoslari (Vygotsky, Dewey, Bruner, Piaget konsepsiyalari) tahlil qilindi.

Tajriba-metodik faoliyat

➤ Tajriba sinflarida tabiiy fan va tarbiya darslari maxsus integratsiyalashgan o'quv dasturi asosida olib borildi.

➤ Har bir mavzu bo'yicha ekologik va axloqiy qadriyatlar bilan bog'liq topshiriqlar, loyihalar va amaliy mashg'ulotlar tashkil etildi.

➤ Har oy yakunida o'quvchilar bilimni baholash uchun mini-testlar va amaliy topshiriqlar o'tkazildi.

➤ Dars jarayonlari davomida o'quvchilarning faolligi, mustaqil fikrlashi, muloqot ko'nikmalari va qiziqishi kuzatildi.

➤ Kuzatuv varaqalari asosida har bir darsdan keyin o'qituvchilarning kuzatish natijalari qayd etildi.

➤ O'quvchilar va ularning ota-onalari o'rtasida so'rovnomalar tashkil etildi (savollar bilim, qiziqish, mustaqil ishlash va ijtimoiy faoliyatga qaratildi).

➤ O'qituvchilar bilan yarim strukturaviy intervyular o'tkazildi, bunda integrativ o'qitish jarayonidagi qulayliklar va muammolar haqida ma'lumot olindi.

Diagnostic va test tahlili

➤ O'quvchilar bilim darajasi bosqichma-bosqich (boshlang'ich, oraliq va yakuniy) testlar orqali baholandi.

➤ Test natijalari SPSS 26.0 dasturida statistik tahlil qilindi (o'rtacha ko'rsatkich, dispersiya va t-testlar orqali guruhlararo farq aniqlash usuli qo'llandi).

➤ Olingan ma'lumotlar asosida o'quvchilar bilim o'zlashtirish darajasi va faollik ko'rsatkichlari o'rtasidagi korrelyatsiya ko'rsatkichi hisoblandi.

➤ Integratsiyalashgan va an'anaviy o'quv jarayonlarining samaradorligi p-qiyamat orqali statistik ravishda solishtirildi.

Muhokama

Olingan natijalar shuni ko'rsatadiki, fanlararo integratsiya boshlang'ich sinf o'quvchilari uchun bilimlarni hayotiy kontekstda idrok etishga, nazariy va amaliy bilimlarni uyg'unlashtirishga imkon beradi.

Tabiiy fan va tarbiya fanlari birgalikda o'qitilganda:

➤ O'quvchilar nafaqat tabiat hodisalarini tushunadilar, balki ekologik va axloqiy qadriyatlarni ham anglay boshlaydilar.

➤ Har bir bilim biror axloqiy qadriyat bilan bog'lanib, o'quvchida uyg'un shaxsiy fazilatlar shakllanadi.

➤ Integratsiya mantiqiy fikrlashni rivojlantiradi va bilimlarning hayot bilan bog'liqligini mustahkamlaydi.

Bugungi kunda ta'limning kompetensiyaga yo'naltirilgan modelini amalga oshirishda integrativ yondashuv muhim strategik ahamiyat kasb etadi. Bunday yondashuv o'quvchilarning shaxsiy kompetensiyalarini shakllantirish, ijodiy va

tanqidiy fikrlashini rivojlantirish, shuningdek, ijtimoiy faol va ma'naviy barkamol shaxslarni tayyorlash imkonini beradi.

Xulosa. Integratsiyaga asoslangan o'qitish boshlang'ich ta'lim bosqichida o'quvchilarning bilim o'zlashtirish samaradorligini oshirish, shaxsiy va ijtimoiy kompetensiyalarini rivojlantirishda muhim omil sifatida namoyon bo'ldi. Tabiiy fan va tarbiya fanlarini birgalikda o'rgatish orqali o'quvchilarda nafaqat nazariy bilim, balki hayotiy ko'nikmalar, ekologik ong, madaniy qadriyatlar va ma'naviy-axloqiy fazilatlar shakllandi.

Tadqiqot natijalari shuni ko'rsatdiki:

➤ Fanlararo integratsiya o'quvchilar bilimlarining mustahkamligini ta'minlaydi, ularni real hayotdagi muammolarni hal qilishga tayyorlaydi.

➤ Tabiiy fan orqali atrof-muhitni anglash va qadrlash, tarbiya orqali esa ma'naviy qadriyatlarni shakllantirish parallel olib borilganda shaxsning har tomonlama rivojlanishiga kuchli turtki beradi.

➤ Integratsiyalashgan darslar o'quvchilarning darsga bo'lgan motivatsiyasini oshiradi, ular o'z bilimlarini amaliy faoliyatda qo'llashga tayyor bo'ladi.

➤ Mustaqil fikrlash, ijodiy yondashuv va muloqot ko'nikmalarining rivojlanishida integrativ yondashuv an'anaviy metodlarga nisbatan sezilarli ustunlikka ega ekanligi aniqlandi.

Yangi O'zbekiston sharoitida ta'lim tizimini yangilash jarayonida integratsiyalashgan ta'lim modellari, ayniqsa boshlang'ich ta'limda, dolzarb va strategik ahamiyat kasb etadi. O'quvchilarning bilimlarini real hayot bilan bog'lash, ularning shaxsiy va ijtimoiy faolligini oshirish uchun:

➤ tabiiy fan va tarbiya fanlarining mazmunini uyg'unlashtirish,

➤ dars jarayonida loyiha ishlari, muammoli vaziyatlar va amaliy mashg'ulotlarni keng qo'llash,

➤ kompetensiyaga asoslangan metodik yondashuvlarni yanada rivojlantirish zarur.

Maqola tavsiyalariga ko'ra, ta'lim muassasalarida:

➤ Integrativ o'quv dasturlarini ishlab chiqish va tatbiq etish,

➤ O'qituvchilar uchun integratsiya asosida dars berish metodikasini o'rgatish bo'yicha malaka oshirish dasturlarini joriy etish,

➤ Har bir fan integratsiya imkoniyatlarini aniqlash va ularni dars jarayonida maqsadli va tizimli ravishda qo'llash talab etiladi.

Xulosa qilib aytganda, integratsiyaga asoslangan ta'lim boshlang'ich sinf o'quvchilarining o'zlashtirish samaradorligini oshirish bilan birga, ularning har tomonlama intellektual, ijtimoiy va axloqiy rivojlanishini ta'minlaydi. Bu esa Yangi O'zbekistonning raqobatbardosh, bilimli va ma'naviy barkamol avlodini shakllantirish strategiyasiga to'liq mos keladi.

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ПРОЧНОСТЬ И ОГНЕСТОЙКОСТЬ ЖЕЛЕЗОБЕТОННЫХ КОНСТРУКЦИЙ

***Аннотация:** Железобетонные конструкции являются неотъемлемой частью современного строительства, благодаря своей высокой прочности, долговечности и способности эффективно выдерживать различные эксплуатационные нагрузки. Однако с увеличением требований к безопасности зданий, особенно в условиях пожаров, важным аспектом проектирования железобетонных конструкций становится их огнестойкость. В статье рассмотрены механизмы повышения прочности и огнестойкости железобетонных конструкций, а также методы оценки их поведения в условиях экстремальных температур. Также обсуждаются результаты научных исследований, которые подтверждают эффективность различных подходов к повышению огнестойкости железобетонных конструкций.*

***Ключевые слова:** Железобетон, прочность, огнестойкость, пожар, конструкция, строительные материалы, эксплуатационные нагрузки, теплоизоляция, термическое воздействие.*

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STRENGTH AND FIRE RESISTANCE OF REINFORCED CONCRETE STRUCTURES

Abstract: Reinforced concrete structures are an integral part of modern construction due to their high strength, durability and ability to effectively withstand various operational loads. However, as building safety requirements increase, especially in fire conditions, their fire resistance becomes an important aspect of the design of reinforced concrete structures. The article discusses mechanisms for increasing the strength and fire resistance of reinforced concrete structures, as well as methods for assessing their behavior at extreme temperatures. The results of scientific research that confirm the effectiveness of various approaches to improving the fire resistance of reinforced concrete structures are also discussed.

Keywords: Reinforced concrete, strength, fire resistance, fire, construction, building materials, operational loads, thermal insulation, thermal effects.

Железобетонные конструкции находят широкое применение в строительстве благодаря своим выдающимся характеристикам, таким как высокая прочность на сжатие, долговечность и способность сопротивляться воздействию внешних факторов. Однако, несмотря на их преимущества, огнестойкость железобетонных конструкций является важной проблемой, которую необходимо учитывать при проектировании зданий и сооружений.

Огнестойкость железобетонных конструкций определяется их способностью сохранять свои эксплуатационные характеристики и форму в условиях воздействия высокой температуры. Пожар может существенно ослабить прочностные характеристики бетона и арматуры, что может привести к обрушению конструкции. Поэтому оценка огнестойкости является ключевым этапом проектирования зданий с учетом безопасности людей и устойчивости здания к экстремальным условиям.

В данной статье рассматриваются основные методы улучшения прочности и огнестойкости железобетонных конструкций, а также приводятся результаты научных исследований, подтверждающих эффективность различных подходов.

Научные исследования

1. Механизмы потери прочности железобетона при огне

Исследования показывают, что при воздействии высоких температур, особенно выше 300°C, железобетон теряет свои прочностные характеристики. Бетон при нагреве до высоких температур может начать трескаться из-за внутренних напряжений, вызванных расширением цементного камня и потери воды в микропорах. В то время как стальная арматура в железобетонных конструкциях при нагреве теряет свою прочность при температуре около 600-700°C, что значительно снижает её способность сопротивляться нагрузкам.

Одним из аспектов исследования является влияние температуры на взаимодействие между бетоном и арматурой. Например, исследование,

проведенное в 2019 году в Университете строительных технологий (г. Москва), показало, что при температуре выше 600°C происходит значительное ослабление сцепления между бетоном и стальной арматурой, что приводит к снижению общей прочности конструкции.

2. Методы улучшения огнестойкости железобетонных конструкций

Научные исследования в области повышения огнестойкости железобетонных конструкций направлены на использование различных теплоизоляционных и огнестойких материалов, которые могут предотвратить или замедлить повышение температуры в конструкции. Одним из таких методов является применение огнеупорных покрытий и теплоизоляционных материалов, таких как базальтовая вата, огнезащитные краски и специальные покрытия для арматуры.

Кроме того, важно использовать бетон с улучшенными свойствами, например, бетон с добавлением углеродных волокон или других армирующих материалов. Это позволяет улучшить термостойкость и долговечность железобетонных конструкций, что подтверждается результатами экспериментальных исследований, проведённых в 2021 году в Институте строительных материалов.

3. Методика испытаний и оценки огнестойкости

Для оценки огнестойкости железобетонных конструкций используют различные методы испытаний, такие как тепловые испытания на жаростойкость, методика расчета предельных температур для различных типов конструкций и моделирование теплового воздействия на конструктивные элементы. Одним из таких методов является использование термогистерезисных моделей для прогнозирования изменений в свойствах материалов под воздействием высокой температуры.

1. Влияние температуры на прочность железобетона

Исследования показывают, что при температуре до 300°C железобетон сохраняет значительную часть своей прочности, однако после достижения температуры в 500°C и выше происходит резкое снижение прочностных характеристик. При этом арматура, расположенная в центре конструкции, теряет свою прочность ещё при температуре около 600°C.

2. Применение огнеупорных материалов

Использование огнеупорных покрытий на внешней поверхности железобетонных конструкций существенно улучшает их огнестойкость. Например, в одном из исследований, проведенном в 2020 году в Институте строительных материалов, было показано, что применение огнезащитных покрытий на стальной арматуре снижает её температурное воздействие на бетон на 15-20%, что повышает общую огнестойкость конструкции.

3. Анализ новых типов бетонов

В последние годы активно исследуются бетоны с добавками, которые повышают их термостойкость. Бетоны с углеродными волокнами, как показали исследования в 2019 году, демонстрируют улучшенную способность

к выдерживанию высоких температур. Эти бетоны имеют большую устойчивость к трещинообразованию при воздействии огня, что значительно повышает их эксплуатационные характеристики.

Прочность железобетона под воздействием огня существенно зависит от температуры, при которой происходит нагрев. Наиболее значительное ослабление прочностных характеристик наблюдается при температурах выше 600°C, когда теряет прочность не только бетон, но и стальная арматура.

Использование огнеупорных материалов и защитных покрытий на железобетонных конструкциях позволяет значительно повысить их огнестойкость и увеличить срок службы конструкций в условиях повышенных температур.

Исследования новых типов бетонов с добавками, такими как углеродные волокна, а также применение современных технологий теплоизоляции и огнезащиты, являются эффективными методами повышения огнестойкости и прочности железобетонных конструкций.

Для повышения безопасности зданий необходимо учитывать не только прочность конструкций, но и их способность сохранять эксплуатационные характеристики в условиях экстремальных температур. Разработка стандартов огнестойкости и дальнейшие исследования в этой области будут способствовать созданию более устойчивых и безопасных строительных решений.

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РОЛЬ ЛИНГВОКУЛЬТУРОЛОГИЧЕСКОГО ПОДХОДА В ОБУЧЕНИИ ИНОСТРАННОМУ ЯЗЫКУ

Аннотация: Обучение иностранному языку не может ограничиваться только развитием речевых умений на изучаемом языке. Иностранный язык должен рассматриваться как средство, способствующее международному общению, познанию культуры страны изучаемого языка. Следовательно, возрастают требования к уровню владения иностранными языками, что обуславливает необходимость постоянного поиска новых эффективных средств обучения и методов преподавания дисциплины «Иностранный язык».

Ключевые слова: межкультурная компетенция, диалог культур, лингвокультурологический подход, межкультурное образование, интеграция.

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THE ROLE OF THE LINGUOCULTURAL APPROACH IN TEACHING A FOREIGN LANGUAGE

Abstract: Teaching a foreign language cannot be limited to developing speech skills in the language being studied. A foreign language should be considered as a means of promoting international communication, learning the culture of the country of the language being studied. Consequently, the requirements for the level of proficiency in foreign languages are increasing, which necessitates a constant search for new effective teaching tools and methods of teaching the discipline "Foreign Language".

Keywords: intercultural competence, dialogue of cultures, linguocultural approach, intercultural education, integration.

Введение. В области теории обучения иностранному языку данная тенденция проявляется в признании того факта, что овладение иностранным языком есть, прежде всего, приобщение к иной культуре, овладение новым социокультурным содержанием.

Зарубежные, отечественные педагоги и ученые отмечают, что в процессе обучения иностранному языку большое внимание обращается на развитие лингвистической компетенции, в то время как такие важные моменты как культурное осмысление изучаемого языка, межкультурные аспекты коммуникации остаются недостаточно освещенными. Например, М. Беннетт пишет, что многие студенты (и некоторые преподаватели) рассматривают язык только как средство коммуникации, как метод, используемый людьми для называния объектов и идей окружающего физического и социального мира [2]. Данная точка зрения представляет язык набором слов, связанных вместе правилами, а его изучение видится достаточно рутинным, утомительным процессом изучения слов и правил, их замещением для получения того же значения, только другим инструментом.

Основная часть. Современная практика обучения иностранному языку в вузе показывает отсутствие ориентации студентов на межкультурное образование и воспитание в связи с недостаточным объемом имеющихся у них знаний в различных областях культуры. Как следствие игнорирования лингвокультурологического образования наблюдается нетерпимость к проявлениям особенностей культур других национальностей и этнических групп, так называемый языковой шовинизм, который, в свою очередь, приводит к нежеланию считаться с любыми другими мнениями кроме своего собственного, что неизбежно создает конфликты в повседневной жизни. Все вышесказанное подтверждает целесообразность использования лингвокультурологического и коммуникативно-культурологического подходов в процессе обучения иностранному языку, что является современным методом образования, т.к. способствует развитию и взаимодействию различных компетенций, в их числе и межкультурной.

Понятие межкультурной, или кросс-культурной, компетенции в отечественной и зарубежной литературе возникло несколько десятилетий назад [3]. Ранее рассматривалось понятие только коммуникативной компетенции.

Способность интерпретировать и производить высказывания в соответствии с ситуацией коммуникации и социокультурными правилами общества в современной методике преподавания трактуется как коммуникативная компетенция. В современной методике обучения иностранному языку существует большое разнообразие подходов к понятию коммуникативной компетенции. Наиболее распространенной является трехуровневая модель, которая подтверждает единство коммуникативной и межкультурной компетенций.

Наличие таких знаний способствует пониманию набора культурных ссылок, присущих языковому социуму, т.е. культурной информации, известной большому количеству населения. Причем этот набор не постоянен, он меняется и дополняется, что находит отражение, прежде всего, в сообщениях средств массовой информации. А также студенты, изучающие иностранный язык, должны овладеть умением интерпретации «некоторых

физических и психологических знаков, определяющих социальную принадлежность в рамках культуры изучаемого языка», что называют «семиологическим консенсусом» [6, с. 15].

Одним из важных компонентов межкультурной компетенции является мировоззрение, или некоторый набор распространенных в данном обществе в данный момент идей, представлений, верований, суждений и убеждений.

Межкультурная компетенция – это более сложное и многокомпонентное явление по своему наполнению, чем культурная компетенция. При лингвокультурологическом подходе к обучению межкультурная компетенция трактуется по-разному. Некоторые ученые рассматривают ее как способность людей разного пола и возраста мирно и без взаимной дискриминации существовать в одном обществе, другие – как способность участвовать в чужой до этого культуре, третьи – как идентичность, интегрирующую знания и образцы поведения, в основе которых лежат принципы плюрализма мышления и осознания историчности культурных процессов [7]. По определению М. Беннетт, межкультурная компетенция – это способность интерпретировать сознательную передачу информации (посредством языка, жестов, знаков), некоторые неосознанные намеки (как, например, язык телодвижений) и обычаи в культурных стилях, отличающихся от твоего собственного [2].

К сожалению, в методической литературе недостаточно освещается основное отличие культурной от межкультурной компетенции. Студент, владеющий межкультурной компетенцией, способен сознательно сопоставлять культуры, выяснять общее и различное в них, определять их взаимовлияния. При формировании межкультурной компетенции основной упор должен делаться на эмпатию. В формировании межкультурной компетенции, лингвокультурологический подход в обучении иностранному языку предполагает реализацию принципа диалога культур. Диалог культур – это философия взаимоотношения между культурами в современных поликультурных сообществах.

Использование лингвокультурологического подхода в формировании межкультурной компетенции при обучении иностранному языку, может помочь студентам актуализировать в своем сознании установки на реализацию межкультурной коммуникации.

Заключение. Основной целью обучения выступает овладение только реалиями культуры страны изучаемого языка, что естественно может повлечь за собой возникновение шовинизма, культурной нетерпимости, отсутствия толерантности и т.д.

В связи с этим возникает необходимость создать соответствующие педагогические условия для реализации лингвокультурологического подхода в обучении иностранному языку и организовать этот процесс, основываясь на принципах соизучения культур.

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БИЗНЕС ПЛАНИРОВАНИЕ И ПРОГНОЗИРОВАНИЕ ДЕЯТЕЛЬНОСТИ ОРГАНИЗАЦИИ

***Аннотация:** В статье рассматриваются ключевые аспекты бизнес-планирования и прогнозирования деятельности организации как инструментов стратегического и тактического управления. Раскрываются этапы разработки бизнес-плана, методы прогнозирования основных показателей и значимость этих процессов для устойчивого развития и повышения конкурентоспособности предприятия.*

***Ключевые слова:** Бизнес-план, модели финансового прогнозирования, финансовый план и оценка эффективности, бизнес-планирования и прогнозирования*

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BUSINESS PLANNING AND FORECASTING OF ORGANIZATIONAL ACTIVITY

***Abstract:** The article examines the key aspects of business planning and forecasting of organizational activity as tools of strategic and tactical management. It highlights the stages of business plan development, methods for forecasting key indicators, and the importance of these processes for sustainable development and enhancing the competitiveness of the enterprise.*

***Keywords:** business plan, financial forecasting models, financial planning and performance evaluation, business planning and forecasting.*

Введение

Современная экономика характеризуется высокой степенью динамичности и неопределенности внешней среды, что требует от организаций четкой системы планирования и прогнозирования своей деятельности. Бизнес-планирование и прогнозирование становятся важнейшими инструментами обеспечения устойчивости и роста любой компании.

Бизнес-план позволяет структурировать цели, задачи, ресурсы и механизмы реализации стратегических инициатив предприятия. А

прогнозирование дает возможность оценить будущее состояние рынка, выявить потенциальные риски и спрогнозировать финансово-экономические результаты.

Этапы бизнес-планирования

Процесс бизнес-планирования включает несколько ключевых этапов:

1. Анализ внешней и внутренней среды организации (SWOT-анализ, PEST-анализ);
2. Определение миссии, целей и стратегических задач компании;
3. Разработка маркетингового, производственного и финансового планов;
4. Расчет необходимых ресурсов и формирование бюджета;
5. Оценка рисков и планирование мер по их минимизации;
6. Формирование показателей эффективности и системы контроля.

Основные разделы бизнес-плана:

- Резюме проекта;
- Описание предприятия и продукции;
- Маркетинговый анализ и стратегия;
- Производственный план;
- Организационный план;
- Финансовый план и оценка эффективности.

Методы прогнозирования в бизнес-планировании

Для построения реалистичных планов используются разнообразные методы прогнозирования, среди которых: 1. экстраполяция трендов на основе временных рядов; 2. регрессионный и корреляционный анализ; 3. сценарное прогнозирование с оценкой вероятности различных исходов; 4. модели финансового прогнозирования, включая анализ чувствительности; 5. использование экспертных оценок и Delphi-метод.

Сущность бизнес-планирования выражается, прежде всего, в уточнении целей развития для всего предприятия и каждого из его подразделений в отдельности в обусловленный период времени, формировании необходимых финансовых ресурсов, которые требуются для решения поставленных перед предприятием задач. Сам же процесс бизнес-планирования возникает с анализа имеющегося и будущего состояния компании и среды, в которой она функционирует. На этом основании ставятся задачи, разрабатываются стратегии и формируется расположение инструментов, которое непосредственно позволяет с большей эффективностью применять их на практике.

С целью достижения весьма устойчивого успеха в современных рыночных условиях предпринимателям следует эффективно и более точно планировать свой труд, а также весьма регулярно находить и анализировать соответствующую информацию как об их собственных условиях и планах на будущее, так и об общем положении рынка и конкурентов. Начиная ведение бизнеса, необходимо достаточно точно понимать потребность в материальном, финансовом, трудовом и интеллектуальном потенциале,

достаточно четко представлять возможности и ресурсы их приобретения, а также максимально точно и четко рассчитывать эффективность данных возможностей в рамках данного предприятия.

Современные рыночные условия, невзирая на пандемию, всячески поддерживают актуальность проекта развития российского предпринимательства, поскольку он выступает руководством к действию и реализации поставленных задач. Бизнес-план, определяющий дальнейшую деятельность предприятия, должен способствовать, прежде всего, контролю рабочих процедур и движения бизнес-ресурсов, непосредственно нацеленных на получение заданного конечного результата. При любой форме ведения бизнеса имеют место ключевые положения, принимаемые для разных предприятий и во всех сферах коммерческой деятельности, однако же они необходимы для актуальной на данный момент подготовки и преодоления возможных сложностей и угроз, тем самым, способствуя снижению возможного риска в процессе достижения определенного замысла. При этом в качестве одной из наиболее актуальных форм планирования на современном рынке представляется именно бизнес планирование, которое также именуют деловое планированием

Особое внимание уделяется построению финансовых прогнозов, включая расчеты будущих доходов, затрат, прибыли, рентабельности и ликвидности.

Роль бизнес-планирования в стратегическом управлении

В современных условиях бизнес-план становится не просто документом для внешних инвесторов, а рабочим инструментом стратегического управления. Его регулярная актуализация позволяет своевременно корректировать курс компании, адаптироваться к изменениям внешней среды и эффективно управлять ресурсами. Прогнозирование служит основой для моделирования различных сценариев развития бизнеса. С помощью прогнозов компания может заранее оценить возможные последствия тех или иных решений, минимизировать риски и определить наиболее эффективные направления вложения ресурсов. Кроме того, прогнозирование помогает выявить "узкие места" в деятельности организации, спланировать мероприятия по их устранению и повысить общую финансовую устойчивость предприятия.

Практическое значение бизнес-планирования и прогнозирования

На практике грамотно составленный бизнес-план помогает организациям успешно привлекать инвестиции, планировать производственные и финансовые потоки, обеспечивать контроль за достижением стратегических целей.

Прогнозирование позволяет:

- Оценить емкость рынка и потенциал спроса на продукцию;
- Выявить тенденции развития отрасли;
- Спланировать объемы производства и продаж;
- Обосновать потребность в финансировании и инвестициях;

- Снизить уровень неопределенности и подготовиться к возможным угрозам.

Примеры использования бизнес-планирования и прогнозирования

Многие компании используют бизнес-планы и прогнозы как основу для обоснования инвестиционных проектов, расширения рынка, выхода на новые территории. К примеру, при открытии нового производства важно не только просчитать затраты, но и спрогнозировать окупаемость, срок возврата инвестиций, проанализировать влияние на общие финансовые результаты компании. Бизнес-планирование применяется при реализации государственных и муниципальных программ, стартапов и крупных промышленных проектов. Это универсальный инструмент, применимый для предприятий любого масштаба и формы собственности.

Современные тенденции управления демонстрируют рост значения интеграции бизнес-планирования и прогнозирования в цифровые системы управления предприятием (ERP, CRM). Цифровизация позволяет ускорить обработку данных, повысить точность расчетов и упростить адаптацию планов к изменяющимся условиям рынка. Важным направлением является развитие методик стресс-тестирования бизнес-планов, позволяющего оценить устойчивость предприятия при неблагоприятных сценариях развития экономики, изменении валютных курсов, росте цен на ресурсы и других внешних шоках.

Необходимо отметить растущую роль ESG-факторов (экологических, социальных и управленческих) в процессе планирования и прогнозирования. Компании, учитывающие эти параметры, не только снижают репутационные риски, но и получают доступ к более дешевому финансированию и новым рынкам. Особое внимание в современных условиях следует уделять моделированию различных сценариев развития бизнеса с учетом цифровой трансформации, внедрения новых технологий, изменений потребительских предпочтений и глобальных трендов.

Система бизнес-планирования и прогнозирования должна включать постоянный мониторинг внешней среды, регулярное обновление ключевых показателей, что позволит своевременно реагировать на новые вызовы и обеспечивать конкурентоспособность организации.

Заключение

Бизнес-планирование и прогнозирование деятельности организации являются неотъемлемыми элементами современной системы управления. Они обеспечивают комплексный подход к планированию будущего развития компании, способствуют снижению неопределенности и укреплению позиций на рынке. В условиях нарастающей конкуренции и быстро меняющейся внешней среды бизнес-план и прогноз становятся залогом устойчивости и успешности любой организации. Их системное использование позволяет не только планировать, но и эффективно управлять изменениями, достигая стратегических целей.

Планомерное использование бизнес-планирования и прогнозирования в управленческой практике позволяет организациям не только адаптироваться к внешним вызовам, но и формировать устойчивую стратегию развития на долгосрочную перспективу. Это важный элемент повышения инвестиционной привлекательности бизнеса, обеспечения его финансовой стабильности и роста.

В будущем развитие бизнес-планирования и прогнозирования должно быть связано с более широким использованием цифровых технологий, активной интеграцией ESG-стандартов, усилением роли аналитики и сценарного моделирования в принятии управленческих решений. Это обеспечит предприятиям устойчивое развитие и конкурентные преимущества в долгосрочной перспективе.

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ЎЗБЕКИСТОНДА СУНЪИЙ ИНТЕЛЛЕКТ: РИВОЖЛАНИШ ВА АМАЛИЁТ

Аннотация. Сунъий интеллект ва рақамли технологиялар замонавий дунёда жамият, иқтисодиёт ва таълим соҳаларида катта аҳамият касб этмоқда. Ушбу технологиялар турли жараёнларни автоматлаштириш, самарадорликни ошириш ва инновацион йечимларни жорий этишга хизмат қилади. Ўзбекистон мисолида, давлат даражасида сунъий интеллект технологияларини ривожлантириш ва уларни ижтимоий-иқтисодий соҳаларда кенг қўллаш бўйича муҳим қарорлар қабул қилинган. Ушбу тадбирлар мамлакатнинг глобал технологик ривожланиш пойгасида рақобатбардошлигини оширишга қаратилган. Натижада, сунъий интеллект таълимни такомиллаштириш, жамоатчилик бошқарувини оптималлаштириш ва кундалик ҳаётни қулайлаштиришда ҳам муҳим рол ўйнамоқда. Ушбу технологиялар инсониятнинг келажагини белгиловчи асосий омил бўлиб хизмат қилмоқда.

Калим сўзлар. сунъий интеллект, рақамли технологиялар, ахборот коммуникация, технологиялар, маълумотлар базаси

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ARTIFICIAL INTELLIGENCE IN UZBEKISTAN: DEVELOPMENT AND PRACTICE

Abstract. Artificial intelligence and digital technologies are gaining great importance in the modern world in the fields of society, economy and education. These technologies serve to automate various processes, increase efficiency and introduce innovative solutions. In the case of Uzbekistan, important decisions have been made at the state level to develop artificial intelligence technologies and their widespread use in socio-economic spheres. These measures are aimed at increasing the country's competitiveness in the race for global technological development. As a result, artificial intelligence is also playing an important role in improving education, optimizing public administration and making everyday life more convenient. These technologies serve as the main factor determining the future of humanity.

Keywords: *artificial intelligence, digital technologies, information communication, technologies, database*

Бугунги кунда илм-фан ва шу билан биргаликда рақамли технологиялар ривожланиб бораётганининг натижасида кўплаб янгиликлар ҳаётимизга кириб келмоқда. Улар турли хил соҳалар фаолиятига ўзининг таъсирини ўтказмоқда. Ҳозирги кунда кўпчилик ахборот технологиялари ва сунъий интеллектдан фаолиятларида самарали фойдаланишни аста-секин йўлга қўйиб бормоқдах[1].

XXI асрда инсоният фан, техника, технология ва ахборот коммуникациялари соҳасида бекиёс ютуққа эришгач, ижтимоий, сиёсий, иқтисодий ишлаб чиқариш ва автоматлаштириш жараёнларида сунъий интеллектнинг ўрни ва аҳамиятидан келиб чиқиб, халқаро майдонда ва соҳа йўналишларида кўлами кенгайиб бормоқда. Бунда ривожланган мамлакатларда сунъий интеллект саноати иқтисодиётнинг реал секторига кенг интеграция қилинмоқда. Бу иқтисодий тараққиётнинг яна бир омили бўлиб хизмат қилади. Сунъий интеллект технологияси натижаларидан самарали фойдаланиш инсон учун қулайликни ошириш, давлат хизматлари ва жамоатчилик бошқарувини яхшилайд[2].

Сунъий интеллект ҳаётимизнинг турли соҳалари ривожланишига таъсир қилувчи асосий омилга айланиб бормоқда. Ушбу технологиялар унумдорлик ва самарадорликни оширишдан тортиб, илм-фан ва инновациялардаги ютуқларга қадар улкан фойда келтириш салоҳиятига эга. Экспертларнинг фикрига кўра, эътиборни сунъий интеллектни ривожлантиришга қаратиб, муваффақиятли трансформатсия жараёнини таъминлашга ва мамлакатимиз технология оламида йетакчи ўринни эгаллашга интилиш керак. Ана шуларни инобатга олган ҳолда мамлакатимизда сунъий интеллект технологияларини ривожлантиришга алоҳида эътибор қаратилмоқда.

Таълим соҳасида дарсларда сунъий интеллектдан фойдаланиш ўрганиш ва ўқитишга замонавий ва инновацион ёндашувни ифодалайди. Сунъий интеллект таълим соҳасида муҳим ўзгаришларни амалга оширмоқда, янги имкониятлар яратмоқда ва таълим сифатини оширмоқда.

Мамлакатимизда ижтимоий-иқтисодий соҳаларни ривожлантириш бўйича амалаий ишлар олиб борилаётгани ҳеч кимга сир эмас. Жумладан, юртбошимиз Ўзбекистон Республикаси президенти Ш.М.Мирзиёевнинг 2021- йил 17-февралдаги ПҚ-4996- сон билан имзоланган “Сунъий интеллект технологияларини жадал жорий этиш учун шарт-шароитлар яратиш чора тадбирлари тўғрисида”ги қарорлари ҳамда 2021-йил 26- августдаги “Сунъий интеллект технологияларини қўллаш бўйича махсус режимни жорий қилиш чора-тадбирлари тўғрисида”ги ПҚ-5234-сон қарорлари орқали мамлакатимизда сунъий интеллект технологияларини иқтисодий соҳаларда қўллаш жуда ҳам жадаллашди. Ушбу қарорларда сунъий интеллект технологиялари асосида инновацион бизнес-моделлар, маҳсулот ва хизмат

кўрсатиш усуллари ривожланиши учун қулай ва мақбул экотизм яратилганлиги, уларни белгилаб берилган устувор тармоқлар ва соҳаларда тезкорлик билан жорий этиш ва амалиётга жорий этиш назарда тутилган эди. Ўзбекистонда ҳозирда мавжуд маълумотлар манбаларидан сунъий интеллект маълумотлар базасини шакллантириш ва улардан самарали фойдаланиш мумкин. Жумладан:

- Идентификациялаш ягона тизими – (id.gov.uz);
- Ўзбекистон Республикаси очик маълумотлар портал– (data.gov.uz);
- Электрон ҳукумат тизими маълумотлар базаси – (my.gov.uz);
- Давлат хизматлари агентлиги маълумотлар базаси– (davxizmat.uz);
- турли вазирлик ва идораларнинг маълумотлар базаси.

Шунингдек, жаҳон тажрибасида ижтимоий соҳага йўналтирилган дастурларда сунъий интеллект маълумотлар базасини шакллантиришда миллий ID тизимлари маълумотлари, аҳолини рўйхатга олиш ва солиқ тўловчилар базаси, тиббиёт, банк, суғурта компаниялари, дўкон ва бозорлар харидорлари, мобил алоқа операторлари маълумотлари ҳамда аҳолининг коммунал тўловлар ва қарздорлик, кредит тарихи, ижтимоий тармоқлардаги фаоллиги каби манбалардан қонун доирасида фойдаланилади[3].

Масалан, Банк соҳасида эса тижорат банклари фаолиятини мониторинг қилиш самарадорлигини ошириш ва улар томонидан тартибга солиш талаблари (SubTech ва RegTech) бажарилишини соддалаштириш, шунингдек, банк хизматлари кўрсатиш сифатини таҳлил қилиш, фойдаланувчиларни масофадан биометрик идентификациялаш (Face-ID) ва кредит таваккалчиликларини баҳолаш учун сунъий интеллект технологияларини қўллаш вазифаси белгиланган. Транспорт соҳасида эса локомотивларни бошқариш жараёнида уларнинг ҳаракатини кузатиб бориш ва хавфли вазиятларда машинистларни огоҳлантиришда, жамоат транспорти ҳаракатини таҳлил қилиш ва уларнинг оптимал йўналишларини аниқлашда, шунингдек, автомобил ҳаракатини ва транспортдаги тирбандликларни мониторинг қилишда сунъий интеллект технологияларини қўллаш вазифалари белгиланган[4].

Хулоса қилиб шуни айтиш мумкинки, ҳозирги даврда сунъий интеллект ва рақамли технологиялар ҳаётимизнинг ажралмас қисмига айланмоқда. Ушбу технологиялар нафақат иқтисодий самарадорлик ва инновацион ривожланишни таъминлашга, балки таълим, бошқарув ва илмий соҳаларда ҳам катта ўзгаришларни амалга оширишга ҳисса қўшмоқда. Ўзбекистонда сунъий интеллектни ривожлантириш бўйича қабул қилинган давлат қарорлари ва чора-тадбирлар ушбу соҳани ривожлантириш учун кенг имкониятлар яратмоқда. Сунъий интеллект жамият ҳаётининг турли соҳаларида ўз аҳамиятини кўрсатиб, мамлакатнинг глобал майдондаги рақобатбардошлигини оширишга хизмат қилмоқда. Мазкур технологиялар инсон ҳаётини янада қулайроқ ва самаралироқ қилишга интиломоқда.

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(ИСП-ОЕС) ОПТИК ЭМИССИОН СПЕКТРОМЕТРИЯ: ЗАМОНАВИЙ ЭЛЕМЕНТАР ТАҲЛИЛНИНГ УСТУВОР УСУЛИ

Аннотация. Ушбу мақолада аналитик кимёнинг шаклланиши ва ривожланиши ҳамда унинг турли ишлаб чиқариш соҳаларига таъсири ўрганилади. Айниқса, экологик муаммолар ва элементар таҳлилнинг замонавий усуллари, жумладан индуктив боғланган плазма-оптик эмиссия спектроскопияси (ИСП-ОЕС)нинг аҳамияти таҳлил қилинади. ИСП-ОЕСнинг афзалликлари, унинг сезгирлиги ва аниқлиги ҳақида батафсил маълумот берилган. Шунингдек, таҳлил усуллариининг эволюцияси ва индуктив боғланган плазма спектроскопиясининг илмий ва саноат соҳаларида қўлланилиши муҳокама қилинади. Мақола ИСП методологиясининг ютуқлари ҳамда унинг замонавий аналитик кимёда муҳим ўрин тутишини ёритади.

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(ICP-OES) OPTICAL EMISSION SPECTROMETRY: A PREMIUM METHOD OF MODERN ELEMENTARY ANALYSIS

Abstract. This article examines the formation and development of analytical chemistry and its impact on various industries. In particular, environmental problems and the importance of modern methods of elemental analysis, including inductively coupled plasma-optical emission spectroscopy (ICP-OES), are analyzed. The advantages of ICP-OES, its sensitivity and accuracy are discussed in detail. The evolution of analytical methods and the application of inductively coupled plasma spectroscopy in scientific and industrial fields are also discussed. The article highlights the achievements of the ICP methodology and its important role in modern analytical chemistry.

Keywords: analytical chemistry, elemental analysis, ICP-OES, inductively coupled plasma, spectroscopy, chemical elements, accuracy and sensitivity

Аналитик кимёнинг вужудга келиши ва ривожланиши турли ишлаб чиқариш соҳаларининг пайдо бўлиши ва тараққий этиши билан боғлиқ. Экологик муаммоларнинг кескинлашиб бориши юқори сезгир, танлаб таъсир этувчан аппаратура жиҳатидан арзон бўлган қулай анализ методларини ишлаб чиқишни тақазо этади.

Кимёвий элементларни, айниқса токциклиги юқори бўлганларни аниқлаш ва миқдорини аниқлаш кимёвий таҳлилнинг ҳал қилувчи жиҳатлари ҳисобланади[1].

Элементлар концентрациясини аниқлашнинг анъанавий усуллариға гравиметрик, ҳажмли, колориметрик ва спектроскопик усуллар киради. Булар орасида индуктив боғланган плазма-масс спектрометрияси (ИСП-МС) ва индуктив боғланган плазма-оптик эмиссия спектроскопияси (ИСП-ОЕС) каби индуктив боғланган плазма (ИСП) усуллари ўзларининг ажойиб аниқлиги, аниқлиги ва паст аниқлаш чегаралари билан машҳур[2] ИСП-ОЕС, хусусан, бир вақтнинг ўзида бир нечта элементларни ўлчаш қобилияти туфайли элементар таҳлил учун афзал қилинган усул сифатида пайдо бўлди[3]. Бу усул характерли электромагнит нурланишни чиқарадиган қўзғатилган атомлар ва ионларни ҳосил қилиш учун индуктив равишда боғланган плазмадан фойдаланади. ИСП асбоби, юқори ҳароратларда ва паст босимларда эркин электронлар ва катионларни ўз ичига олган ионланган газ бўлиб, одатда эркин ишлайдиган радиочастота генератори томонидан қувватланади. Плазма модданинг асосий ҳолатларидан бири сифатида тан олинади[4]. Индукцион плазма ёки “индуктив боғланган плазма” плазма манбаи сифатида маълум босим ва ҳарорат шароитида оқаётган газдан фойдаланишни билдиради. Индукцион плазманинг спектрал қўзғалиш хусусиятлари спектрокопистлар ва аналитик кимёгарларнинг катта қизиқишини уйғотди, бу эса уни намуналарни таҳлил қилишда қўллашга олиб келди[5]. Бу яхшиланишлар ИСП-ОЕС нинг олдинги эмиссия манбаларига нисбатан устунлигини кўрсатди. ИСП-МС, шуни таъкидлаш жоизки, намунани киритиш ва плазма ҳосил қилиш билан боғлиқ қўплаб асосий тамойиллар ИСП-ОЕС билан бир хил бўлмаса ҳам, ажойиб ўхшашликларни намоиш этади[6]

ИСП-МС ва ИСП-ОЕС иккаласи ҳам намунани киритиш ва плазма ҳосил қилишнинг ўхшаш тамойилларига таянади. Набулизерлар ва пуркагич камералари каби намунани плазмага этказиб беришнинг муҳим жиҳатлари иккала усул ўртасида мос келади. Бундан ташқари, радиочастота индукцияси орқали эришилган плазманинг ўзини яратиш ва барқарорлаштириш умумий компонентлардир.

ИСП методологиясидаги сўнгги ютуқлар ИСП-МСни юқори сезувчанлиги ва массага асосланган аниқлаш имкониятлари туфайли афзал кўрган бўлса-да, намунани киритиш ва плазма ҳосил қилиш билан боғлиқ асосий тамойиллар ва техникалар ИСП-МС ва ИСП-ОЕС ўртасида жиддий ўхшашлик борлигини тан олиш муҳимдир. ИСП ичида ҳар бир элемент маълум элементларга тегишли бўлиши мумкин бўлган аниқ тўлқин

узушликларига эга бўлган фотонларни чиқаради[7]. Чиқарилаётган ёруғликнинг интенсивлиги тўғридан-тўғри элементнинг концентрациясига боғлиқ[8]. Бироқ, одатда плазма каби қўзғатувчи манбадан старли энергия билан таъминланганда, электрон қўзғалувчан ҳолат деб аталадиган юқори энергия даражасига ўтиши мумкин[9].

Кўпгина ҳолларда намунани намунани киритиш тизими учун мос шаклга айлантириш учун намуна тайёрлаш керак. ИСП-ОЕСда қўлланиладиган намуналарни киритиш тизимларининг аксарияти суюқ эритмалар учун мўлжалланган. Масалан, аниқликни таъминлаш ва ифлосланишнинг олдини олиш учун из металллар синфидаги кислоталар ва эритувчиларни, шунингдек кислота намланган ва деионизацияланган сув билан ювилган идишларни ишлатиш жуда муҳимдир. Одатий мисол, шиша идишларни тозалаш учун изли металл кислотасидан фойдаланиш бўлиб, бу идишда металл ионларини ўз ичига олган ҳар қандай ифлосланишдан холи бўлишини таъминлайди, шунда нотўғри натижалар олдини олади. Бундан ташқари, деионизацияланган сув билан ювилган идишлар ИСП-ОЕС таҳлилида аниқликни таъминлаш ва ифлосланишнинг олдини олиш учун ҳам муҳимдир. Бунинг сабаби шундаки, деионизацияланган сувда аралашмалар, шу жумладан металл ионлари йўқ. Идишларни деионизацияланган сувда намлаш ва ювиш таҳлил натижаларига халақит берадиган ҳар қандай қолдиқ ифлослантирувчи моддаларни олиб ташлашга ёрдам беради.

Хулоса қилиб айтганда, ИСП-ОЕС бир нечта элементларни таҳлил қилишнинг асосий спектроскопик усули сифатида пайдо бўлиб, олимларни, шу жумладан кимёгарларни миллиондаги қисмлар (ppm) ва миллиарддаги қисмлар (ppb) даражасида элементар таҳлилни амалга ошириш учун кучли восита билан таъминлайди. Ушбу кенг қамровли шарҳ турли хил илмий соҳаларда ИСП-ОЕС нинг турли хил сўнгги қўлланилишини намоиш этади ва унинг муқобил таҳлилий усулларга нисбатан сезиларли афзалликларини таъкидлайди, айниқса кузатувни талаб қиладиган мураккаб намуналар билан ишлашда.

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НЕКОТОРЫЕ СВЕДЕНИЯ КАСАТЕЛЬНО СОЦИАЛЬНОЙ ЖИЗНИ ХИВИНСКОГО ХАНСТВА. КОНЕЦ XIX ВЕКА

***Аннотация.** Данная статья посвящена исследованию социальной жизни Хивинского ханства конца XIX в. в период его колонизации со стороны Российской империи. Проанализированы роль реки Амударья в социальной жизни ханства, статистические данные, этнический состав ханства, а также некоторые аспекты касавшего сословного деления.*

***Ключевые слова:** Хивинское ханство, Амударья, население Хивинского ханства, этнография Хивинского ханства.*

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SOME INFORMATION ABOUT THE SOCIAL LIFE OF THE KHIVA KHANATE. THE END OF 19TH CENTURY

***Abstract.** This article is dedicated to the study of the social life of the Khiva Khanate at the end of the 19th century during the period of its colonization by the Russian Empire. The role of the Amu Darya River in the social life of the khanate, statistical data, the ethnic composition of the khanate, as well as some aspects of social stratification, are analyzed.*

***Keywords:** Khiva Khanate, Amu Darya, population of the Khiva Khanate, ethnography of the Khiva Khanate.*

Введение. Социальная структура Хивинского ханства в конце XIX века представляла собой сложную и многоуровневую систему, в которой важнейшую роль играли природные ресурсы, этнический состав населения, а также сословное деление. Одним из ключевых факторов, определявших образ жизни и хозяйственную деятельность населения, была река Амударья - основной источник воды, обеспечивающий функционирование ирригационной системы и сельского хозяйства. Население ханства отличалось этническим и социальным многообразием. В исследовании изучается роль Амударьи в жизни населения ханства, особенности

расселения, этнического состава и социальной иерархии Хивинского общества в исследуемый период.

Методы исследования. В работе использованы историко-описательный и сравнительно-исторический методы, основанные на анализе исторических источников и статистических данных о Хивинском ханстве. Применялся структурно-аналитический подход для изучения социально-экономической и этнической ситуации, а также этнографический метод для описания образа жизни населения. Статистические данные использовались для количественной характеристики расселения и составов населения.

Важное значение в социальной жизни Хивинского ханства занимала река Амударья. В сельскохозяйственном виде деятельности была задействована основная масса населения. Так как Амударья не принимала в себя притоков, для орошения полей использовались ирригационные системы, которые позволяли извлекать воду из реки и направлять ее в целях орошения. Для проведения воды использовались оросительные каналы, основная часть которых отделялись влево от реки, меньшая часть вправо от нее. Такие каналы как Палванатинский, Газаватский, Шахабадский – достигали длины до 135 верст. В свою очередь крупные каналы разливались на более мелкие арыки. Течение реки было быстрым. Левый берег от Питняка до Кунграда имел крутое основание, правый был выше вдоль Шейх Джелийских гор. С началом весны, в оседлой части ханства население начинал работы по чистке каналов, количество рабочих достигало до 100.000 человек.⁷⁶ Так как Амударья была основным источником воды для земледелия, необходимость чистки была обусловлена следующими факторами: 1. Обеспечение нормального и непрерывного притока воды к орошаемым полям 2. Предотвращение заиливания и засорения каналов 3. Сохранение плодородия земель в дельте и по берегам реки. Так как река имела склонность к нестабильности, в плане русла, а также могла перемещаться, меры предпринимаемые населением позволяли удерживать течение в необходимом направлении, сохранять транспортные пути вдоль реки. Хотя судоходство на Амударье было не обширным явлением, исходя из его мелководья, местные жители нередко пользовались лодками для осуществления перемещения и перевоза грузов и людей. Из трех ежегодных разливов реки, самые важные приходились на апрель и май месяц. Это было время, когда земледельцы были более активны, в деле орошения. Главная составляющая населения обосновывалась на левой части берега, ибо правый составлял трудность для орошения. Населенных пунктов на правой стороне наблюдалось значительно меньше.

Разделить население Хивинского ханства можно условно на две части, первая - это оседлое население, второе - кочевое. Преимущественно оседлую часть представляли собой узбеки, таджики и персы. Как в Бухаре и Коканде, узбеки являлись господствующей народностью и в Хиве. Основной их

⁷⁶ А.Ш. Очерки Хивинского ханства / Русский инвалид. 1873, №76 – С. 2 – 6.

деятельностью было земледелие, торговля, а также служба в войсках ханства, административное управление. В сфере торговли было задействовано больше таджиков. Персы в массе своей представляли собой класс бывших рабов, или вольноотпущенных а также их потомков. Статистические данные относительно количества населения разнятся.

Приходя к концу XIX века, численность дворов оседлого населения по левому берегу Амударьи составила до 36,000, за исключением самого города Хивы, а также до 7,500 дворов по правому берегу. Оседлые и полукочевые туркмены, на левом берегу проживали приблизительно в 27,000 кибитках. В русской части насчитывалось до 22,000 кибиток, в хивинской части дельты до 9,000, 3,000 из которых относятся к оседлой части населения. Статистические данные разнятся, среднее количество населения Хивинского Ханства составляло до 700.000 человек.⁷⁷

Первую и основную группу населения представляли узбеки, туркмены, казахи и каракалпаки, вторую группу: таджики, персы, арабы и татары. После колонизации Хивы со стороны Российской империи в 1873 году, в ханстве поэтапно увеличивалось количество русского населения, а также немцев-менонитов. На долю узбекского населения приходилось 74% оседлой полосы, и 50% всего левого берега. Туркмены к тому времени считались полукочевыми, часть их осела, часть же осталась вести кочевой образ жизни, составляли до 28% Хивинского оазиса. Казахи в ханстве вели больше кочевой образ жизни. Проживали массово в дельте Хивинского оазиса. Каракалпаки, составлявшие основную массу населения дельты, были более близки к узбекам в этнографическом отношении, в частности, в типологии жилищ, обычаев, а также в вопросе приверженности шариату, в то время как казахи исполняли закон по своему традиционному обычаю, или же «Адату». В пределах ханства насчитывалось до 3,000 кибиток каракалпаков, в процентном соотношении каракалпаки составляли до 15% населения оазиса. Они прибыли на территорию ханства с низовьев реки Сырдарья, по приглашению хивинского правительства. Успешно занимались земледелием.⁷⁸ Арабы были немногочисленны, в массе ассимилировались с узбеками, фактически утратили язык, и говорили по-тюркски, как узбеки, казахи, туркмены и каракалпаки, в зависимости от местности своего проживания. Их жилища насчитывали до 300 дворов. Таджики проживали в различных частях ханства, часть из них была ассимилирована, часть же сохранила присущие народу язык и атрибуты своих традиций. Персы, как мы упоминали, в массе представляли собой рабов.⁷⁹ К 1873 году они были освобождены, оставшаяся их часть в ханстве была малозначительна. Также малочисленны были татары, калмыки, немцы-менониты, которые в основном ассимилировались с местным населением ханства. Если говорить о евреях, или как принято называть евреев Центральной Азии «среднеазиатских

⁷⁷ Стеткевич. Очерки Хивинского оазиса / Военный сборник. 1892, №3. – С. 194.

⁷⁸ НА РУз. Ф.И-1, Оп. 12. Д.1487. Л. 10.

⁷⁹ там же. С. 196 - 201.

евреев», то их в ханстве было в крайне малом количестве, о точном их количестве сказать весьма сложно. Они в массовости веками проживали на территории бывшего Бухарского эмирата.

Высшее сословие представляло собой служилых - сипахи⁸⁰, а также высшее духовенство. В сипахи могли попасть представители разных национальностей ханства. Особое сословие составляли саиды, ходжи. Их происхождение и особый статус связывается с родством с пророком Мухаммедом. К концу XIX века саидов и ходжей насчитывалось до 3000 семейств. Шейхи были также в почете. Они относили себя к потомкам сподвижника пророка Али, а также исламских святых. Еще одной привилегированной частью населения считались навкары, военное сословие. Они освобождались от уплаты поземельных площадей, занимали военные посты, а также несли полицейскую службу. Количество навкарских семейств доходило до 4,000.

Языком коммуникации в Хивинском ханстве считался тюркский, с различными наречиями: узбекским, туркменским, казахским.

Результаты исследования. В ходе исследования установлено, что река Амударья являлась основным источником жизни для Хивинского ханства, обеспечивая не только орошение сельских угодий, но и служа важным транспортным путём. Ирригационные каналы, такие как Палванатинский, Газаватский и Шахабадский, играли ключевую роль в распределении воды для земледелия, способствуя поддержанию плодородия земель и предотвращению засорения каналов. Население ханства было этнически разнообразным, разделяясь на оседлые и кочевые группы. Основную часть оседлого населения составляли узбеки, туркмены и каракалпаки, при этом на левом берегу реки проживало больше людей, так как правый берег был менее пригоден для орошения. Важным элементом социальной структуры ханства являлись сословия, такие как служилые (сипахи), духовенство (саиды и ходжи) и военное сословие (навкары), которые занимали привилегированные позиции в обществе. Статистические данные показали, что оседлое население на левом берегу Амударьи составляло более 36,000 дворов, в то время как на правом берегу их было значительно меньше. Распределение населения между оседлыми и полукочевыми группами также отражало специфику хозяйственной деятельности и социального устройства ханства.

Заключение. Река Амударья играла решающую роль в жизни Хивинского ханства, обеспечивая орошение полей и поддержание сельского хозяйства. Население ханства делилось на оседлое и кочевое, с преобладанием узбеков и туркменов на левом берегу Амударьи. Социальная структура включала сословия, такие как служилые и военные классы, а также духовенство, что определяло общественный порядок и стабильность в

⁸⁰ Сипах – чиновник, должностное лицо, которое находилось долгое время на службе падишаха, хана или эмира.

регионе. Таким образом, природные условия и этническое разнообразие играли важную роль в социальной жизни ханства.

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ЛИНГВОПРАГМАТИЧЕСКАЯ ХАРАКТЕРИСТИКА АППЛИКАЦИОННЫХ ЭЛЕМЕНТОВ СОВРЕМЕННОГО НЕМЕЦКОГО ЯЗЫКА

Аннотация: В статье проводится лингвопрагматическая характеристика аппликационных элементов современного немецкого языка, включая различные типы речевых актов, структуры и их функциональное значение в коммуникации. Рассматривается влияние социальной и культурной контекстуализации на использование этих элементов, а также их роль в межличностном взаимодействии и социальной адаптации. Отмечается важность исследования аппликационных элементов для понимания структуры немецкой речи и для улучшения эффективности преподавания языка, особенно в контексте межкультурной коммуникации.

Ключевые слова: Аппликационные элементы, лингвопрагматика, немецкий язык, речевые акты, межкультурная коммуникация, социальный контекст, прагматическое значение

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LINGUOPRAGMATIC CHARACTERISTICS OF APPLICATION ELEMENTS OF THE MODERN GERMAN LANGUAGE

Abstract: The article provides a linguopragmatic characteristic of application elements of the modern German language, including various types of speech acts, structures and their functional significance in communication. The influence of social and cultural contextualization on the use of these elements, as well as their role in interpersonal interaction and social adaptation are considered. The importance of studying application elements for understanding the structure of German speech and for improving the effectiveness of language teaching, especially in the context of intercultural communication is noted.

Keywords: Application elements, linguopragmatics, German language, speech acts, intercultural communication, social context, pragmatic meaning

Введение: Современный немецкий язык является не только средством коммуникации, но и важным элементом социальной и культурной жизни, отражая особенности общества, ценности и нормы, характерные для немецкоговорящих стран. Одним из ключевых аспектов эффективного

общения является использование так называемых аппликационных элементов, которые представляют собой специфические языковые конструкции, обеспечивающие соблюдение вежливости, уважения и гармонии в межличностных взаимодействиях. Эти элементы играют важную роль в обеспечении социальной адаптации, установлении и поддержании социальных связей, а также в корректном и дипломатичном разрешении конфликтов. Аппликационные элементы варьируются от простых речевых актов, таких как приветствия и прощания, до более сложных конструкций, включающих просьбы, извинения, благодарности и выражения эмпатии. Эти элементы функционируют как средства поддержания социальной дистанции или, наоборот, усиления личного контакта между участниками общения в зависимости от контекста и взаимоотношений между собеседниками. Они также имеют важное значение для соблюдения норм вежливости, что особенно важно в формальных и деловых ситуациях.

Исследование аппликационных элементов в немецком языке предоставляет возможность глубже понять прагматические аспекты языка, связанные с функционированием речи в социальных контекстах. В отличие от более формальных аспектов языка, таких как грамматика или лексика, аппликационные элементы требуют от говорящего учета целого ряда факторов, включая социальную ситуацию, культурные особенности и личные отношения. В условиях глобализации и международной миграции важность эффективного использования этих элементов возрастает, поскольку они становятся ключевыми для межкультурной коммуникации и понимания. Целью данного исследования является лингвопрагматическая характеристика аппликационных элементов современного немецкого языка, анализ их функционального значения в различных коммуникативных контекстах, а также выявление особенностей их использования в зависимости от социальных норм и практик. Особое внимание будет уделено тому, как эти элементы помогают установить и поддерживать баланс между личной и социальной дистанцией, а также как они могут быть адаптированы к специфическим нуждам и ожиданиям различных участников общения.

Литературный обзор

Лингвопрагматика, как дисциплина, исследует использование языка в контексте общения, акцентируя внимание на социальной функции речевых актов. Одной из важных категорий лингвопрагматического анализа является изучение **аппликационных элементов**, которые включают в себя различные формы обращения, приветствия, благодарности, извинений и других речевых актов, направленных на регулирование социальной дистанции между собеседниками и поддержание норм вежливости в общении. Существуют различные теории и подходы к анализу этих элементов, и их значимость в современном немецком языке не вызывает сомнений.

Одной из основополагающих теорий, объясняющих природу и функции аппликационных элементов, является теория речевых актов, разработанная Джоном Остином (1962) и Джоном Сёрлем (1969) [1][2]. Сёрль утверждал, что

речевые акты можно классифицировать в зависимости от их функции: утверждения, вопросы, команды и обещания. Применительно к аппликационным элементам, важно рассматривать их как часть **речевых актов благодарности, извинений, просьб** и других социальных актов, которые играют ключевую роль в установлении межличностных отношений и поддержании социальных норм. Для немецкого языка эти элементы имеют особую значимость, поскольку язык часто отражает социальную дистанцию между участниками общения. Например, формы вежливости в немецком языке зависят от социальных различий (статуса, возраста и т. д.), что делает важным анализ их прагматической роли в контексте речевых актов.

По мнению Соколовой (2001), аппликационные элементы играют важную роль в регуляции социальной дистанции и обеспечении гармонии в межличностном взаимодействии [3]. Согласно ее исследованиям, формы обращения и вежливости в немецком языке должны учитывать статус собеседника, а также степень формальности ситуации. Применительно к немецкому языку, можно выделить две основные формы обращения — "Sie" (вежливое обращение) и "du" (неформальное обращение), каждая из которых используется в зависимости от контекста общения.

Михайлова (2014) расширяет это понимание, анализируя влияние культурных и социальных норм на использование аппликационных элементов [4]. Она отмечает, что в немецкой культуре на выбор формы обращения влияют не только социальный статус, но и эмоциональная дистанция между участниками общения. В частности, в официальной обстановке часто используется форма "Sehr geehrte Damen und Herren" (Уважаемые дамы и господа), в то время как в повседневной беседе вполне допустимы менее формальные выражения вроде "Hallo" или "Hi". Это различие указывает на важность контекста для понимания и правильного применения аппликационных элементов. Согласие с тем, что социальный контекст напрямую влияет на выбор аппликационных элементов, представлено в работах Херли (2010) [5]. В его исследованиях подчеркивается, что в немецком языке существует ярко выраженное разделение на формальные и неформальные формы общения, что отражает важность соблюдения социального дистанцирования в публичной и частной сферах жизни. Херли указывает, что использование вежливых форм является частью культурных традиций, которые варьируются в зависимости от возраста, социального положения и степени знакомства между собеседниками.

Анализ и результаты

В немецком языке аппликативная конструкция часто включает изменение аргументов для расширения или сдвига аргументной структуры глагола. Важно отметить, что хотя термин «аппликатив» часто ассоциируется с морфологической или синтаксической конструкцией в других языках (например, через конкретное аппликативное морфемное образование), в немецком языке это явление обычно рассматривается как изменение синтаксической структуры и семантических ролей вовлечённых аргументов.

Пример такого сдвига включает глаголы, такие как *geben* (давать), где получатель действия (обычно косвенное дополнение) может быть подчеркнут или изменен, чтобы выделить определенную информацию. Классическая аппликативная конструкция может включать использование предлога вместо дательного аргумента, чтобы сделать предложение менее прямым или создать специфическое взаимодействие между участниками.

Например:

- *Ich gebe dem Lehrer das Buch* (Я даю учителю книгу).

- Такая конструкция, как: *Ich gebe dem Lehrer das Buch zu* может подчеркнуть направленность действия.

В этом случае изменение предлога (*zu* вместо *dem*) указывает на сдвиг в том, как фокусируется действие и как воспринимается информация. Аппликативный элемент влияет на то, как воспринимается информация о получателе или действии в коммуникативном контексте.

Прагматика аппликативных конструкций: взаимодействие с контекстом

Прагматика в контексте аппликативных конструкций играет важную роль в определении того, как предложения понимаются в зависимости от окружающего контекста. Это включает в себя рассмотрение того, как эти конструкции изменяют не только синтаксическую точность, но и социальные взаимодействия, ясность и акценты.

В немецком языке аппликативная структура может использоваться для того, чтобы выделить один из участников предложения (обычно косвенное дополнение). Этот сдвиг — это не просто синтаксическое изменение; это напрямую влияет на то, как воспринимаются намерения говорящего. Например:

- *Ich schenke dir das Buch* (Я дарю тебе книгу). Здесь акцент на получателе. Но если говорящий хочет подчеркнуть книгу или действие, предложение может быть изменено на:

- *Das Buch schenke ich dir* (Книгу я дарю тебе).

В этом случае акцент смещается с получателя на предмет. Это синтаксическое изменение влияет не только на структуру предложения, но и на семантику и прагматику высказывания, где говорящий манипулирует структурой предложения, чтобы выделить наиболее важное сообщение.

Сдвиг ролей и акцент

Одним из важнейших аспектов аппликативных конструкций в немецком языке является способность изменять синтаксические роли. Это означает, что предложение может измениться от традиционной структуры субъект-глагол-объект к структуре, где роли участников изменяются или подчеркиваются.

В традиционных немецких предложениях субъект (тот, кто выполняет действие) и объект (тот, кто его принимает) играют четко определенные роли. Однако в аппликативных конструкциях косвенное дополнение или получатель может быть таким образом позиционирован, что его роль становится более заметной. Это обычно достигается изменением структуры

аргументов глагола и, в некоторых случаях, введением новых элементов, таких как предлог.

Например:

- *Der Lehrer erklärt dem Schüler die Grammatik* (Учитель объясняет ученику грамматику).

- Аппликативная конструкция может сделать акцент на ученике или действии: *Dem Schüler erklärt der Lehrer die Grammatik*.

Это изменение структуры предложения не только синтаксическое; оно также имеет семантические и прагматические последствия. Путем выдвижения получателя (ученика) говорящий может подчеркнуть его роль в действии или сдвигать фокус на то, кто является получателем.

Использование предлогов и их прагматическое влияние

В аппликативных конструкциях предлоги играют важную роль в формировании прагматического контекста предложения. Выбор предлога может нести тонкие, но важные коннотации относительно намерений говорящего. Например:

- **Für** (для) может подразумевать выгоду или цель.
- **Mit** (с) может указывать на сопровождение или сотрудничество.
- **Zu** (к) может указывать на направленность или движение к получателю.

Каждый из этих предлогов может нести различные прагматические значения. Например, при общении с человеком более высокого социального статуса говорящий может выбрать более формальные предлоги или конструкции, чтобы выразить уважение. В то время как в более неформальных ситуациях могут использоваться более простые конструкции, где прямота выходит на первый план, а не такие тонкие нюансы.

Пример:

- *Ich sende dir das Paket* (Я отправляю тебе посылку) может быть изменено на *Ich sende dir das Paket für dich* (Я отправляю тебе посылку для тебя), где добавление *für dich* придает предложению другое значение, подчеркивая личный характер жеста.

Прагматические функции аппликативных конструкций в общении

Использование аппликативных конструкций в немецком языке позволяет говорящим достичь различных прагматических функций. Эти функции влияют на то, как строятся предложения в зависимости от социальных и коммуникативных целей говорящего. Некоторые из этих прагматических функций включают:

- **Вежливость и косвенность:** Выбирая синтаксическую конструкцию с аппликативом, говорящие могут смягчать запросы или команды, делая их более косвенными. Например:

- *Könnten Sie mir bitte das Buch geben?* (Можете ли вы, пожалуйста, дать мне книгу?) Эта вежливая форма с косвенным выражением является более формальным способом попросить о чем-то по сравнению с прямой императивной формой:

◦ *Gib mir das Buch!* (Дай мне книгу!)

• **Тема и фокус:** В немецких предложениях часто можно менять местами тему (о чем речь в предложении) и фокус (что подчеркивается). Использование аппликативных конструкций помогает определить, что представлено как тема, а что как фокус дискурса. Например, сдвиг косвенного дополнения в начало предложения может сделать его темой.

◦ *Dem Lehrer gebe ich das Buch* (Учителю я даю книгу) — Здесь учитель становится фокусом предложения, указывая на то, что говорящий хочет акцентировать внимание на том, кто получает книгу.

• **Ясность и информационная структура:** Аппликативные конструкции также помогают прояснить сложные предложения. Меняя роли и сдвигая фокус, говорящий может направить внимание слушателя на наиболее важного участника или действие. Это особенно важно в более сложных предложениях, где необходима ясность для эффективной коммуникации.

Аппликативные конструкции в разных регистрах

Прагматика аппликативных конструкций также варьируется в зависимости от социального регистра и контекста, в котором используется предложение. В формальном языке аппликативные конструкции могут чаще использовать специфические предлоги и косвенные выражения, чтобы гарантировать уважение и вежливость. В неформальных ситуациях же может быть меньше внимания к таким изменениям, и структура предложения может быть проще, с акцентом на прямоту, а не на тонкие нюансы.

Например, в профессиональных или академических контекстах говорящий может использовать более формальные аппликативные конструкции, чтобы избежать грубости:

• *Ich werde Ihnen das Dokument zur Verfügung stellen* (Я предоставлю вам документ) использует более формальный тон по сравнению с:

• *Ich gebe dir das Dokument* (Я дам тебе документ), что может быть более casual и прямым.

Эта вариация аппликативной конструкции зависит от отношений между говорящим и слушающим, цели общения и желаемого тона или регистра. Манипуляции синтаксическими элементами помогают ориентироваться в социальных динамиках разговора.

Заключение

Лингвопрагматический анализ аппликационных элементов в современном немецком языке показывает их важную роль в установлении социальных связей и регулировании дистанции между собеседниками. Эти элементы играют ключевую роль в процессе коммуникации, позволяя людям выражать уважение, благодарность, извинения, просьбы и другие формы взаимодействия, что способствует поддержанию вежливости и гармонии в общении. Анализ существующих теорий, таких как теория речевых актов, а также изучение влияния социального контекста и культурных традиций на использование этих элементов подтверждает их значимость для успешной

коммуникации в разных сферах жизни, включая повседневное общение, деловую переписку, рекламу и медиа. Проблемы, возникающие в изучении аппликационных элементов, связаны с изменяющимся социальным контекстом, глобализацией и миграционными процессами, что затрудняет фиксированность норм вежливости. Эти изменения подчеркивают необходимость дальнейших исследований, направленных на анализ динамики использования аппликационных элементов в современных межкультурных и межличностных взаимодействиях.

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АНАЛИЗ ПОКАЗАТЕЛЕЙ ЭНЕРГОЭФФЕКТИВНОСТИ АСИНХРОННЫХ ДВИГАТЕЛЕЙ

***Аннотация:** Для систем контроля и управления проектирование трансформатора тока, преобразующего трехфазные основные и высшие гармонические токи статора асинхронного двигателя в выходные напряжения, осуществляется в несколько этапов и осуществляется путем правильного выбора и расчета структуры и параметров деталей и элементов трансформатора.*

***Ключевые слова:** Асинхронный двигатель, графическая модель, магнитный процесс, выходное напряжение, несимметричные величины, реактивная мощность, магнитный поток.*

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ANALYSIS OF ENERGY EFFICIENCY INDICATORS OF ASYNCHRONOUS MOTORS

***Abstract:** For control and monitoring systems, the design of a current transformer that converts the three-phase fundamental and higher harmonic stator currents of an asynchronous motor into output voltages is carried out in several stages. This is achieved through the correct selection and calculation of the structure and parameters of the transformer's components and elements.*

***Keywords:** Asynchronous motor, graphical model, magnetic process, output voltage, unbalanced quantities, reactive power, magnetic flux.*

Современные требования к системам управления и мониторинга электроприводов требуют повышения точности измерения энергетических параметров, включая гармонический состав токов и напряжений. В этой связи актуальной задачей является разработка эффективного токо-напряженческого преобразователя, позволяющего преобразовывать трехфазные токи статора асинхронного двигателя в соответствующие выходные напряжения.

На основе анализа структуры асинхронного двигателя, в качестве основных элементов преобразователя были рассмотрены:

1. **Статорные обмотки**, по которым протекают первичные токи — первый элемент преобразования;

2. **Магнитное ядро статора**, создающее магнитный поток под воздействием токов — второй элемент преобразования;

3. **Измерительные обмотки**, в которых за счёт пересечения магнитных потоков индуцируются выходные напряжения — третий элемент преобразования.

Такая последовательная трехзвенная структура обеспечивает эффективное преобразование энергетических величин без существенного вмешательства в конструкцию самого двигателя.

Для контроля и управления показателями эффективности асинхронного двигателя (η , $\cos\varphi$) используются сигналы, получаемые в виде выходных величин напряжения, преобразованных из трехфазных токов двигателя [1]. Данный преобразователь тока в напряжение отличается простой конструкцией и легкостью в изготовлении, при этом обеспечивает возможность непрерывного контроля и управления показателями эффективности двигателя посредством выходного сигнала [7].

На основе проведённых экспериментов было установлено, что преобразователь тока в напряжение состоит из:

- 2 — пазов статора,
- 3 — основных обмоток,
- 4 — дополнительных обмоток, размещённых между 5 — пазовыми панелями,

• все они соединены с 1 — общим магнитным сердечником. Кроме того, 6 — роторная часть электродвигателя, выполненная из стали, формирует по окружности зону нагрева под действием потерь на магнитное сопротивление (рисунок - 1).

Измерительная обмотка размещена таким образом, что под воздействием основного и рассеянного магнитного потока, возникающего в статорной части, в ней формируется выходной сигнал в виде напряжения [].

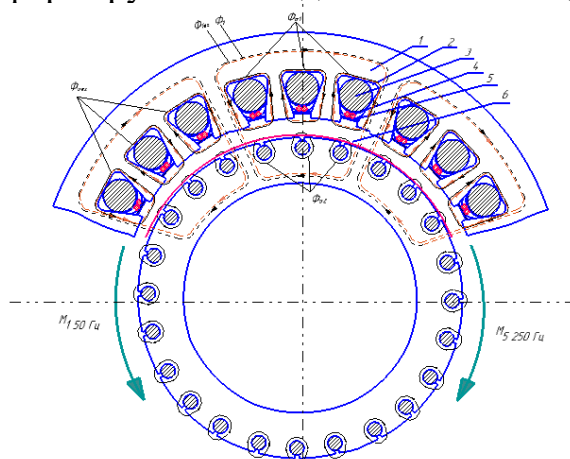


Рис-1, Расположение преобразователя трёхфазных основных и высших гармонических токов в напряжение в статорной части асинхронного двигателя и характер магнитных потоков.

В преобразователе, предназначенном для преобразования трёхфазных токов статора асинхронного двигателя, включая их основные и высшие

гармонические составляющие, все элементы размещаются непосредственно в статорной части двигателя. Такое конструктивное решение позволяет эффективно использовать существующую магнитную систему двигателя без внесения существенных изменений в его конструкцию.

Основные и дополнительные измерительные обмотки размещаются в пазах статора, вблизи основных рабочих обмоток. Это обеспечивает тесную электромагнитную связь между токами, протекающими в основных обмотках, и измерительными обмотками. Магнитный поток, создаваемый первичными токами, проходит через общее магнитное ядро и частично захватывает измерительные обмотки. В результате этого взаимодействия в измерительных обмотках индуцируются напряжения, отражающие как основные, так и высшие гармонические составляющие токов.

В зависимости от характера нагрузки и условий работы двигателя, в магнитной системе формируются как **основные магнитные потоки**, определяющие передачу энергии, так и **рассеянные потоки**, являющиеся следствием гармонических и несимметричных компонентов. Эти потоки, проходя через зону размещения измерительных обмоток, обеспечивают генерацию информативного сигнала в виде переменного напряжения, который может быть использован для анализа энергоэффективности и гармонического состояния электропривода.

Такое расположение и взаимодействие магнитных потоков делает возможным реализацию непрерывного мониторинга показателей двигателя без необходимости внешнего вмешательства или сложных измерительных систем.

В электрических сетях 0,4 кВ искажение формы кривой напряжения под воздействием нелинейных электрических потребителей становится весьма заметным. Коэффициент несинусоидальности на кривой фазного напряжения может достигать 10–15%, что превышает требования стандарта ГОСТ 32144-2013. Спектр высших гармоник напряжения в основном исследуется по гармоникам 5-й, 7-й, 11-й и 13-й порядков. В качестве объекта исследования принимается воздействие высших гармоник 1-й, 3-й и 5-й порядков на асинхронный электродвигатель.

Магнитное поле. Каждая гармоника напряжения представляет собой магнитное поле в электродвигателе - частота вращения (1)

$$n_{1K} = \frac{60f_K}{P} = \frac{60f_1}{P} K = Kn_1$$

n_1 — синхронная угловая скорость двигателя, основная (первая гармоническая) скорость.

k - число гармоник, R - число пар полюсов

f_1 — частота основной гармоники, f_k — частота K -й гармоники

$f_1 = 50 \text{ Гц}$, $f_k = Kf_1$.

Третья гармоника и другие тройные гармоники не учитываются, поскольку они создают пульсирующее поле.

Направление вращения магнитного поля, создаваемого высшей гармоникой тока, зависит от номера гармоники.

Разработанная структура токо-напряженческого преобразователя позволяет эффективно интегрировать систему контроля энергоэффективности в существующие конструкции асинхронных двигателей. В перспективе возможна реализация аналогичных подходов для других типов электрических машин и включение преобразователя в состав интеллектуальных систем мониторинга

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ВЛИЯНИЕ ГЕОМЕТРИЧЕСКИХ ПАРАМЕТРОВ ШЕРСТИ НА МЕХАНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

Аннотация: В статье при помощи однофакторного регрессионного анализа исследованы влияние тонины и длины шерстяного волокна на механические показатели. Анализ результатов исследований показывает, что влияние тонины на прочность волокна больше, чем влияние длины.

Ключевые слова: шерстяное волокно, тонина, длина, линейная плотность, разрывная нагрузка, среднее квадратическое отклонение по тонине.

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INFLUENCE OF GEOMETRICAL PARAMETERS OF WOOL ON MECHANICAL CHARACTERISTICS

Abstract: This article uses a single-factor regression analysis to study the influence of wool fiber fineness and length on mechanical indicators. The analysis of research results shows that the influence of fineness on fiber strength is greater than that of length.

Keywords: wool fiber, fineness, length, linear density, breaking load, standard deviation of fineness

В мире уделяется особое внимание повышению качества текстильной продукции и выработке готовой продукции путем внедрения новых технологий по переработке текстильных материалов. Одним из ключевых факторов развития шерстяной промышленности любой страны является

устойчивое развитие собственной сырьевой базы и, прежде всего, развитие отечественного овцеводства и производства натуральной шерсти. Тонина шерстяного волокна является основной качественной характеристикой, по которой осуществляется классификация и ценообразование волокна. Это требует высокой точности и надежности измерения данного показателя [1,2].

В языке современной шерстяной промышленности термин «диаметр» используется для описания характеристики, когда-то описанной как тонкость. Слово «диаметр» происходит от греческого слова «diametros», состоящего из префикса «dia» (через или поперек) и «metron» (мера). Его общее значение в английском языке — «прямая линия, проходящая из стороны в сторону через центр тела или фигуры, особенно круга или сферы». В более общем контексте «диаметр» может означать поперечное измерение, ширину или толщину. В геометрии термин «диаметр» используется исключительно для описания максимального поперечного размера круга или сферы.

Шерстяные волокна не являются круглыми в поперечном сечении. Форма поперечного сечения неправильная. Некоторые волокна почти круглые, некоторые приблизительно эллиптические, некоторые яйцевидные, а некоторые можно визуализировать как вытянутые овалы или формы, которые приближаются к овалам с вогнутостями. Наиболее распространенными геометрическими формами, которые приписываются поперечным сечениям шерстяных волокон, являются круги или эллипсы. В лучшем случае форму поперечного сечения можно описать как круг, который был деформирован в разной степени вокруг своих радиусов [3].

Для изучения влияния геометрических параметров шерсти (тонины и длины) на прочностные характеристики волокна, по стандартной методике были определены качественные характеристики шерстяных волокон.

Экспериментальные исследования качественных характеристик шерстяных волокон проводились в лабораторных условиях в соответствии с требованиями ИСО 139, при этом, определение тонины и длины шерстяных волокон осуществлялись согласно ГОСТ 17514 и ГОСТ 21244 соответственно.

Обобщённые показатели качественных показателей шерстяных волокон приведены в таблицах 1,2.

Таблица 1-Качественные характеристики шерстяных волокон

№	Наименование (цвет)	Длина, мм	Тонина, мкм	Среднее квадратическое отклонение по тонине	Линейная плотность, дтекс	Класс
1	Меринос (кремовый)	43	19,72	3,9	39,4	70 ^к
2	Меринос (бежевый)	60	20,96	3,6	45,9	64 ^к
3	Меринос (белый)	76	22,06	4,4	50,8	62 ^к

Таблица 2-Механические характеристики шерстяных волокон

№	Наименование	19, 72 мкм	20,96 мкм	22,06 мкм
1	Разрывная нагрузка, сН	7,8	9,3	20
2	Абсолютная прочность, км	21,5	20,9	20,6

Сравнительная характеристики отобранных образцов волокон приведена в виде гистограмм на рисунках 1,2.

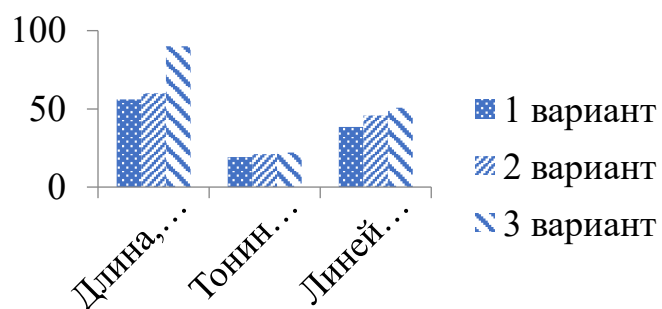


Рисунок 1. Геометрические свойства шерстяных волокон

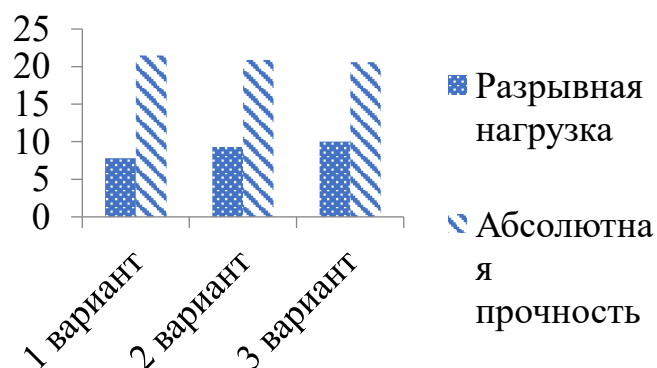


Рисунок 2. Механические свойства шерстяных волокон

Используя, экспериментальные данные, приведённые в таблицах 1, 2, методом регрессионного анализа построены регрессионные градуировочные зависимости разрывной нагрузки шерстяного волокна от длины и тонины шерстяных волокон, которые представлены ниже графически и регрессионными уравнениями, приведённых на рисунках 3, 4.

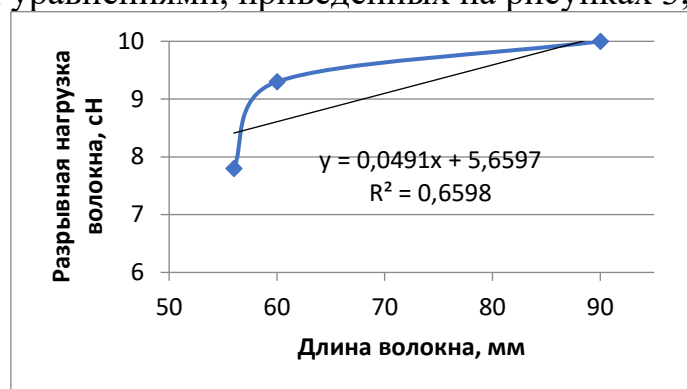


Рисунок 3. График зависимости разрывной нагрузки шерстяного волокна от длины

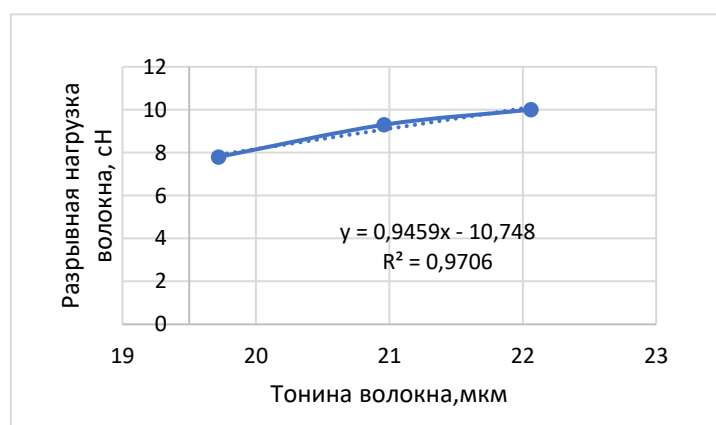


Рисунок 4. График зависимости разрывной нагрузки шерстяного волокна от тонины

В результате исследование зависимости разрывной нагрузки от длины и тонины шерстяных волокон, определили, что влияние тонины на прочность волокна больше, коэффициент детерминации составляет 99%, чем влияние длины коэффициента детерминации 66%.

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БИОМАТЕРИАЛЫ bFGF, СПОСОБСТВУЮЩИЕ ВОССТАНОВЛЕНИЮ ФУНКЦИЙ ПРИ ИШЕМИЧЕСКОМ ИНСУЛЬТЕ

Аннотация: Мозг млекопитающих имеет очень ограниченную способность восстанавливать функции и ремонтировать поврежденные нейроны после ишемического инсульта. Биоматериальная терапия является безопасным и эффективным способом замены нейронов. Она подразумевает высвобождение ряда химических веществ, которые способствуют постепенной регенерации, чтобы стимулировать эндогенный нейрогенез. В этом исследовании гель основного фактора роста фибробластов (bFGF) и хитозана вводится в полость инсульта. Этот подход способствует пролиферации эндотелиальных клеток сосудов, созданию функциональной сосудистой сети и в конечном итоге восстановлению мозгового кровотока.

Ключевые слова: гель bFGF-хитозан, ишемический инсульт, новорожденные нейроны, ангиогенез, синаптогенез, реконструкция нейронной цепи.

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BFGF BIOMATERIALS PROMOTING FUNCTIONAL RECOVERY IN ISCHEMIC STROKE

Abstract: The mammalian brain has a very limited capacity to restore function and repair damaged neurons following an ischemic stroke. Biomaterial therapy is a safe and effective way to replace neurons. It entails releasing a number of chemicals that promote regeneration gradually in order to encourage endogenous neurogenesis. In this study, a gel of basic fibroblast growth factor (bFGF) and chitosan is injected into the stroke cavity. The proliferation of vascular endothelial cells, the establishment of a functional vascular network, and the eventual restoration of cerebral blood flow are all facilitated by this approach.

Keywords: bFGF-Chitosan gel, ischemic stroke, new-born neurons, angiogenesis synaptogenesis, neural circuit reconstruction.

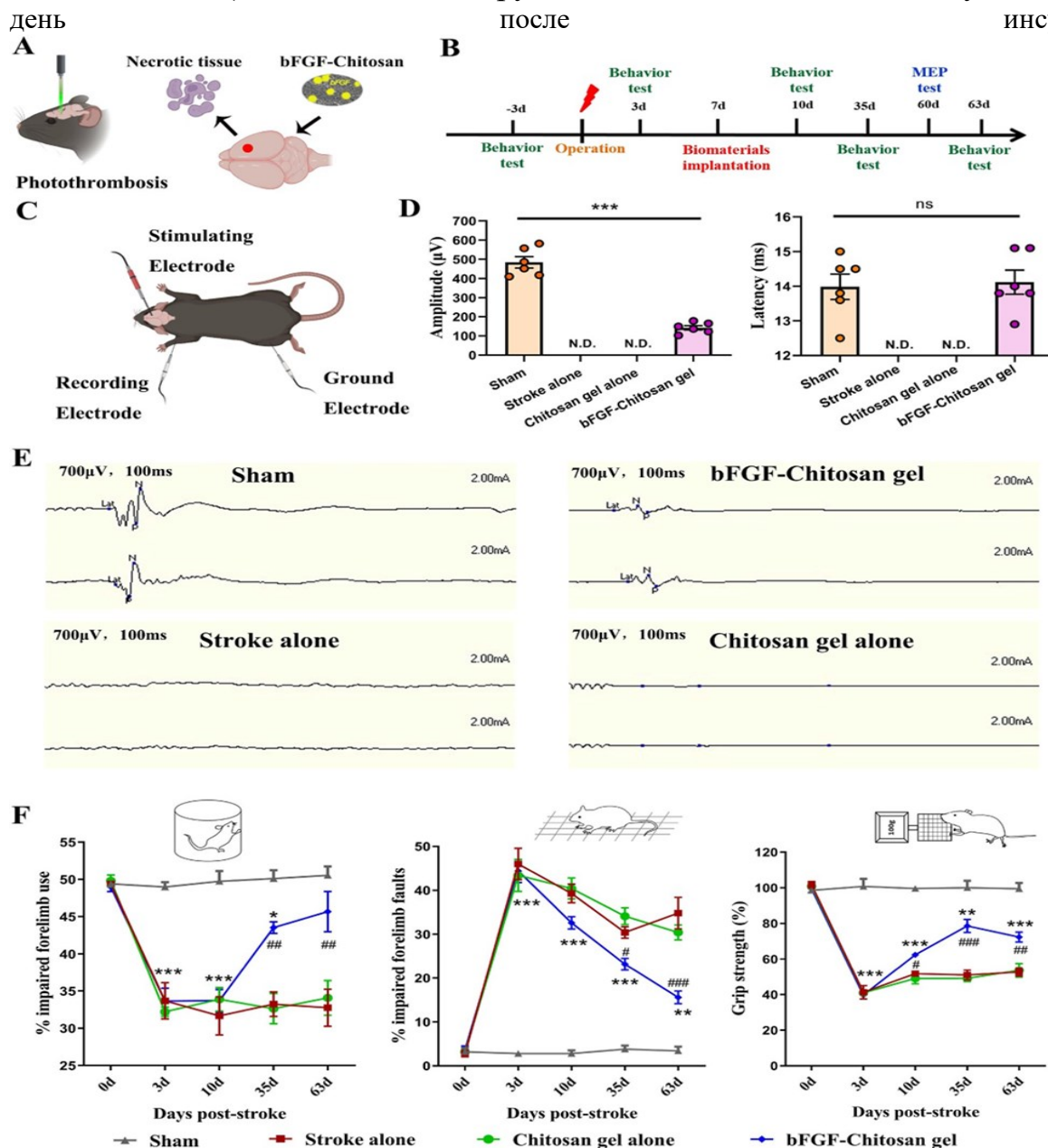
Введение

Значительная гибель нейронов в результате ишемического инсульта приводит к необратимым неврологическим дисфункциям [1]. Предыдущие исследования пытались сохранить оставшиеся нейроны, аксоны и артерии, концентрируясь на поле ишемической полутени, окружающем полость инсульта [2,3]. В качестве антиоксидантных нейропротекторов для лечения ишемического инсульта недавно были созданы сверхмалые координационные полимерные наноточки железа и галловой кислоты (Fe-GA CPN) под руководством ПЭТ/МРТ [4]. Кроме того, было продемонстрировано, что биомиметические наноплатформы могут удалять избыточные активные формы кислорода в полутени и предотвращать нейровоспаление [5]. До сих пор неясно, как заменить поврежденные или умирающие нейроны и сосуды в полости инсульта, чтобы вылечить ишемический инсульт, несмотря на то, что эти передовые исследования сосредоточены на поиске многообещающих способов уменьшения повреждения нейронов или сосудов в полутени. Из-за постепенной реорганизации полости инсульта в камеру, заключенную в фиброзный рубец и лишенную внеклеточного матрикса и сосудистого питания, на самом деле сложно проникнуть в полость, чтобы способствовать функциональному восстановлению для новых нейронов. Полость инсульта, которая обеспечивает физическую поддержку для инфильтрации клеток и экзогенных химических веществ для активации ангиогенеза и эндогенного нейрогенеза, поэтому является идеальным местом для трансплантации, которое может принять инфузию биоматериала без ущерба для нормальной функции мозга. Доставляя бесклеточные биоматериалы в полость инсульта, метод биоматериала стимулирует эндогенный нейрогенез и ангиогенез, постепенно высвобождая несколько элементов, способствующих регенерации [10]. Многоцелевой биополимер хитозан является мукоадгезивным, биосовместимым и биоразлагаемым. Как многоцелевой каркас хитозан способствует ангиогенезу и регенерации различных тканей, способствуя прикреплению клеток. Кроме того, хитозан обладает привлекательными биологическими свойствами, включая антибактериальные, антиоксидантные, противовоспалительные и противораковые свойства [13]. Различные биоматериалы на основе хитозана использовались в качестве систем доставки нейротрофических факторов, стволовых клеток, генетического материала или биоактивных молекул [12,13]. Хорошо известно, что основной фактор роста фибробластов (bFGF) стимулирует миграцию, пролиферацию и ангиогенез нейральных клеток-предшественников (NPC) [10]. Нам удалось успешно загрузить bFGF в хитозановый гель, что позволило обеспечить регулируемое высвобождение bFGF в течение девяти недель [9].

Материалы и методы

Животные имели неограниченный доступ к еде и питью, находясь в стерильных пластиковых клетках, по три-пять особей на клетку. Их содержали в комнате с контролируемой температурой (21–23 °C) с 12-часовым циклом свет/темнота и относительной влажностью 50%–60%. За

исключением случаев, когда распределение по группам зависело от генотипа, животных распределяли по группам случайным образом. Только гель хитозана (гель хитозана, загруженный без bFGF, вводили в полость инсульта на 7-й день после инсульта), группа ложного воздействия (животные не получили ишемический инсульт), группа только инсульта (животные получили ишемический инсульт, но не трансплантацию геля) и группа геля bFGF-хитозан (гель хитозана, загруженный bFGF, вводили в инсульта на 7-й день после инсульта).



1. После ишемического инсульта гель bFGF-хитозан помогает восстановить сенсомоторную функцию. (A) Фототромботическая модель и схематическая диаграмма имплантации геля. (B) Временная шкала экспериментального протокола для функционального теста мышечей C57BL/6J. Двигательные вызванные потенциалы, или МЕР. (C) Схематическая диаграмма теста МЕР. (D) Измерение латентности и амплитуды МЕР через 60 дней после инсульта. *** $P < 0,001$, ns, независимый t-тест для выборок, $n = 6$

на группу, без существенной разницы. (Е) Репрезентативный сигнал МЕР каждой группы. (F) Гель bFGF-хитозан способствует восстановлению сенсомоторной функции. Сравнение группы геля bFGF-хитозан с группой ложного введения: *P < 0,05, **P < 0,01, ***P < 0,001. #P < 0,05, ##P < 0,01, ###P < 0,001, двухфакторный дисперсионный анализ, n = 5 на группу, группа геля bFGF-хитозан по сравнению с группой, перенесшей только инсульт.

Результат

Восстановление сенсомоторной функции после ишемического инсульта облегчается гелем bFGF-хитозан. Ограничивая очаговый инфаркт правым передним представлением сенсомоторной коры, фототромбоз создал модель кортикальной ишемии [2]. К седьмому дню после инсульта большинство артерий (рис. S1) и нейронов [2] в полости инсульта разрушились и создали стабильную полость инсульта. В отличие от предыдущих исследований [6,7], воспалительная реакция, опосредованная микроглией, и рубец глии, образованный астроцитами, еще не достигли пика (рис. S3), хотя количество пролиферирующих нейробластов в SVZ достигло пика (рис. S2). Следовательно, наилучшее вмешательство было определено на седьмой день после инсульта. На 14-й день после инсульта имплантация геля bFGF-хитозан заметно усилила экспрессию bFGF в полости инсульта и распределила bFGF в пределах 300 мкм от инфаркта.

Мы оценили кровоток в полости инсульта и вокруг нее на 60-й день после инсульта с помощью лазерной спекл-визуализации, чтобы определить, способствует ли неоваскуляризация восстановлению кровотока (рис. 2E). Кровоток в полости инсульта был снижен инсультом примерно до 39% от группы с имитацией. В группе, которой вводили только хитозановый гель, кровоток упал примерно до 61% от группы с имитацией. Напротив, у мышей, которым имплантировали гель bFGF-хитозан, наблюдалось значительное увеличение кровотока примерно до 85% от группы с имитацией (рис. 2F). Наши результаты в целом подтвердили, что гель bFGF-хитозан стимулировал реваскуляризацию, ангиогенез и восстановление мозгового кровотока внутри и вокруг полости инсульта.

Заключение

Согласно текущему исследованию, гель bFGF-хитозан заполняет полость инсульта подобно «мозговому клею» и помогает грызунам восстановить сенсомоторную функцию после кортикального ишемического инсульта. С инновационной тактикой, сосредоточенной на трех областях, эти механизмы преимуществ могут быть достижимы: В полости инсульта гель bFGF-хитозан стимулирует ангиогенез, реваскуляризацию и восстановление мозгового кровотока. NPC, полученные из SVZ, направляются к полости инсульта и развиваются в зрелые нейроны с различными фенотипами с помощью геля bFGF-хитозан, который также стимулирует эндогенный нейрогенез. Гель bFGF-хитозан восстанавливает развивающиеся мозговые сети и способствует синаптогенезу. Инновационные концепции и подходы к

клиническому ведению ишемического инсульта стали возможными благодаря нашим исследованиям.

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ТЕРРИТОРИАЛЬНОЕ РАЗМЕЩЕНИЕ ПРОМЫШЛЕННОСТИ В ФЕРГАНСКОМ РЕГИОНЕ

***Аннотация:** в статье рассматриваются основные географические факторы, влияющие на территориальное размещение и развитие отраслей промышленности. В ней также рассматривается отраслевая структура региона представляющие собой ключевые аспекты, определяющие экономическое развитие и социальное благополучие Ферганского региона.*

***Ключевые слова:** Регион, фактор, автомобиль, завод, ресурс, отрасль, рынок, промышленность, предприятие.*

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TERRITORIAL LOCATION OF INDUSTRY IN THE FERGANA REGION

***Annotation:** The article examines the main geographical factors influencing the territorial location and development of industries. It also examines the sectoral structure of the region, representing key aspects that determine the economic development and social well-being of the Fergana region.*

***Keywords:** Region, factor, car, factory, resource, industry, market, industry, enterprise.*

Введение

Важное место в экономике Узбекистана, среди ряда других экономических районов, занимает Ферганский экономический район (далее – регион), включающий в свой состав Наманганскую, Ферганскую и Андижанскую области. Район является самым восточным с исторически сложившейся индустриальной базой. Ферганский регион выделяется небольшими размерами территории площадью в 18,5 тыс. кв. км (немного

больше 4,1% территории Республики) и большой численностью населения [4]. Территориально с трёх сторон – окружен с Кыргызстаном, только на западе граничит с Согдийской области Таджикистана и севера запада связан Ташкентской областью Узбекистана.

В 1991 году Узбекистан встал на путь независимости. За 34 года существенно изменился облик региона. В годы независимости территориально-отраслевой структуре промышленности региона произошли значительные сдвиги, связанные с рыночными факторами, влияющими на направления и развития и влияния отраслей промышленности региона.

Территориальное размещение промышленности и отраслевая структура региона представляют собой ключевые аспекты, определяющие экономическое развитие и социальное благополучие на уровне как отдельных регионов, так и страны в целом. В условиях глобализации и стремительных изменений в мировой экономике, вопросы, связанные с эффективным размещением производственных мощностей и формированием сбалансированной отраслевой структуры, становятся особенно актуальными.

Размещение промышленного производства и формирование разнообразных его сочетаний происходят под влиянием основных факторов размещения производства. Поскольку таких факторов много, при исследовании воздействия важно ранжировать их по значимости, но в то же время помнить, что все факторы размещения действуют одновременно и совокупно, и что уменьшение значимости одних факторов ведет к относительному возрастанию значимости других. Принципиальное значение имеет разделение факторов размещения на природные, обуславливающие зависимость географии промышленности от природных условий и ресурсов, и общественные, в основе которых лежат законы общественного развития [7; с.45].

Территориальное размещение промышленности — это процесс распределения производственных мощностей и предприятий по территории региона. Этот процесс зависит от нескольких факторов:

- Ресурсы;
- Климатические условия;
- Транспортная инфраструктура;
- Рабочая сила;
- Рынок;
- Экономическая политика;

Благоприятные условия для роста и размещение промышленности Ферганского экономического региона создало сочетание ценных природных богатств: запасов топлива, гидроэнергии и благоприятного климата для сельского хозяйства. Среди полезных ископаемых особо выделяются нефтяные месторождения Андижан, Мингбулак, Палванташ, Чимион, Шахрихан, Ходжаабат и Южный Аламушук (в 1954 г. на промысле Южный Аламышик впервые разработана система автоматического централизованного дистанционного контроля управления глубинно насосными нефтяными

скважинами). Добыча нефти сперва привело созданию первого Алтыарыкского нефтеперерабатывающего завода, потом второго Ферганского нефтеперерабатывающего завода.

Наличие значительных запасов гравия, строительного и облицовочного камня, песка, кирпично-черепичного, которые добываются на всей территории региона, привели к развитию строительной промышленности. Промышленность строительных материалов является одной из ведущих отраслей экономики региона, играет важную роль в развитии экономики. Предприятия промышленности строительных материалов, объединенные в акционерную компанию «Узстройматериалы», обеспечивают строительство объектов всеми видами строительных материалов: цементом, известью, гипсом, стеновыми, кровельными, отделочными материалами (стекло, мраморные и гранитные плиты), сантехкерамикой, гидроизоляционными материалами – всего более 100 видов основной строительной продукции [2].

В Ферганском хозяйственном производственном комплексе (ХПК) развита и промышленность строительных материалов. В крупных городах региона в Андижане, Намангане и Фергане действуют домостроительные комбинаты, предприятий Ферганской области, выпускающих строительные материалы АО «Кувасайцемент» цемент и АО «Кварц», производят строительного – стекла, шифер. В Папском комбинате АО «Узбеккровать», специализированном на выпуске рулонных мягких кровельных и гидроизоляционных материалов, в настоящее время за счет уменьшения имеющихся мощностей и реструктуризации производства освоен выпуск новых видов эластичного рубероида и теплоизоляционного материала — базальтового волокна. В андижанской области СП «Sing lida» производит портландцемент, «Rivoj Tianjin» производит электроды, «Bellona Millenium» гипсакартон, «Xuanshi keramik». Кроме того, в регионе очень много сырья для строительства – гравия, песка и кирпича. Почти во всех адырных районах региона существует кирпичные заводы.

Уникальные природно-климатические ресурсы Ферганского региона позволили развивать сельское хозяйство для выращивания хлопка, коконов шелкопряда, овощей, фруктов, бахчевых культур. На их основе сформировался мощный агропромышленный комплекс и довольно хорошо развитые легкая и пищевая отрасли промышленности. Его дополняли крупный хлопководческий комплекс, с трудоемким хлопкоочистительным производством, сельскохозяйственным машиностроением и другими отраслями [2].

Благоприятное природно-климатическое условия привело региону специализироваться на хлопководство, это оказывает сильное влияние на развитие легкой промышленности, поэтому эту отрасль региона без преувеличения можно назвать одной из структурообразующих во всем промышленном комплексе. Регион поставляет около 1/3 выращиваемого в стране хлопка и на сегодняшний день в ней сосредоточена треть всех работников промышленности региона. Полнее использовать выгоды от

специализации позволяют новейшие технологии обработки хлопка-волокна, шелка, шерсти и кожи, которые служат сырьем для развития легкой промышленности.

Отраслевая структура легкой промышленности достаточно сложна. Она отражает технологические стадии переработки натурального или химического сырья. В нее входят сырьевые производства (получение хлопка и хлопкового пуха из хлопка-сырца; шкур животных), полупродуктовые (прядельное, текстильное, кожевенное), дающие конечную продукцию (швейная, трикотажная, ковровая, обувная, галантерейная). Особый вид производства — изготовление разнообразной фурнитуры. Главное изменение в структуре легкой промышленности — резкое увеличение в ней доли продукции конечных, финишных производств, идущих непосредственно к потребителю (швейные, трикотажные изделия, изделия из кожи — обувь и другие кожевенные товары). Эта продукция отрасли отличается гораздо более высокой стоимостью по сравнению с тканями, кожей или мехами [1].

Доминирующее положение в легкой промышленности занимает хлопкоочистительная промышленность. Поскольку предприятия этой отрасли первично перерабатывают сельскохозяйственную продукцию и построены почти в каждом райцентре в непосредственной близости от хлопкосеющих районов региона [5].

Регион обладает благоприятными агроклиматическими и почвенными условиями для развития собственной сырьевой базы пищевой промышленности. В целом природно-климатический потенциал положительно влияет на развитие многоотраслевого земледелия и животноводства, следовательно, и создание мощной сырьевой базы для развития перерабатывающих производств, в том числе и пищевой промышленности. Специализация региона в территориальном разделении труда на плодоовощеконсервной промышленности исторически обусловлена, что подтверждает эффективность этой отрасли для данного региона.

Пищевая, как и легкая промышленность тесно связана с сельским хозяйством. На размещение отраслей влияют сырьевой, потребительский, транспортный факторы, и фактор трудовых ресурсов [2]. Социально-экономические предпосылки способствуют развитию пищевой промышленности региона. Выгодное транспортно-географическое положение обеспечивает возможности для своевременной доставки сырья и сбыта готовой продукции. Регион имеет достаточно высокую плотность населения, что гарантирует близость потребителя продукции пищевой промышленности. Таким образом, существуют все объективные факторы размещения, обеспечивающие развитие предприятий пищевой промышленности ориентирующихся на сырье, потребителя и на сочетание этих факторов.

С завоеванием царской Россией Ферганской долины, в регионе были построены первые железные дороги, что диктовалось необходимостью хлопкового вывоза поэтому старые промышленные предприятия размещены

вдоль железных дорог. Сегодня транспортный комплекс Ферганского региона представлен автомобильным, железнодорожным, воздушным и трубопроводным видами транспорта. Регион по специфике транспортно-географического положения принадлежит к пограничным, имеет компактное расположение и густую сеть автомобильных дорог. Поэтому автомобильный транспорт играет ведущую роль в транспортной инфраструктуре и в экономике региона [3].

Важнейшим фактором привлекательного трансграничного положения Ферганского региона является наличие развитой системы транспортных коммуникаций. Регион является территорией с развитой сетью железных и автомобильных дорог, имеет самую высокую в Центральной Азии плотность железнодорожных и автодорожных сетей. Протяженность железной дороги Ангрен-Пап составляет 529 км, она связывает западную часть Узбекистана с восточной [3].

Одним из существенных вызовов для Узбекистана является необходимость создания большого числа рабочих мест для смягчения проблемы с безработицей. Из-за демографических особенностей в регионе наблюдается быстрый рост населения в трудоспособном возрасте, значительно опережающий рост численности постоянного населения с высоким естественным приростом, где уже проживает более 10,5 млн. человек. Трудоспособное население является основной движущей силой экономики. На 1 января 2024 года численность трудоспособного населения Ферганского региона составляет 5525,2 тыс. человек. Высокая рождаемость и плотность населения Ферганского региона в положительно сказывается на занятости в легкой, текстильной, швейной, обувной промышленности, в машиностроении, в которых численности занятых высок.

Последние 6-8 лет производства строительных материалов испытывают настоящий бум, поэтому расширяющиеся производства создают новые рабочие места, решая проблему занятости населения. Кроме того, наличие образовательных и научных учреждений в регионе влияет на доступность квалифицированной рабочей силы. Многие машиностроительные заводы региона после распада СССР прекратили своего существования и на их заводских площадях были организованы другие производства, тем самым удалось сохранить рабочие места для квалифицированной рабочей силы. Поэтому эта отрасль стратегически важна для страны в обеспечении занятости её населения [2].

Наряду с факторами как ресурсные, климатические условия, транспортная инфраструктура, трудовые ресурсы, рынок также имеет свое важное место размещение промышленности в регионе.

Расположение производственных мощностей в непосредственной близости от потребителей и каналов сбыта играет важную роль в принятии решений о размещении, в особенности для предприятий, выпускающих товары широкого потребления, например, в сфере пищевой или легкой промышленности. Такое соседство позволяет существенно уменьшить

временные и финансовые издержки, связанные с транспортировкой продукции.

Зачастую, предприятия предпочитают размещать производство в крупных городах или в их окрестностях, чтобы быть в шаговой доступности от покупателей и быстро адаптироваться к колебаниям рыночного спроса. Это особенно актуально для отраслей с высокой скоростью обновления ассортимента, таких как легкая промышленность, где критически важна оперативность вывода новых товаров на рынок.

Для размещения производства и успешного функционирования промышленности, будь то, к примеру, производство строительных материалов, также автомобилей требуется не только наличие рабочей силы и удобное расположение рядом с транспортной инфраструктурой, но и рынком сбыта. Это необходимо для снижения затрат на доставку и оптимизации всего производственного процесса. В свою очередь, предприятия пищевой или легкой промышленности (такие как текстильные фабрики), часто предпочитают размещаться вблизи конечных потребителей.

Структурные изменения также затрагивают области высоких технологий и инноваций. Внедрение новых технологий в производственные процессы создает возможности для улучшения структуры промышленности и повышения ее конкурентоспособности. Эксперты отмечают, что в 2023 году участились случаи появления новых производств на основе цифровых и автоматизированных решений в ряде областей, что помогает повысить производительность и снизить затраты [6]. Это подчеркивает важность инвестиций в технологии как для крупных, так и для малых предприятий.

Наравне с технологическими факторами, социальные аспекты также являются важными для формирования отраслевой структуры в регионах. Потребности населения сильно влияют на выбор направлений развития отдельных отраслей, что делает необходимым учёт региональных особенностей и предпочтений при планировании экономической политики. Например, изменения в структуре потребительских предпочтений могут требовать перестройки производственных процессов или введения новых продуктов в ассортимент, чтобы соответствовать ожиданиям потребителей.

Таким образом, территориальное размещение промышленности и отраслевая структура региона зависят от множества факторов, включая инвестиции, технологические инновации и социальные аспекты. Эти параметры требуют внимательного анализа и серьезных подходов со стороны органов управления для формирования устойчивой модели развития, способной адаптироваться к изменениям как на внутреннем, так и на международном уровнях.

Становление промышленности в регионе в значительной степени определялось централизованным планированием и управлением экономикой. При этом приоритетное внимание отдавалось освоению и переработке полезных ископаемых, выпуску техники для сельского хозяйства, созданию химических удобрений и строительных материалов. Наличие сырья,

доступная энергия и внутренняя потребность способствовали формированию в Ферганском регионе таких промышленных направлений, как энергетика и машиностроение. Помимо сырьевых и энергетических преимуществ, важным фактором размещения производств в этом регионе является наличие квалифицированной рабочей силы, что способствует развитию машиностроения, а также, в сочетании с развитым сельским хозяйством (основанным на земельных, водных и агроклиматических ресурсах), лёгкой и пищевой отраслей.

По состоянию на 1 января 2025 года в республике действуют 55,6 тыс. предприятий промышленности, из них 5,6 тыс. (10,1 %) приходится - Ферганскую, 4,4 тыс. (7,8 %) - Андижанскую области и 3,8 тыс. (8,5 %) – Наманганскую области. Ибо основу производственного потенциала промышленности Ферганского региона составляют 13890 предприятия обрабатывающей промышленности. Промышленность региона занимает ведущее место в республиканском производстве отдельных важнейших видов продукции машиностроительной, топливной, химической и нефтехимической, промышленности строительных материалов, пищевой, легкой промышленности. Регион характеризуется безусловно развитым экономическим потенциалом (занимает 1 место среди регионов Узбекистана) с развитым производством, ориентированным на удовлетворение потребностей не только Ферганского региона, но и Узбекистана в целом.

Ведущее положение региона в большей степени обеспечено за счет таких индустриальных центров, как города Андижан, Наманган, Фергана, Коканд, Кувасай, а также Кургантепинский, Асакинские районы, на территориях, которые сконцентрированы базовые промышленные объекты (рис. 1).

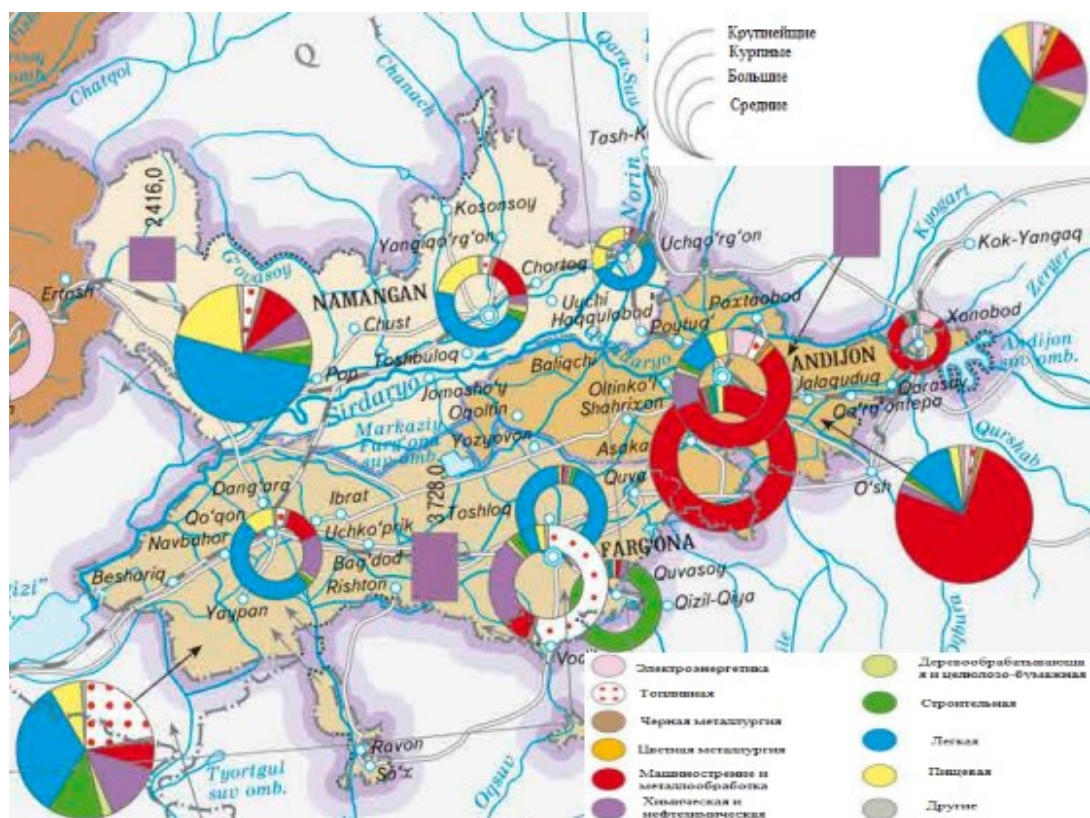


Рис. 1. Территориально-отраслевая структура промышленности по областям Ферганского региона.

Источник: составлено авторами по [8]

Согласно таблице 1, количество промышленных предприятий по региону в 2024 году (по состоянию на 1 января) увеличился в 1,75 раза по сравнению с 2014 годом или за анализируемый период прирост промышленного производства составил 75,5 %. В условиях экономической стабильности все области региона демонстрируют высокие показатели.

Таблица 1. Количество промышленных предприятий по областям региона (2014 – 2024 гг.).

Области региона	2014 г	2024 г	Рост промышленных предприятий (%)	в
Андижанская область	4 496	5511	22,5	
Наманганская область	2 398	4 929	105,5	
Ферганская область	3 508	7 803	121,8	
По всему региону	10402	18243	75,5	

Источник: Таблица составлен авторами по данным <https://stat.uz/ru/default/ezhekvaral-nye-doklady/53710-2024#>.

Увеличение производственных нужд и использование различных организационных форм, таких как концентрация, специализация и комбинирование, стимулировали развитие ключевых отраслей

промышленности региона: топливно-энергетического комплекса, машиностроения, производства строительных материалов и других.

До независимости машиностроительный комплекс развивался односторонне и обеспечивал машинами и оборудованием в основном предприятия сельскохозяйственного производства и переработки хлопка. В итоге концентрация машиностроительного производства сосредоточилась в основном в Ташкентском и Ферганском экономических районах, на которые приходилось 84% производства продукции, 8% в Самаркандском, Кашкадарьинском, в других экономических районах всего 8% производство продукции машиностроительного комплекса [5].

В территориальной структуре промышленности в отрасли машиностроение ведущую позицию занимает Андижанская область, эта во многом определяется размещением автомобилестроительного завода «UzAuto Motors» созданный после обретения независимости, постепенно формирующий предметную специализацию и способствующий локализации производства. Для стимулирования дальнейшего промышленного роста в республике разработана «Программа Локализации производства» направленная на использование местных ресурсов, рабочей силы и учет потребностей рынка. В настоящее время в рамках этой программы изготовление комплектующих и деталей осуществляется различными предприятиями через систему кооперации, объединяя заводы-смежники и головное предприятие производство. Предприятий автомобильного завода «UzAuto Motors» действуют во всех трёх областях региона.

Химическая промышленность относится к тем ведущим отраслям народного хозяйства нашего региона, со временем ее возникновения развивалось главным образом для обеспечения ускоренного развития главной сельскохозяйственной отрасли Узбекистана хлопководства и других отраслей аграрного сектора. В качестве сырья для химической промышленности служат природный нефть, газ, сера, озокерит, продукция переработки хлопка-сырца и др.

В 1932 году вступил в число действующий серный завод в Шорсу Ферганской области. Строительством и пуском этого завода на только была удовлетворена потребность республики в сере, но и возникла возможность вывозить ее и в другие регионы. Несколько позже - 1942 году было начато строительство Фосфатного завода в Коканде и Ферганского гидролизного завода. К числу крупных предприятий химической промышленности относится Ферганский завод азотных удобрений, Наманганский химзавод, Андижанский и Ферганский гидролизные заводы и др.

Экономическое развитие в значительной степени обеспечивается внутренним потребительским и инвестиционным спросом, что, в свою очередь, зависит от общей ситуации в экономике и политики государства. Строительный сектор демонстрирующий стабильность, в строительстве положительно сказывается на других отраслях, связанных с недвижимостью.

В ряде случаев это отражает общий экономический климат и бизнес, что способствовала вызовам для производителей.

Важным аспектом в исследовании территориального размещения являются малые и средние предприятия. Они, определенно влияют отраслевую структуру на рост производства. Характерные факторы, если размещение этих предприятий по всему региону, включают достаток сельскохозяйственного сырья, то в сфере автомобильной промышленности основные сосредоточены в Андижанской области. Безусловно, поддержка малых предприятий и создание благоприятной среды для их существования сыграла важную роль в устойчивом развитии региона.

Заключение

В заключение данной работы можно сделать несколько ключевых выводов, касающихся территориального размещения промышленности в регионе. Промышленность, как важнейший сектор экономики, играет центральную роль в формировании экономической устойчивости и социального благополучия региона. Анализ текущего состояния промышленности в различных районах региона показывает, что существует значительная разница в уровне развития и структуре отраслей. Некоторые регионы обладают отраслью, такой как машиностроение (Андижанская область), или топливной промышленностью (Ферганская область), в то время как другой (Наманганская область) остается зависимыми от традиционных секторов, таких как переработкой сельхоз продукции. Благодаря промышленной и региональной политике не давно в Туракургане построены ТЭС и Чусте металлургический завод — это смягчает неравномерное развитие, которое создает риски для устойчивости экономики. Поэтому важно учитывать не только географические и экономические, но и социальные факторы, которые влияют на жизнь местного населения.

Кроме того, устойчивое развитие возможно только при условии, что будут учтены интересы всех участников процесса: государства, бизнеса и местного населения. Важно, чтобы стратегии развития были направлены не только на экономический рост, но и на улучшение качества жизни людей, что в конечном итоге станет залогом успешного и гармоничного развития районов региона.

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СОВЕРШЕНСТВОВАНИЕ ВОЗМОЖНОСТЕЙ ИСПОЛЬЗОВАНИЯ НАСЛЕДИЯ МЫСЛИТЕЛЕЙ СРЕДНЕЙ АЗИИ В ФОРМИРОВАНИИ У УЧАЩИХСЯ СОЦИАЛЬНОГО МЫШЛЕНИЯ

***Аннотация:** В этой статье исследуется возможность формирования у читателей социального мышления за счет использования наследия центральноазиатских мыслителей. Богатая история и культура Средней Азии, а также идеи, разработанные ее мыслителями, призваны повлиять на процесс личностного и социального роста учащихся. В статье основное внимание уделяется таким важным вопросам, как изучение идей мыслителей о социальной справедливости, свободе и прогрессе, применение инновационных методов в системе образования и повышение роли наставников.*

***Ключевые слова.** Общественная мысль, формирование, среднеазиатские мыслители, общественная мысль, система образования, свободомыслие, воспитание.*

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IMPROVING THE POSSIBILITIES OF USING THE HERITAGE OF CENTRAL ASIAN THINKERS IN THE FORMATION OF SOCIAL THINKING IN STUDENTS

***Annotation:** this article explores the possibilities of social thought formation in students through the use of the heritage of Central Asian thinkers. The rich history and culture of Central Asia, as well as the ideas developed by its thinkers, are designed to influence the process of growth of students, both personally and socially. The article focuses on important issues such as exploring thinkers ' ideas about social justice, freedom, and progress, applying innovative techniques to the educational system, and elevating the role of mentors.*

Keywords: *Social thought, formation, Central Asian thinkers, social thought, educational system, free thought, upbringing.*

Введение

Среднеазиатский регион достиг значительных успехов в философии, науке и искусстве. Такие мыслители, как Абу Али ибн Сина, Аль-Фараби, Джалалуддин Руми, развивали идеи, характерные для своего времени. Использование наследия этих мыслителей в формировании общественного мнения у учащихся является ценным ресурсом в современной системе образования. Наследие мыслителей Средней Азии В работах этих мыслителей решение социальных вопросов рассматривалось на основе перспективной и просвещенной философии. Идеи Ибн Сины о человеческих ценностях, мысли Аль-Фараби о социальной справедливости и сотрудничестве помогают читателям формировать собственное мнение по социальным вопросам. Предложения и методы Практические занятия: проведение студентами практических проектов, содержащих мысли мыслителей Средней Азии. Во время занятий необходимо знакомить их с идеями мыслителей. Интерактивные дискуссии: обсуждение между учащимися. Они, расширяя свои знания об истории и культуре, получают возможность применять теоретические идеи на практике. Спонсорские программы: создание сильного общенационального хаоса, предоставляя информацию о наставниках и мыслителях. Эти программы помогают наставникам заинтересовать студентов наследием Центральной Азии. Центральноазиатские мыслители в своих трудах обсуждали не только национальные научные, но и социальные и моральные вопросы[2,47].

Их статья, источники их работ могут служить важной основой для начала социального мышления. Аль-Хорезми, Аль-Фараби, Ибн Сина, Аль-Беруни и другие великие мыслители в своих трудах призывали человечество задуматься, проанализировать и осознать свою роль в обществе. Их методологические рекомендации служат читателям для глубокого размышления не только о физических исторических, но и о современных социальных проблемах. В данной статье представлен анализ того, с какой педагогической точки зрения можно использовать наследие среднеазиатских мыслителей при наблюдении за социальным мышлением учащихся, какие методические разработки необходимы, цель которых-способствовать овладению учащимися традиционными и современными знаниями в развитии социального мышления в процессе обучения. Развитие социального мышления заключается в том, чтобы воспитывать своих учеников социально образованными, но также этичными и активными в обществе[3,77].

Методика переосмысления социального мышления учащихся через среднеазиатских мыслителей во многом диктует необходимость использования исторического наследия и сочетания современных педагогических методов. Среднеазиатские мыслители, такие как Абу Наср Фараби, Ибн Сина, Алишер Навои, Мирза Улугбек и другие, поднимали в

своих трудах не только научные, но и нравственные, социальные и философские вопросы. Их формирование социального мышления учащихся в настоящее время является эффективным инструментом в уходе за социальным мышлением учащихся во времени некоторые из основных направлений методики использования наследия мыслителей Средней Азии.

Наследие мыслителей Средней Азии Мыслители Средней Азии глубоко размышляли о социальных, этических, политических и философских вопросах. Они разработали идеи и теории, которые сыграли важную роль в развитии человечества. Например, мысли Ибн Сины в области "медицины" оказали влияние не только на медицину, но и на другие аспекты общественной жизни. Взгляды Аль-Фараби на социальную справедливость и свободу людей актуальны и сегодня. Изучение наследия этих мыслителей помогает развить у учащихся свободомыслие.

Формирование Социальных Мыслей У Учащихся На сегодняшний день в формировании общественного мнения у учащихся можно использовать следующие приемы: Сравнительный анализ: сравнение идей мыслителей с проблемами их времени и предоставление студентам возможности формулировать свои собственные мысли. Это помогает им учиться на истории и серьезно относиться к социальным вопросам.

Тематические дискуссии: обсуждение мнений среднеазиатских мыслителей-эффективный метод развития у учащихся навыков критического мышления и рассуждений. Учащиеся могут свободно выражать свои мысли. Творческие проекты: творческие работы, вдохновленные наследием мыслителей, такие как написание литературного произведения или художественные проекты, повышают креативность и способность учащихся выражать свои мысли. Интерактивное обучение: проведение занятий, направленных на формирование социального мышления учащихся, с использованием современных технологий и инновационных методов обучения. Например, проведение обсуждений через онлайн-платформы. Повышение роли учителей: подготовка учителей, глубоко понимающих наследие мыслителей Средней Азии и использующих его в своей работе. Они должны быть проводниками в передаче исторического наследия учащимся и формировании общественного мнения. Формирование социального мышления учащихся-очень важная задача в современном образовании. Потому что это помогает обеспечить место учащихся в обществе, правильное принятие этических и моральных решений. Для формирования социального мышления можно использовать несколько методов:

1. Обсуждение и обмен идеями на уроках: важно дать учащимся возможность высказать свое мнение по вопросам в различных сообществах и выслушать точку зрения других. Благодаря этому они учатся выражать свои мысли, мыслить в сотрудничестве с другими.

2. Обучение этике и моральным ценностям: объяснение учащимся таких ценностей, как правильное и неправильное, справедливость и

беспристрастность, и поощрение их применения в повседневной жизни играют важную роль в развитии социального мышления.

3. Социальный опыт и деятельность: предоставляя учащимся возможность участвовать в общественной деятельности (например, волонтерство, помощь в общественной работе, участие в решении проблем), они лучше знакомятся с обществом и чувствуют ответственность.

4. Поощряйте социальную ответственность: научите учащихся чувствовать социальную ответственность своего сообщества, чтобы они активно участвовали в решении различных социальных проблем.

5. Критическое мышление и решение проблем: обучая критике и анализу социальных проблем, учащиеся учатся понимать сложные социальные проблемы и быть сознательными и ответственными при принятии решений по ним. 6. Быть образцом для подражания: учителя и родители демонстрируют социальную ответственность и моральные ценности своими действиями, помогая учащимся формировать социальное мышление[1,57].

Этот процесс обеспечивает учащимся не только знания, но и понимание своего места в обществе, чувство ответственности и активность в социальных вопросах. Социальное мышление учащихся — это способность рассуждать и принимать решения относительно своего места в обществе, информации, проблем и проблем. В этом проблема взаимодействия учащихся, сотрудничества с другими людьми, справедливости, равенства, рассуждений по вопросам гражданства и решения социальных проблем способствует решению[4,81].

Заключение

Наследие мыслителей Средней Азии в настоящее время является ценным ресурсом для формирования общественного мнения у учащихся. Через них учащиеся получают возможность изучить не только национальные ценности, но и общечеловеческие моральные принципы.

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АУДИТ КАК СРЕДСТВО ОБЕСПЕЧЕНИЯ ЭКОНОМИЧЕСКОЙ БЕЗОПАСНОСТИ ПРЕДПРИЯТИЯ

Аннотация: Аудит экономической безопасности предприятия позволяет получить целостную и объективную картину всей информационной системы предприятия и ее отдельных бизнес-процессов, локализовать свойственные проблемы с целью создания эффективной и оптимальной программы развития организации.

Ключевые слова: экономическая безопасность предприятия, аудит, методы аудиторской проверки.

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AUDIT AS A MEANS OF ENSURING ECONOMIC SECURITY OF THE ENTERPRISE

Abstract: Audit of economic security of the enterprise allows to obtain a holistic and objective picture of the entire information system of the enterprise and its individual business processes, to localize the inherent problems in order to create an effective and optimal program for the development of the organization.

Keywords: economic security of the enterprise, audit, audit methods.

Стратегия аудита экономической безопасности предприятия включает непрерывную работу всех подразделений субъекта предпринимательской деятельности по проверке деловых партнеров, анализа будущих сделок, экспертизе документов, выполнению правил работы с конфиденциальной информацией и т.д.

Аудит безопасности в этом случае выступает в роли контролера. Меры безопасности применяются в случае возникновения или реального осуществления любых угроз экономической безопасности предприятия.

Экономическая безопасность предприятия, по нашему мнению, должна иметь такие составляющие, как [1, С.112]:

- юридическое обеспечение безопасности деятельности предприятия;
- сохранение коммерческой тайны перспективных разработок и аудит организационной и финансово-хозяйственной деятельности;

- анализ экономической деятельности деловых партнеров.

Аудитор должен знать, что выявленные случаи мошенничества имеют негативные последствия в виде незаконного присвоения активов клиента-заказчика, а это, в свою очередь, ведет к ложному отображению данных в формах финансовой отчетности. Обязательства предотвращения и выявления фактов мошенничества и ошибок возлагается на руководство предприятия-заказчика, поэтому аудитор не может отвечать за совершение таких действий [2, С.56]. В процессе аудита у клиента-заказчика аудитор не может быть убежденным в том, что обнаружит существенные искажения финансовых отчетов. Решающим является:

1) риск необнаружения существенных искажений, вызванных мошенничеством, а не ошибкой;

2) риск необнаружения аудитором существенных искажений вследствие мошенничества управленческого персонала, а не работников.

Аудитор не может гарантировать, что аудит выявит существенные искажения от мошенничества или ошибки. Поэтому, если в будущем обнаружат существенные искажения финансовых отчетов в результате мошенничества или ошибки, то это само по себе не свидетельствует о:

- неполучение аудитором обоснованной уверенности;
- ненадлежащее планирование, выполнение или суждение;
- отсутствие профессиональной компетенции и должного внимания;
- несоответствие Международным стандартам аудита.

Предлагаемая форма записей наблюдений аудитора, включающая оценку вероятности своевременного выявления проверяемым персоналом потенциальных несоответствий, приведена в таблице 1.

Таблица 1 – Отчетность аудитора

№ п/п	Возможное событие	Вероятность выявления	Причины несоответствия	Возможны последствия	Тяжесть последствий	Рекомендации аудитора	
						По предупреждающим действиям	По повышению вероятности выявления несоответствий

Большая часть теневых оборотов возникает в результате фальсификации финансовой отчетности. В настоящее время все еще нет точной статистики о мошенничествах в финансовой отчетности и способах их

обнаружения. Поэтому необходимо накапливать опыт и методику предотвращения злоупотреблений в бухгалтерской отчетности с помощью риск-ориентированного аудита.

Любое отступление субъектом от требований нормативных правовых актов к организации и порядку ведения бухгалтерского учета, а также к условиям хозяйственной деятельности в целом может стать причиной возникновения существенных искажений в финансовой отчетности. Такие отступления могут быть вызваны различными обстоятельствами: неэффективной системой внутреннего контроля, низким уровнем профессиональной компетентности, игнорированием принципов честности и объективности и т. д.

Аудит имеет огромное значение для обеспечения экономической безопасности организации, при этом необходимо отметить, что аудит может являться как действенным средством обеспечения экономической безопасности, так и угрозой безопасности организации.

Ситуации, в которых аудит становится угрозой безопасности могут быть абсолютно различные:

- проведение аудиторской проверки халатно и нечестной аудиторской организацией;

- значительное влияние на аудиторскую проверку и аудиторское заключение пожеланий и рекомендаций заказчика, даже если аудиторская компания добросовестна и в целом действует в соответствии с законодательством;

- несовпадение интересов представителей организации, обращающихся в аудиторскую организацию, и собственников (успешная аудиторская проверка закрепляет позиции исполнителей и бухгалтеров).

Отсюда следует, что внутренний аудит в системе экономической безопасности один из важнейших инструментов, особенно в кризисных ситуациях. Данный тезис подтверждается множественными показательными разорениями крупнейших мировых фирм, которые предоставляли прекрасную отчетность с аудиторскими заключениями о её достоверности от лучших аудиторских организаций. Аудит может быть использован для обеспечения экономической безопасности организации для выявления и нивелирования различных рисков.

Следовательно, аудит в сфере экономической безопасности является необходимым и эффективным в случаях существования экономических и финансовых проблем внутри организации [3, С.132]. В кризисных условиях экономической нестабильности, когда организации крайне сложно сохранять устойчивость и проблемы имеются у большинства, данная деятельность приобретает особую актуальность и распространение. Для осуществления проверок организациям необходимо обращаться к помощи аудиторских организаций и производить совершенствование внутреннего аудита, что в комплексе позволит повысить защищенность организации от внутренних и

внешних угроз, а также нивелировать риски, возникающие в процессе экономической деятельности.

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ВЛИЯНИЕ НОРМ МИНЕРАЛЬНЫХ УДОБРЕНИЙ И РЕЖИМА ОРОШЕНИЯ НА ВСХОЖЕСТЬ, ГУСТОТУ СТОЯНИЯ РАСТЕНИЙ, РОСТ И УРОЖАЙНОСТЬ ЗЕРНА СОРТОВ ОЗИМОГО ЯЧМЕНЯ

***Аннотация:** представлены результаты исследований по определению норм минеральных удобрений и режимов орошения для прорастания семян, густоты стояния, роста и урожайности зерна сортов озимой арпы.*

***Ключевые слова:** фотосинтеза, периоды сбора урожая и сбора трубок, периоды созревания молока и восковой спелости, минеральные удобрения, полив, "Болгали", "Ихтияр".*

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INFLUENCE OF MINERAL FERTILIZER NORMS AND IRRIGATION REGIMES ON REPRODUCTION, PLANT DENSITY, GROWTH, AND GRAIN PRODUCTIVITY OF WINTER ARPA VARIETIES

***Abstract:** the results of research on determining the rates of mineral fertilizers and irrigation regimes for seed germination, plant density, growth, and grain yield of winter barley varieties are presented.*

***Keywords:** photosynthesis, harvesting periods and tubes, milk ripening and wax ripening periods, mineral fertilizers, irrigation,*

При анализе влияния минеральных удобрений и режимов орошения на всхожесть сортов озимого ячменя существенных различий между вариантами по полевой всхожести и всхожести семян не выявлено. Но после зимовки и в конце вегетационного периода, при исследовании густоты стояния растений, отмечено значительное влияние внесение минеральных удобрений и применение режимов орошения.

В частности, в варианте при выращивании озимого ячменя сорта «Болгали» с внесением минеральных удобрений нормой $N_{180}P_{126}K_{162}$ кг/га, после зимовки при режиме орошения при влажности почвы перед поливом 70-80-60% от ППВ густота стояния составила 311,6 шт/м², фактическая густота в конце вегетации составила 300,9 шт/м², соответственно зимостойкость растений составила 85,8%, где количество всходов, относительно зимостойких по сравнению с вариантами, при данном режиме орошения и внесении минеральных удобрений нормой $N_{150}P_{105}K_{135}$ и $N_{120}P_{85}K_{110}$ кг/га больше на 6,5-13,3 шт/м², фактическая густота всходов в конце

вегетационного периода больше на 9,1- 20,3 шт/м², зимостойкость растений выше на 2,3-5,9%, в вариантах с посевом сорта «Ихтияр» при внесении минеральных удобрений нормой N₁₈₀P₁₂₆K₁₆₂ кг/га и поливом при режиме орошения 70-80-60% от ППВ количество зимостойких всходов составило 311,6 шт/м², а фактическая густота стояния в конце вегетационного периода составила 301,4 шт/м², зимостойкость растений - 85,4%, которые по сравнению с вариантами при таком же режиме орошения и внесении минеральных удобрений нормой N₁₅₀P₁₀₅K₁₃₅ и N₁₂₀P₈₅K₁₁₀ кг/га густоте стояния растений после зимовки больше на 5,4-13,6 шт/м², фактическая густота растений в конце вегетационного периода на 7,9-20,3 шт/м², зимостойкость растений выше на 2,4-5,6%.

В варианте с режимом орошения при влажности почвы 60-70-60% от ППВ и внесении минеральных удобрений нормой N₁₈₀P₁₂₆K₁₆₂ кг/га в период вегетации на посевах озимого ячменя сорта «Болгали» количество растений после зимовки составило 304,5 шт./м², фактическая густота стояния растений в конце вегетационного периода - 292,1 шт./м², зимостойкость растений - 83,6%, что по сравнению с вариантами при таком же режиме орошения с применением минеральных удобрений нормой N₁₅₀P₁₀₅K₁₃₅ и N₁₂₀P₈₅K₁₁₀ кг/га

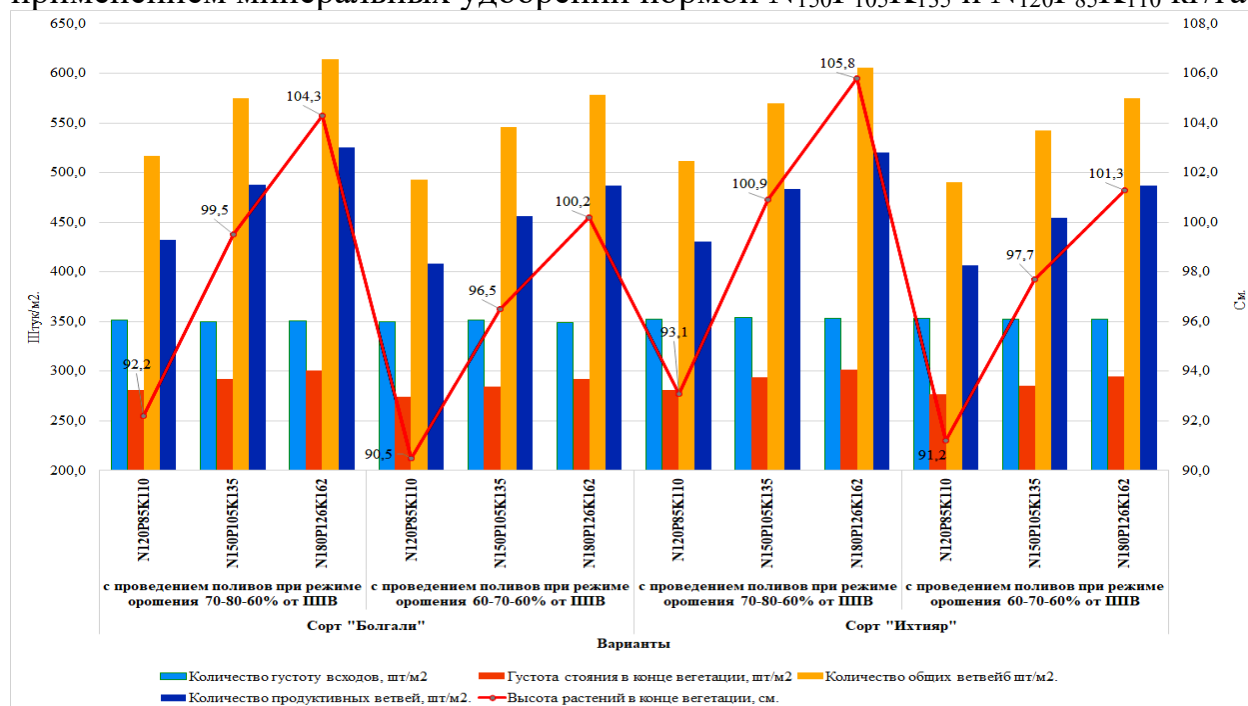


Рисунок 1. Влияние режимов орошения и норм минеральных удобрений на биометрические показатели сортов озимого ячменя

количество растений после зимовки больше на 6,1-11,8 шт./м², фактическая густота стояния растений в конце вегетационного периода - 7,7-18,4 шт./м², зимостойкость растений - 2,6-5,4%, при посеве озимого ячменя сорта «Ихтияр» с применением минеральных удобрений нормой N₁₈₀P₁₂₆K₁₆₂ кг/га и режимом орошения при влажности почвы перед поливом 60-70-60% от ППВ

количество растений после зимовки составило 306,1 шт./м²,

фактическая густота стояния растений в конце вегетационного периода – 294,6 шт./м², зимостойкость растений - 83,6%, где по сравнению с вариантами при таком же режиме орошения с применением минеральных удобрений нормой N₁₅₀P₁₀₅K₁₃₅ и N₁₂₀P₈₅K₁₁₀ кг/га количество растений после зимовки увеличилась на 7,6-11,6 шт./м², фактическая густота стояния растений в конце вегетационного периода – 9,4-17,6 шт./м², зимостойкость растений - 2,6-5,4%.

При анализе потребности к поливам сортов озимого ячменя в разрезе режимов орошения установлено, что в вариантах при режиме орошения с предполивной влажностью почвы 70-80-60% от ППВ, всего за вегетацию проведено 5 поливов по схеме 2-2-1, а оросительная норма воды составила 4540 м³/га, варианты с выращиванием сортов ячменя при влажности почвы перед поливом 60-70-60% от ППВ полив проводили всего 4 раза по схем 1-2-1 с оросительной нормой 4050 м³/га, где экономия воды составила 490 м³/га по сравнению с вариантами с режимом орошения 70-80-60% от ППВ.

При определении влияния агротехнических мероприятий, применяемых в разрезе вариантов отмечено, что относительно высокие результаты по высоте стеблей, количестве общих и продуктивных стеблей сортов озимого ячменя в во обоих режима орошения с нормой минеральных удобрений N₁₈₀P₁₂₆K₁₆₂ кг/га в вегетационный период.

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ИЗУЧЕНИЕ МОРФОЛОГИИ И ГЕНЕЗИСА КАРСТА ГОР ЮЖНОГО УЗБЕКИСТАНА

***Аннотация.** В статье рассматривается широкое распространение карста в горах на территории Южного Узбекистана, а также использование его в лечебных целях. Всестороннее изучение карста является необходимым, так как горы и предгорья Южного Узбекистана становятся ареной интенсивного использования в различных направлениях народного хозяйства.*

В результате исследований учёных, последние 25-30 лет накоплен обширный материал, освещающий особенности карста Южного Узбекистана.

Изучение карста в наши дни приобретает особо ценное значение ещё и потому, что горные районы становятся ареной интенсивнейшего освоения. Здесь создаются новые сады и виноградники, курорты, зоны отдыха и санатории, возводятся плотины, водо и селехранилища и т.п..

***Ключевые слова.** Карст, спелеотерапия, спелеомедицина, спелеоклиматическое лечение, спелеобальнеологическое лечение, пещеры, спелеотуристы, микробиологические параметры пещер, лечебница для астматиков, источник Оби-шифо, геохимия, миграция химических элементов.*

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STUDY OF MORPHOLOGY AND GENESIS OF KARST IN THE MOUNTAINS OF SOUTHERN UZBEKISTAN

Abstract. *The article discusses the widespread distribution of karst in the mountains of Southern Uzbekistan, as well as its use for medicinal purposes. A comprehensive study of karst is necessary, since the mountains and foothills of Southern Uzbekistan are becoming an arena of intensive use in various areas of the national economy.*

As a result of research by scientists, over the past 25-30 years, extensive material has been accumulated that illuminates the features of the karst of Southern Uzbekistan.

The study of karst is becoming especially valuable these days also because mountainous areas are becoming an arena of intensive development. New gardens and vineyards, resorts, recreation areas and sanatoriums are being created here, dams, water and mudflow reservoirs, etc. are being built.

Key words: *Karst, speleotherapy, speleomedicine, speleoclimatic treatment, speleobalneological treatment, caves, speleotourists, microbiological parameters of caves, asthma clinic, Obi-shifo spring, geochemistry, migration of chemical elements.*

Введение. Карст широко распространён в горах на территории Южного Узбекистана. Всестороннее изучение карста является необходимым, так как горы и предгорья Южного Узбекистана становятся ареной интенсивного использования в различных направлениях народного хозяйства.

На практическую деятельность человека карст оказывает двоякое влияние. С одной стороны, он может оказывать положительное, а с другой же – отрицательное действие. Поэтому изучение карста с практической точки зрения очень велико. Развитие карста происходит как в горных, так и в

равнинных районах, поэтому с его влиянием на жизнь человека приходится сталкиваться повсюду.

Изучение карста в наши дни приобретает особо ценное значение еще и потому, что горные районы становятся ареной интенсивнейшего освоения. Здесь создаются новые курортные зоны, зоны отдыха и санатории и т.п. В карстоведческой литературе зафиксированы неоднократные случаи, когда недоучёт форм и проявлений карста приводили к печальным отрицательным последствиям.

Основная часть. В последние годы микроклиматические особенности пещер стали широко использоваться в бальнеологии, Появилась специальная отрасль медицины - спелеотерапия. Основные направления научных исследований в спелеомедицине даны в работах сотрудника лаборатории спелеомедицины П.П.Горбенко (1979, 1981), следуя которому ниже будет показано значение лечения в пещерах.

Спелеомедицина как специальная отрасль начала развиваться в нашей стране в 60-х годах. В 1968 году в посёлке Солотвико, Закарпатской области была организована аллергологическая больница для лечения больных бронхиальной астмой.

Спелеомедицина разделяется на спелеотерапию, спелеоклиматологию и спортивную спелеомедицину. Наиболее широкое распространение получила спелеотерапия – это метод лечения, основанный на положительном влиянии микроклиматической среды подземных полостей (как естественных, так и искусственных) на течение бронхиальной астмы, хронического бронхита, хронической пневмонии, гипертонической болезни и других заболеваний.

В спелеотерапии можно выделить два лечебных метода: спелеоклиматическое лечение, основанное на благотворном действии комплекса микроклиматических факторов пещер и спелеобальнеологическое лечение, где основным действующим компонентом являются подземные воды, применяемые внутрь или в виде ванн. Для спелеоклиматического лечения, чаще всего используются так называемые холодные пещеры и соляные копи, для спелеобальнеотерапии – теплые пещеры и горные выработки. Как примеры действующих пещерных лечебниц в странах СНГ можно привести: республиканскую аллергологическую больницу на 250 мест в Солотвино, экспериментальные больницы в пещере Белая (г. Цхалтубо, Грузинская республика), в Калийном руднике, г. Березняки, Пермской области. В той или иной мере для лечения используются многие пещеры СНГ.

Спелеотерапия – очень молодое направление в медицине и перед нею стоят разнообразные и сложные задачи, основными из которых являются определение основных параметров микроклимата подземных стационаров и критериев оценки эффективности лечения, разработка показаний и противопоказаний для спелеотерапии, изучение механизма лечебного действия пещер, поиск и исследование новых подземных полостей для использования их в лечебно – профилактических целях и другие. Медицинские исследования в пещерах проводятся с целью разработки оптимального режима труда и отдыха

под землей, изучения физиологических механизмов адаптации, биоритмов организмов, групповой совместимости влияния длительной изоляции на организм человека.

С каждым годом увеличивается количество высококлассных спелеотуристов, штурмующих максимальные глубины, вновь открываемых и уже известных глубочайших шахт и пещер. В связи с этим, важным направлением спелеомедицины является спортивное, перед которой ставятся задачи правильного отбора и расстановки участников спелеотуристических путешествий, медико-физиологического обоснования тактики и техники штурмов шахт и пещер, изучения функциональных изменений различных органов и систем организма, спелеологов в результате пребывания в пещере, медицинской помощи при травмах и заболеваниях, обоснование использования пещер в экскурсионных целях и т.д.

Кроме указанных, изучаются физико-химическое и микробиологические параметры пещер, влияние человека на среду пещер и пути их восстановления.

Спелеотерапия давно уже с успехом применяется во многих странах, завоевала признание и в будущем будет с успехом применяться во всех уголках мира. Материалы, касающиеся этой стороны вопроса очень хорошо освещены в работах Г.А.Максимовича (1964, 1972). Пещеры издавна использовались для лечения. Известно, что в Италии еще в эпоху неолита для лечения применялась сульфатно-кальциевая вода из пещеры в гипсах (Равенна).

В прошлом столетии (примерно в 1830-1850 годах) в подземном озере Пятигорского провала люди купались, спустившись в корзине на верёвке, после же пребывания горизонтального тоннеля была построена купальня.

Пещера Клутерт (Германия) превращена в огромную лечебницу для астматиков. В штате Монтана (США) в двух заброшенных свинцово-серебряных рудниках лечат заболевания суставов. Доказано, что в венгерской пещере Аггтелек (Венгрия) людям с болезнями дыхательных путей после краткого пребывания становится значительно легче. Ещё в одной венгерской пещере Тавас лечат сероводородной водой.

А воздух пещеры (30С) содержит эмонацию радия, который положительно влияет на весь организм человека.

Спелеотерапия стала очень широко применяться в международном масштабе, и сейчас при Международном спелеологическом союзе создана специальная комиссия по спелеотерапии, которая провела свою первую конференцию в сентябре 1971 года в городе Эннепетах (Германия). Во время заседания Международного спелеологического конгресса (Оломоуц, Чехословакия, 1973) работала подсекция спелеотерапии.

В Средней Азии, в том числе и в горах Южного Узбекистана есть случаи использования карста в лечебных целях. Наиболее известной является Бахарденская пещера (Дублянский, 1979), находящаяся в Передовой Антиклинальной цепи Копетдага в хребте Коу, на пересечении трещин различного направления. Состоит пещера из одного зала длиной 250 м, глубиной 55-69 м, шириной 12-50 м, высотой 4-26 м. Площадь её 6300 м.кв,

объём-75000 м.куб, удельный объём 300 м/м. На юго-восточной части зала располагается подземное озеро длиной 75 м, шириной 8-23 м, площадью 1050 м.кв., глубиной 2-14 м. Объём воды в озере в апрель месяце 1976 года составляло 6500 м куб, расход связанного с ним источника 30 л/сек.

Средняя минерализация воды в озере 2632 мг/л. Состав кальциево-натриево-хлоридно-сульфатный. Значительно содержание кремниевой кислоты-147 мг/л, стронция-50.6 мг/л и сероводорода-10.5 мг/л. Спектральный анализ сухого остатка показал наличие 25 элементов (натрий, стронций, барий, медь, бор, сера и другие). Микроэлементы и теплая температура воды (35-37 С) дают основание предполагать высокую биологическую активность. Влажность воздуха близка к 100 %. Пещера оборудована для посещения туристов, проведено электричество, в ней проводятся и купания в лечебных целях, хотя бальнеологические особенности пещеры не выяснены до конца.

В горах Южного Узбекистана также имеется ряд пещер и источников, которые используются для лечения. Нужно подчеркнуть, что во всех ниже описываемых случаях, проводится самолечение. Несмотря на то, что эти места известны людям испокон веков и все это время люди приезжают сюда со всеми своими болезнями, до сих пор ни в одном из этих уникальных явлений природы специальных бальнеологических исследований не производилось.

На Северо-Нуратинском хребте, недалеко от села Чашмазирак, находится небольшая пещера Ободхана (Духтархана), Девичий дом, связанна с легендой о том, что лекарь Ободхон исцелял всякие болезни. И сейчас водой, которая скапливается небольшой лужицей внутри пещеры, люди пользуются для лечения всяких язв, эффективность которого нам проследить не удалось.

Солёная речка Консай протекает в 7-8 км к востоку от райцентра Дехканабад по дороге в Термез. В верховье сая расположено месторождение галита, где начинается едва заметный ручей, начало которому дают несколько очень мелких источников. Ниже дебит ручья увеличивается до 4-5 л/сек, и, вымывая соли, ручей, течёт примерно 7-8 км. На всем протяжении ручья берега покрыты причудливой формы кристаллами соли. В среднем течении на месте округлого провала диаметров 16 м, существует солёное озеро, где начиная с середины мая по октябрь, купаются люди. Надо сказать, что местность очень унылая, ровная, вокруг ни кустика, не дерева, По близости нет и пресной воды, но это не останавливает стремящихся отделаться от недугов. По словам людей, купание в солёном озере, расслабляет или вообще уничтожает боли костей ног, рук, поясницы, затягиваются и быстрее заживают язвы и ожоги.

Источник Оби-шифо (об- вода, шифо-исцеление) выходит из серых битуминозных известняков в 1,5 км к северо-западу от села Дербент, на левом берегу р. Туркмендара. Вода чистая, с сильным запахом сероводорода, дебит 2 л/с, температура 14,5 С. Для сбора воды источник окружен валом из глыб известняка и глины.

В ущелье реки Холханджар на левом берегу выклиниваются четыре источника с общим дебитом около 150 л/сек. Пятым является ручеек (дебит 75 л/сек), вытекающий из пещеры Ходжаипок. Вода молочно-белого цвета,

солоновата на вкус и имеет очень сильный запах сероводорода, температура её составляет 13 С. У выхода источников на скалах и илистом дне наблюдается слизистый, сильно пахучий белый и чёрный налет.

В результате неорганизованного самолечения наблюдаются случаи, когда после купания людям становилось плохо. Ближайший медицинский пункт находится в километрах двадцати, причём добраться до нее сложно так как дорога туда очень плохая. Нам кажется, что давно уже наступило время рационального использования даровых и весьма ценных возможностей карста Узбекистана.

Заключение. Говоря о значении карста в народном хозяйстве, особенно нужно подчеркнуть многоплановые использования пещер (Максимович, 1974). Пещеры приспособлены для очень многих научных исследований и хозяйственных нужд. В настоящее время использование пещер в оздоровительных целях является важным элементом изучения научных исследований. В данном случае ученые геологи фиксируют различные тектонические нарушения, неотектонические поднятия, стратиграфический разрез территорий.

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ОРГАНИЗАЦИОННО-ЭКОНОМИЧЕСКАЯ ХАРАКТЕРИСТИКА КОМПАНИИ «XIAOMI INC.»

Актуальность выбранных тем обусловлена процессом глобализации мировой экономики, усилением конкуренции, а также нестабильностью и изменчивостью внешней среды. Это стало неотъемлемой чертой функционирования различных организаций в современной рыночной экономике, выдвигая на первый план методы конкурентной борьбы и способы повышения конкурентоспособности компании на внутреннем и мировом рынках.

Цель исследования: Изучить конкурентоспособность Xiaomi на зарубежных рынках и получить конкурентные преимущества.

Объект исследования: конкурентное преимущество Xiaomi на зарубежных рынках.

Тема исследования: Методы повышения уровня конкурентных преимуществ Xiaomi на зарубежных рынках.

Ren Zhengming
Student
Moscow Pedagogical State University

ORGANIZATIONAL AND ECONOMIC CHARACTERISTICS OF XIAOMI INC.

The relevance of the selected topics is due to the process of globalization of the world economy, increased competition, and the instability and variability of the external environment. It has become an indispensable feature of the operation of various organizations in the modern market economy, highlighting competition methods and methods to improve the company's competitiveness in the domestic and global markets.

Research purpose: To study Xiaomi's competitiveness in foreign markets and gain competitive advantages.

Research object: Xiaomi's competitive advantage in foreign markets.

The theme of the research: Methods to improve the level of Xiaomi's competitive advantage in foreign markets.

История бренда Xiaomi началась примерно в одно время со стартом известного китайского лейбла Meizu. Однако теперь имя Xiaomi на слуху, а о

Meizu как-то подзабыли. Вероятно, причина в том, что Xiaomi производит устройства в самых неожиданных отраслях. А Meizu сосредоточена на смартфонах, но не может конкурировать с наплывом новых игроков в этой нише (Realme, OPPO, VQ).

На сегодняшний день можно подвести итог работы компании Сяоми в виде таблицы:

Таблица 2-Промежуточные итоги работы компании

Характеристика	Описание
Тип	Публичная компания
Дата основания	6 апреля 2010 года
Основатель	Лей Цзюнь (Lei Jun)
Ключевые фигуры	Лей Цзюнь (СЕО), Лин Бин (президент), Ману Кумар Джейн (вице-президент мирового рынка), Чжоу Гуанпин, Лю Де, Ли Ваньцян, Вонг Конг-Кэт, Хонг Фэн, Чуань Ван.
Штаб-квартира, страна	Пекин, Китай
Продукция	Бытовая и мобильная электроника
Операционная прибыль	24,03 млрд ¥ *
Чистая прибыль	20,31 млрд ¥ *

Характеристика	Описание
Активы	253,68 млрд ¥ *
Число сотрудников	22 074 человека на 31 декабря 2024 года *
Список дочерних компаний и суббрендов Xiaomi	Black Shark, POCO, Redmi, Meitu, Aqara, Viomi, Mijia, Xiaobai, ZMi, KingMi, Yeelight, RoidMi, SmartMi, SWDK, Oclean, Wiha, XiaoAi, MiTu
Официальный сайт	https://www.mi.com

Стоит заметить, что без грамотного руководства компания Xiaomi не смогла бы добиться больших успехов на поприще смартфоностроения. Каждый из руководителей компании человек известный, с именем. И каждый из директоров является специалистом в своей области IT. Поэтому Xiaomi смогла неплохо раскрутиться за относительно небольшой промежуток времени.

Вот список основателей, владельцев и других ключевых фигур в компании.

Лей Цзюнь — основатель, генеральный директор и CEO Xiaomi. Выпускник Факультета компьютерных наук Уханьского университета. В 1992 году Цзюнь в качестве инженера присоединился к компании Kingsoft, занимающейся выпуском программного обеспечения. В 1998 году Цзюнь стал генеральным директором Kingsoft. В декабре 2007 года он уволился из Kingsoft по состоянию здоровья.

Ещё работая в Kingsoft, Цзюнь основал книжный интернет-магазин под названием Joyo.com (был приобретён компанией Amazon.com в 2004 году). После ухода из Kingsoft Цзюнь стал свободным инвестором и вложил в более чем 20 компаний. Он по-прежнему инвестирует в различные бренды и стартапы через платформу Shunwei Capital. В 2008 году он присоединился к компании UC Web в качестве председателя, а в 2010 году основал Xiaomi.

Лин Бин — соучредитель и президент Xiaomi. Специалист в области радиоэлектроники, имеет богатый опыт работы с такими компаниями, как

ADP, Microsoft и Google. Лин Бин также является членом совета консультантов Инженерной школы Университета Тафта, расположенной в Бостоне (США).

Доктор Чжоу Гуанпин – глава отделов по оборудованию и BSP в Xiaomi. Доктор философии, специалист в области электротехники. Работал с Motorola и занимал различные ключевые должности в компании до прихода в Xiaomi.

Лю Де – руководитель отделов промышленного дизайна и развития экосистем. Магистр и эксперт в области промышленного дизайна. Он основал кафедру промышленного дизайна в Пекинском университете науки и техники. В 2003 году Лю Де основал компанию по промышленному дизайну New Edge.

Ли Ваньцян – соучредитель Xiaomi. Известен как один из первых экспертов по проблемам пользовательского интерфейса и человеко-компьютерного взаимодействия HCI в Китае. После окончания учёбы в области промышленного инжиниринга в 2000 году Ваньцян присоединился к компании Kingsoft, где руководил практически всеми знаковыми проектами в области программного обеспечения. В 2010 году Ваньцян присоединился к Xiaomi.

Вонг Конг-Кэт – руководитель проектов Mi Wi-Fi и Mi Cloud. Окончил факультет компьютерных наук в 1997 году и присоединился к Microsoft, где работал до 2010 года.

Хонг Фэн – руководитель подразделения разработки MIUI. Имеет степень аспиранта в области компьютерных наук. Он начал свою карьеру в Siebel System в качестве ведущего инженера-программиста. В 2006 году Хонг присоединился к Google в качестве старшего инженера-программиста. Позже занимался разработкой различных локализованных версий Google Music и Google Pinyin Input для Китая.

Чуань Ван – соучредитель Xiaomi. В 1997 году Ван основал компанию Thunderstone Technology, которая стала крупнейшим поставщиком систем платного доступа к видео VOD (Transactional Video on Demand) в Китае. В 2007 году Чуань Ван основал компанию по производству цифровых книг под названием Beijing Duokan Technology, генеральным директором которой он в настоящее время является. В 2012 году Ван присоединился к Xiaomi в качестве соучредителя и вице-президента. В настоящее время руководит командами по разработке сервисов Mi TV и Mi Box.

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СОВРЕМЕННАЯ ТЕОРИЯ КОНКУРЕНЦИИ

Актуальность выбранных тем обусловлена процессом глобализации мировой экономики, усилением конкуренции, а также нестабильностью и изменчивостью внешней среды. Это стало неотъемлемой чертой функционирования различных организаций в современной рыночной экономике, выдвигая на первый план методы конкурентной борьбы и способы повышения конкурентоспособности компании на внутреннем и мировом рынках.

Цель исследования: Изучить конкурентоспособность Xiaomi на зарубежных рынках и получить конкурентные преимущества.

Объект исследования: конкурентное преимущество Xiaomi на зарубежных рынках.

Тема исследования: Методы повышения уровня конкурентных преимуществ Xiaomi на зарубежных рынках.

Ren Zhengming
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MODERN THEORY OF COMPETITION

The relevance of the selected topics is due to the process of globalization of the world economy, increased competition, and the instability and variability of the external environment. It has become an indispensable feature of the operation of various organizations in the modern market economy, highlighting competition methods and methods to improve the company's competitiveness in the domestic and global markets.

Research purpose: To study Xiaomi's competitiveness in foreign markets and gain competitive advantages.

Research object: Xiaomi's competitive advantage in foreign markets.

The theme of the research: Methods to improve the level of Xiaomi's competitive advantage in foreign markets.

При рассмотрении конкурентоспособности как экономической категории следует учитывать отсутствие её однозначного определения в экономической литературе. Множество авторов приводит широкий спектр

точек зрения, рассматривая конкурентоспособность на различных уровнях экономического взаимодействия, что позволяет констатировать отсутствие общепризнанной концепции.

В последней четверти XX в., когда условия конкуренции значительно усложнились и начались интенсивные поиски новых рычагов эффективности, американские теоретики бизнеса и менеджмента предложили ряд концепций в качестве универсальных рецептов действий компаний в целях удержания рыночного первенства⁸¹.

Каждая из этих концепций быстро приобретала сторонников, а их авторы получали известность. Одни из них пытались создать новые комбинации на основе традиционного корпоративного опыта, другие – совершить прорыв в будущее. Поиски путей к успеху в динамично изменяющейся экономике продолжаются и сегодня. Новые комбинации на основе традиционного опыта

В 70-е годы популярностью пользовались доступные, наглядные и потому привлекательные для менеджеров схемы распределения стратегических ресурсов для многоотраслевых фирм. Они были сознательно упрощены, чтобы сократить потребность в сборе данных и выявить приоритеты для дальнейшего анализа. Одна из таких схем – разработанная Бостонской консалтинговой группой матрица «рост рынка / доля рынка». Чтобы распределять ограниченные ресурсы с помощью данной матрицы, руководству компаний предлагалось предварительно, «на глаз», оценить рентабельность и перспективность своих производственно-сбытовых отделений, которые подразделялись на четыре типа: «звезды», «дойные коровы», «вопросительные знаки», «собаки».

Для наиболее перспективных – «звезд» – характерно владение большой долей быстро растущих рынков. Они способны аккумулировать значительные ресурсы и сами заботиться о себе, однако если им понадобятся дополнительные средства, их необходимо предоставить, поскольку вложенный капитал имеет высокую отдачу. Отбирать же деньги у «звезд» не рекомендовалось, чтобы не помешать их развитию.

«Дойные коровы» обладают прочными позициями, но на медленно растущих рынках. У них можно забрать часть ресурсов для финансирования других отделений или НИОКР.

«Вопросительные знаки» – это «проблемные» отделения, контролирующие небольшие доли быстро растущих рынков. Им могут понадобиться средства для роста, но их перспектива неясна.

У «собак», занимающих небольшие доли медленно растущих рынков, прибыли незначительны или вообще отсутствуют. Они постоянно «голодны»

и «выпрашивают подачку». Подобные малоперспективные отделения рекомендовалось ликвидировать⁸².

В 80-е годы профессор Гарвардской школы бизнеса *М. Портер* подверг данную модель уничтожающей критике, подчеркнув, что рыночная доля компаний и рост отраслевого рынка – отнюдь не единственные критерии рентабельности и перспективности. По его мнению, все стратегии создания устойчивых конкурентных преимуществ так или иначе укладываются в три типовых варианта. Поскольку любая компания сталкивается с появлением новых соперников, попытками покупателей сбить цены, а поставщиков – повысить их, а также с распространением товаров-заменителей, все участники рынка заинтересованы в ослаблении конкуренции. М. Портер предлагал либо минимизировать производственные затраты, либо дифференцировать продукт, либо сконцентрироваться на определенном сегменте рынка⁸³.

Каждая типовая стратегия, как он считал, сулит лишь относительный успех, поскольку имеет не только преимущества, но и чревата рисками.

Минимизация издержек и цен с помощью эффекта масштаба и соответствующих технологий позволяет аккумулировать средства для реинвестирования, но не защищает от копирования таких приемов конкурентами. Дифференциация дает возможность сосредоточиться не на снижении затрат, а на удержании определенного круга покупателей, однако уникальности продукта конкурент может противопоставить снижение цен на продукцию аналогичного класса. Концентрация на узком сегменте рынка оставляет соперников «по ту сторону» сегмента, но способна вызвать те же трудности, что и две первые стратегии.

Считая эти типовые стратегии универсальными, жизнеспособными и дающими реальную возможность повысить доходы от инвестиций, М. Портер призвал менеджеров избрать *только одну* из них, чтобы не распылять ресурсы и не застрять на середине пути. Для правильного выбора он рекомендовал изучить цепочку создания фирмой потребительских ценностей, определенное звено которой следует сделать *ключевым*, т.е. создающим конкурентные преимущества. Им может быть производственная деятельность, сбыт, обслуживание и т.д.

М. Портер стремился разложить стратегии фирм «по полочкам», придерживаясь логики равновесия и статичности, однако конкуренция на рынке неуклонно росла. Да и сами стратегии (снижение издержек, уникальность продукта, целевой рынок) оставались традиционными. Критики М. Портера отмечали, что ряд успешных фирм, в том числе японских, наряду с минимизацией издержек осуществили и дифференциацию.

Стало ясно, что ахиллесова пята «типового» стратегического планирования – упование на неизменность ситуации в течение длительного

времени. Когда же ситуация неожиданно меняется, формальные схемы, построенные по принципу «от анализа к действию», оказываются бесполезными.

Кризис стратегического планирования в 80-е годы выразился во временном отказе от «солидных» теорий и увлечении реструктуризацией и перестройкой производственных процессов, управлением всеми аспектами качества, «похудением» и «сжатием» фирм, сокращением штатов и т.д. Но и эти корректирующие меры вышли из моды к середине 90-х годов. Возобновились дискуссии о факторах роста компаний и перспективах бизнеса в XXI в.

В 1995 г. М. Треси и Ф. Вирсема, представители консалтинговой фирмы CSC Index, выступили с предложением, напоминавшим типовые стратегии М. Портера. Они советовали каждой компании тщательно изучить, чем она наиболее привлекательна для потребителя, и превратить собственную уникальную ценность в долговременную стратегию (иными словами, определить свои сильные стороны и укреплять их). Для этого фирме рекомендовалось избрать одну из трех «ценностных дисциплин»: непрерывно улучшать либо производственные процессы, либо продукцию, либо приемы обслуживания клиентов. Выбор должен был быть максимально продуманным, иначе, утверждали авторы концепции, фирма сойдет с пути и потерпит крах.

При видимой простоте неудобство данной концепции заключалось не только в жесткой специализации на какой-то одной стратегии, но и в необходимости безошибочного выбора, что при динамике рынка представляет сложную задачу. Однако главное состояло в том, что М. Треси и Ф. Вирсема, как и их предшественники, рассматривали конкуренцию как битву, в которой «победитель получает все».

Ответом на этот подход стало более широкое понимание действий компаний, в которых одинаково важны как конкуренция, так и сотрудничество. Психолог Дж.Ф. Мур из Гарвардского университета развил теорию предпринимательских экосистем.

Он сравнил среду бизнеса с живой природной средой (экологической системой), в которой имеют место не только борьба, но и эволюция, сотрудничество и взаимозависимость. В бизнесе успех фирмы также зависит от окружающей среды, поэтому менеджерам нужно думать о компании как об элементе экосистемы, где связаны интересы всех участников бизнеса и членов общества. Вместо стратегии, нацеленной на создание односторонних преимуществ, фирме нужно стать чем-то вроде садовника или лесника, выращивающего и поддерживающего экосистему. В ней сочетаются влияние внешней среды, конкуренция и эволюция, и этот феномен Дж. Ф. Мур назвал «коэволюцией»⁸⁴.

При основании экосистемы важно найти такую рыночную нишу, которая не затормозит рост компании и в то же время достаточно удалена от конкурентов. На стадии расширения экосистема укрепляется за счет создания благоприятного окружения из дистрибьюторов, поставщиков, потребителей, других участников бизнеса и получает механизмы выживания, если удастся преодолеть угрозу альтернативных продавцов. Третья стадия — борьба за лидерство в зрелой экосистеме, где наряду с партнерами присутствуют конкуренты. Тогда закономерны снижение издержек, реструктуризация, субподряд и т.п., а в качестве главного рычага поддержания экосистемы выступают инновации, привлекательные для клиентов и партнеров.

Основой стратегии становятся тесные производственные связи с партнерами, облегчение доступа к ресурсам всех видов, определение того, что целесообразно производить в большем масштабе, какие направления бизнеса следует финансировать. Наконец, *четвертая стадия* – кризис экосистемы из-за устаревания, столкновения с другой экосистемой или неблагоприятного изменения среды обитания. Можно попытаться радикально трансформировать экосистему, изучив причины ее упадка и сплотив все заинтересованные в выживании стороны, но успех не гарантирован.

Другой попыткой решить дилемму “конкуренция или сотрудничество” стала теория «соконкуренции» (сотрудничество плюс конкуренция), предложенная А.М. Бранденбургером (Гарвардский университет) и Б.Дж. Нейлбаффом (Йельский университет). В бизнесе, считают они, нет фатальной неизбежности выигрыша одних и проигрыша других; получать выгоду могут многие участники. Ученые предложили применить теорию игр, позволяющую, по их мнению, проводить гибкие комбинации: менять по выбору состав игроков, варьировать вносимые участниками бизнеса ценности, определять правила и тактику игры, ее масштабы и рамки.

Например, в борьбе за клиента две авиакомпании являются соперниками, а в сделках с самолетостроительной фирмой им целесообразно сотрудничать, поскольку заказать одну и ту же модель самолета гораздо выгоднее, чем две разных, да и поставщику это обойдется дешевле.

Рассмотренные теории так или иначе касались существующего бизнеса и сводились к созданию *сегодняшних* конкурентных преимуществ, в том числе с использованием сотрудничества. Между тем появилась точка зрения, что победит тот, кто сможет формировать рынки *будущего* и доминировать на них. Старт в будущее: кто не успел, тот опоздал.

Теории отраслевого лидерства и создания конкурентных преимуществ на рынках будущего, будучи вполне реалистичными, вместе с тем, на наш взгляд, грешат некоторым фатализмом («кто не успел, тот опоздал»). Основная масса компаний, которые не пробилась в лидеры, едва ли исчезнет с рынка.

«Революция» в бизнесе имела место и 100 лет назад, когда появились менеджерские корпорации, поточно-массовое производство, электричество и двигатель внутреннего сгорания, телеграф и телефон, машинная

оргтехника. Были и “великие визионеры” (Джон Д. Рокфеллер, Генри Форд). В то время тоже происходила структурная перестройка экономики и казалось, что будущее только за крупными компаниями нового типа.

Однако отрасли остаются сообществами компаний разной величины и разного функционального назначения. Кто-то лидирует, а кто-то обслуживает крупные корпорации или местных покупателей.

Основоположник современной экономической науки Альфред Маршалл говорил, что тенденция к разнообразию служит главной причиной прогресса. И если революционный рывок к бизнесу будущего немыслим без лидеров, то какой будет стабилизация, покажет время.

Ресурсный подход состоит в том, что конкурентоспособность определяется уникальным сочетанием ресурсов, которые находятся в распоряжении фирмы, выступают источником экономических рент или источниками экономии на издержках. При этом внутренняя среда предприятия является основным резервом повышения конкурентоспособности.

Отношенческий подход положен в основу исследований Дж.Х. Дайер и Х. Сингх. Факторами отношенческих рент определяются специфичные для конкретных взаимосвязей активы, процедуры совместного использования знаний, комплементарные ресурсы и способности, а также эффективное управление межфирменными взаимодействиями⁸⁵.

Прикладные аспекты конкурентоспособности субъектов хозяйствования рассмотрены в работах Р.А. Фатхутдинова, Л.В. Новак, Г.Л. Азоева, Е.Г. Ефимовой, Е.С. Подборновой.

Импортзамещение, инновации, эффективность системы управления, управление качеством продукции, тактический маркетинг, с точки зрения Р.А. Фатхутдинова, являются основными инструментами обеспечения конкурентоспособного положения. При этом автор уделяет внимание факторам конкурентоспособности, среди которых он выделяет качество товара, цену товара, затраты в сфере потребления товара, факторы синергетичности и времени.

Л.В. Новак в своей работе отмечает, что характер влияния внешней и внутренней среды, необходимость выпускать продукцию с заданными свойствами и низкими затратами потребления определяют конкурентоспособность как движущую силу и стратегическую цель.

Отличительной чертой позиции Е.С. Подборновой является выделение в качестве основы роста конкурентоспособности предприятия: производственной, финансовой, кадровой, управленческой деятельности и гибкой адаптивности к внешним и внутренним воздействиям.

По мнению Г.Л. Азоева, основными направлениями обеспечения конкурентоспособности фирмы выступают структура рынка, уровень

монополизации, концентрации производства и капитала. В меньшей степени автор уделяет внимание внутренним резервам роста конкурентоспособности и не подвергает анализу инструментарий повышения конкурентоспособности предприятия на рынке.

Г.Л. Азоев определяет конкурентоспособность как «экономический процесс взаимодействия, взаимосвязи и борьбы между выступающими на рынке предприятиями в целях обеспечения лучших возможностей сбыта своей продукции, удовлетворения разнообразных потребностей покупателей»⁸⁶.

Многообразие подходов к изучению конкурентных отношений обуславливает и наличие большого числа вариантов их классификации.

Одна из первых отечественных попыток систематизации различных теоретических подходов к проблеме оценки конкурентоспособности была предпринята И.В. Пилипенко, который в своей работе выделяет три зарубежных школы конкурентоспособности: американскую, британскую и скандинавскую. Автор отмечает, что американская школа ориентирована в большей степени на практические аспекты достижения конкурентоспособности, британская школа – уделяет большее внимание особенностям обеспечения конкурентоспособности развивающихся стран, а скандинавская – рассматривает предмет исследования с позиций удовлетворения потребностей экономики и общества.

Ю.В. Савельев, развивая позицию И.В. Пилипенко, среди зарубежных школ выделяет две. Первая из которых – американская, акцентирует внимание на пространственном и воспроизводственном аспектах конкуренции. Вторая – европейская, уделяет большее внимание пространственно-функциональным, а также институциональным и инновационным механизмам повышения конкурентоспособности.

С точки зрения классификации представляет интерес позиция Е.А. Сысоевой, которая рассматривает конкурентоспособность на различных уровнях иерархии: страны, региона, отрасли, кластера, предприятия, продукции (услуги). При этом автор определяет конкурентоспособность как способность предприятия «удерживать существующие и завоевывать новые позиции на рынке на основе создания и предоставления потребителям продукции, обладающей более высокой ценностью в сравнении с продукцией конкурентов».

Разнородность предмета исследования представляет определенную сложность для классификации школ и теорий в контексте изучения различных теоретических аспектов конкурентоспособности и приводит к некоторой «искусственности» классификации, что не снижает научной ценности приведенных выше исследований.

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СТРАТЕГИИ ОБЕСПЕЧЕНИЯ КОНКУРЕНТНЫХ ПРЕИМУЩЕСТВ

Актуальность выбранных тем обусловлена процессом глобализации мировой экономики, усилением конкуренции, а также нестабильностью и изменчивостью внешней среды. Это стало неотъемлемой чертой функционирования различных организаций в современной рыночной экономике, выдвигая на первый план методы конкурентной борьбы и способы повышения конкурентоспособности компании на внутреннем и мировом рынках.

Цель исследования: Изучить конкурентоспособность Xiaomi на зарубежных рынках и получить конкурентные преимущества.

Объект исследования: конкурентное преимущество Xiaomi на зарубежных рынках.

Тема исследования: Методы повышения уровня конкурентных преимуществ Xiaomi на зарубежных рынках.

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STRATEGIES FOR SECURING COMPETITIVE ADVANTAGES

The relevance of the selected topics is due to the process of globalization of the world economy, increased competition, and the instability and variability of the external environment. It has become an indispensable feature of the operation of various organizations in the modern market economy, highlighting competition methods and methods to improve the company's competitiveness in the domestic and global markets.

Research purpose: To study Xiaomi's competitiveness in foreign markets and gain competitive advantages.

Research object: Xiaomi's competitive advantage in foreign markets.

The theme of the research: Methods to improve the level of Xiaomi's competitive advantage in foreign markets.

Процесс стратегического анализа и формирования конкурентной стратегии — это процесс⁸⁷:

- 1) анализа собственных уязвимых зон и разработки оборонительной стратегии на ведущих направлениях;
- 2) анализа уязвимых зон ключевых конкурентов и разработки стратегии их акцентированной атаки;
- 3) поиска новых рыночных ниш и разработки программ их создания и закрепления в них.

Определение своих конкурентных преимуществ в любой организации должно происходить еще на этапе определения стратегии развития, которую на сегодняшний день достаточно трудно выстроить правильным образом, поскольку динамика изменений во внешней среде с каждым днем набирает обороты в силу процессов, происходящих как на внутренних, так и на внешних рынках. Кроме этого, на деятельность международных компаний также влияют политические и социальные процессы, потому что во многом успешная деятельность данных компаний зависит от стабильности в этих областях.

Основным фактором повышения конкурентоспособности международных компаний является расширение географии деятельности компании, которое может происходить с помощью⁸⁸:

- 1) прямых иностранных инвестиций;
- 2) осуществления сделок слияния и поглощения;
- 3) реализации стратегических соглашений;
- 4) использования эффекта экономии на масштабах;
- 5) дифференциации товаров и услуг;
- 6) диверсификации своей деятельности и др.

Для получения конкурентных преимуществ международной компании недостаточно использовать какой-либо один из указанных способов. Для формирования устойчивых конкурентных преимуществ международные компании должны, с учетом специфики своей деятельности, придерживаться указанных условий (способов) и стараться полностью использовать все имеющиеся в данный момент и потенциально возможные стратегические конкурентные преимущества, не забывая про кросс-культурный фактор в управлении глобальной конкурентностью.

Конкурентоспособность является одним из наиболее важных факторов обеспечения устойчивого развития экономики предприятия. Анализ конкурентоспособности любого предприятия включает изучение конкурентных преимуществ, которые дают возможность усиления позиционирования на мировой арене, а также открытие и освоение новых

рынков сбыта с последующей перспективой запуска новейших товаров и услуг с усовершенствованными характеристиками и свойствами.

Конкурентоспособность продукта (товаров) является существенным индикатором функционирования организаций, потому что от нее зависит положение компании на рынке, его финансовое благополучие, эффективность. Следовательно, обеспечение конкурентоспособности продукта должно занимать основное место в стратегии развития предприятия.

В традиционном стратегическом менеджменте считалось, что основной конкурентоспособности компаний является доступность качественных и дешевых ресурсов. Однако в условиях глобализации появляются примеры, опровергающие эту точку зрения. Стоит согласиться с Е.А. Бубенок, что именно «встроенные» в организацию управленческие компетенции, а не доступность ценных физических или нематериальных ресурсов оказывается определяющим условием конкурентных преимуществ компании⁸⁹.

Для приобретения конкурентных преимуществ усилия компании должны быть направлены не только и не столько на подавление соперника любой ценой, но и на создание собственных трудно имитируемых другими, нематериальных компетенций (интеллектуального капитала, инноваций) как залога лидерства.

Компании, которые постоянно уточняют и модифицируют (модернизируют) свои конкурентные преимущества имеют наибольший потенциал на рынке. Проблема разработки и реализации эффективной стратегии конкурентоспособности для глобальных компаний заключается в возможности согласовать стандартизацию и кастомизацию товаров, концентрируясь на схожих характеристиках рынков, которых, становиться все больше, при этом учитывая различия в культуре, ценностях и предпочтениях потребителей разных стран.

В основе стратегии конкурентоспособности компании лежит идея реализации такой модели бизнес-процессов и проектов, которая позволила бы получить положительный эффект за счет рационального сочетания элементов стратегического и конкурентного потенциала фирмы. Поскольку компания может обладать конкурентным преимуществом только относительно другой фирмы на определенном рынке (отрасли). Таким образом, ценность конкурентного преимущества зависит от отличительной способности компании, размера и структуры рынка.

Одной из распространенных на международных рынках конкурентных стратегий являются слияния и поглощения. Основные мотивы слияния и поглощения можно разделить на 4 группы⁹⁰:

- 1) мотивы снижения издержек;
- 2) мотивы роста доходов от продолжения деятельности компании;

- 3) мотивы роста дохода от владения акции компании;
- 4) другие мотивы.

Также уровень конкурентоспособности предприятия меняется в зависимости от стадии жизненного цикла. Встает задача разделить временную потерю конкурентоспособности и действительно негативные тенденции, способные привести к кризису.

Таким образом, в международном бизнесе могут использоваться следующие стратегии:

- 1) товарные стратегии (лидерство по издержкам, дифференциация, нишевая конкуренция);
- 2) конкурентные стратегии типа виолент, пациент, коммутант, экспелерент;
- 3) слияния и поглощения;
- 4) приложение концепции жизненного цикла товара к повышению конкурентоспособности компании;
- 5) международная кооперация, сотрудничество конкурентов;
- 6) ценовые стратегии повышения конкурентоспособности международного бизнеса.

Конкурентное преимущество – это наличие у компании или ее продукции уникальных характеристик, которые выгодно отличают их от других аналогичных субъектов или продукции на рынке и создают определенное превосходство над конкурентами.

Конкурентные преимущества могут относиться к самому продукту или услуге, технологии производства, бренду, каналам сбыта, сервису и качеству обслуживания клиентов, условиям покупки, дополнительным услугам.

Понятие «конкурентное преимущество» (Competitive Advantage) сформулировал профессор Гарварда и известный бизнес-консультант Майкл Портер. Согласно Портеру, конкурентные преимущества позволяют компании получать больше прибыли, чем в среднем по рынку, создают барьеры для входа новых игроков и обеспечивают возможности для долгосрочного роста бизнеса.

Конкурентные преимущества могут быть⁹¹:

Низкого порядка.

Связаны с возможностью использования более дешевых ресурсов (сырья, рабочей силы, источников энергии). Это неустойчивые преимущества, которые быстро утрачивают свою значимость из-за того, что их могут использовать и конкуренты. Эти преимущества неспособны обеспечить конкурентоспособность в долгосрочной перспективе.

Высокого порядка.

Это ноу-хау, уникальные технологии, налаженные каналы сбыта, квалифицированный персонал, эффективный менеджмент, репутация компании. Скопировать такого рода преимущества будет нелегко.

Так, для разработки аналогичной продукции, создания такой же сильной команды и построения подобной системы управления конкурентам потребуются годы и крупные вложения. Именно преимущества высокого порядка являются надежными и долгосрочными стратегическими преимуществами. То есть стратегическим считается такое ваше конкурентное преимущество, которого нет и которое не скоро появится у конкурентов. Именно такие преимущества позволяют выиграть в борьбе с конкурентами.

Стратегически значимые конкурентные преимущества – основа долгосрочной стратегии развития бизнеса. На базе существующих стратегических преимуществ разрабатывается конкурентная стратегия фирмы.

Стратегические преимущества – это основа для позиционирования и дифференциации (отстройки от конкурентов), т.е. отделения от общей массы подобных фирм. В этом и заключается смысл их создания или нахождения. На базе конкурентных преимуществ разрабатывают стратегии продаж, пишут скрипты продаж, применяемые в работе с клиентами

Не всегда выявленные сильные стороны продукта или компании будут являться стратегическим преимуществом. Есть ряд отличительных признаков, совокупность которых позволяет судить о наличии у компании именно такого вида преимуществ:

Уникальность (неповторимость). Аналогичных особенностей не должно быть у других компаний, конкурирующих с вами.

Трудность для воспроизведения. Конкурентное преимущество компании должно быть сложно или в принципе невозможно скопировать: вследствие его технологической сложности, наличия патента или другого способа юридической защиты. Если преимущество легко скопировать или перенять – это не считается стратегическим преимуществом.

Долгосрочность. Преимущества должны сохраняться в течение длительного времени (не менее 5 лет). Они не должны быть результатом появления каких-то мимолетных событий, условий и факторов, польза от которых скоро сойдет на нет. Пример подобного кратковременного преимущества – всплеск покупательского спроса на определенный продукт из-за появления модной тенденции.

Полезность. Одно из главных условий. Преимущества компании должны нести пользу целевой аудитории, иначе в них не будет смысла. Не имеет значения, какими блестящими характеристиками обладает продукт, если для потребителей не важны эти характеристики, они не понимают, зачем это нужно и не готовы за это платить.

Компании, не имеющие стратегических преимуществ, неизбежно потерпят неудачу в конкурентной борьбе. Выявление и создание таких

преимуществ, а также их регулярный пересмотр – важный процесс, без которого невозможно развитие бизнеса.

Особенно это необходимо в следующих случаях: Рост рынка и появление большого числа фирм с аналогичным продуктом и аналогичными конкурентными преимуществами. Они могут переманить часть клиентов, что приведет к падению доходов компании.

Сжатие рынка, его стагнация (замедление темпов роста). При недостаточном числе потенциальных клиентов и снижении их покупательной способности необходимо вести борьбу за каждого клиента. Для этого конкурентные преимущества должны быть весомыми.

Важно разобраться в том, какие у компании есть стратегические преимущества и что именно выгодно отличает ее от других фирм. Концентрироваться стоит на том, в чем компания превосходит своих соперников. Однако стратегические преимущества одной компании перед другими не всегда лежат на поверхности. Часто владельцы бизнеса сами не знают, в чем заключаются преимущества и недостатки их предложения. В таком случае их нужно выявить.

5 этапов выявления конкурентных преимуществ⁹²

Шаг 1. Определение сильных и слабых сторон. Необходимо определить как можно больше преимуществ предложения, формируемого компанией. Это может оказаться непростой задачей.

Чтобы это сделать, необходимо разложить предлагаемый продукт и всю деятельность компании на составляющие, сформулировать цепочку создания стоимости и оценить, какие виды деятельности создают потребительскую ценность, за которую готов платить клиент.

Иногда бывает трудно оценить собственные преимущества объективно. В этом случае поможет опрос клиентов или сотрудников самой компании.

Составив список преимуществ, необходимо выбрать 5-7 наиболее важных показателей, которые с точки зрения интересов компании в первую очередь могут повлиять на решение клиентов.

Шаг 2. Сравнение с конкурентами и оценка выявленных преимуществ. Конкурентные преимущества, равно как и недостатки, не существуют сами по себе.

Можно определить, насколько сильны предлагаемая бизнес-модель, продукт, сервис, персонал, только сравнив их с тем, что есть у прямых соперников.

Пример: Само по себе изготовление изделия за 5 дней – это, вроде, неплохо и довольно быстро. Но если конкуренты компании производят аналогичный товар за 4 дня, то 5-дневные сроки производства не будут вашим преимуществом.

Сроки станут сильной стороной компании, если она сможет сократить их до 3 дней.

Шаг 3. Оптимизация и план улучшений.

Необходимо оценить слабые стороны конкурентов компании и подумать, сможет ли компания превратить это в свои преимущества.

Пример: если прямые конкуренты компании осуществляют доставку в пределах МКАД, необходимо обдумать, как доставлять товар по всей России. Обдумать, как превратить сильные стороны, которые пока есть не только у компании, но и у её конкурентов, в стратегические преимущества. Например, у компании есть особые технологии производства, но их легко могут перенять конкуренты. Значит, необходимо запатентовать название технологии.

Шаг 4. Формулирование итоговых конкурентных преимуществ. Необходимо составить УТП на базе выявленных стратегических преимуществ. Продумать конкретную и четкую формулировку достоинств предложения. Указать убедительную причину купить именно данный продукт.

Шаг 5. Дифференциация (отстройка от конкурентов).

Выявив конкурентные преимущества, необходимо оповестить о них целевую аудиторию. Рекламное послание необходимо создавать по принципу рассказа о том, чем данное предложение лучше, чем оно отличается от предложений других фирм.

Также важно провести анкетирование ЦА и проанализировать типичные пожелания и жалобы потребителей. Выявить проблему, которая важна для большинства потенциальных клиентов и которая пока не решена существующими на рынке предложениями.

Как правило, в любой сфере и отрасли эта проблема касается одного из четырех параметров: качество товара, цена, сервис и профессионализм персонала, сроки. Каждый стремится приобрести товар исключительного качества, при этом быстро, как можно дешевле и получая внимание к своим потребностям и запросам.

Необходимо подумать, как данная проблема появилась, почему она до сих пор не решена конкурентами и за счет чего компания могла бы ее решить. Например, долгие сроки доставки могут быть связаны с необходимостью ждать, пока товар поступит от посредников или с центрального склада.

Необходимо оценить собственные информационные, материальные и трудовые ресурсы: достаточно ли их для решения данной задачи – в данном примере для создания и поддержания собственного товарного запаса.

Важно: концентрироваться на проблеме имеет смысл, если проблема актуальна для весомой части ЦА и при этом у конкурентов нет возможности ее решить.

Необходимо создать стратегическое конкурентное преимущество на базе решения выявленной проблемы.

Тем не менее, недостаточно просто выявить и создать конкурентные преимущества. Главная задача – донести их до потенциальных покупателей. Нужно сформулировать конкретные выгоды представленного предложения, понятные потребителю. Здесь есть ряд рекомендаций. Необходимо избегать абстрактных, расплывчатых формулировок и общих фраз, избегать клише и перечисления характеристик, которые есть у всех.

В процессе анализа собственного предложения компании проявятся не только его преимущества, но и недостатки. Слабые стороны могут стать причиной отказа клиентов от продукта или сервиса. С ними тоже надо поработать и переформулировать их так, чтобы они стали достоинствами.

Согласно теории Майкла Портера, есть три основных пути формирования конкурентных преимуществ и, соответственно, три основных стратегии конкуренции: Компания обладает собственными ноу-хау и инновационными технологиями и предлагает продукт с уникальными свойствами, имеющий большую ценность для потребителя, чем аналоги на рынке. То есть она продает продукт, за который потребители готовы платить и которого нет у конкурентов.

В этом случае ее стратегия – стратегия дифференциации. Компания не занимается разработками и не может предложить покупателям уникальный продукт. Зато она предлагает продукцию, аналогичную продукции конкурентов, но при этом за меньшую цену. Добивается она этого за счет снижения издержек на производство⁹³.

К примеру, у нее есть возможность экономии на масштабе, доступ к дешевому сырью или особые договоренности с поставщиками. То есть единственным стратегическим преимуществом данной компании выступает цена. В этом случае стоит остановить выбор на стратегии лидерства по издержкам. Важно, чтобы компания была способна удерживать низкую цену на протяжении долгого времени, а конкуренты не могли в ответ снизить цены на свою продукцию. При этом качество продукта должно быть не ниже среднего. Низкая цена при низком качестве не будет стратегическим преимуществом.

Компания специализируется на какой-то узкой сфере, на которой больше не специализируется никто, но в которой есть группа потребителей с неудовлетворенными запросами. Это может быть определенная ниша или географически ограниченный рынок. Компания направляет свои усилия на удовлетворение потребностей этой узкой группы потребителей. Данная стратегия – стратегия концентрации.

Стратегическое преимущество – это уникальные характеристики вашего товара, услуги или компании, которые выгодно отличают вас от других аналогичных субъектов на рынке и которые не могут быть скопированы вашими конкурентами. Они могут быть основаны на наличии

особой технологии или ресурсов, возможности снизить издержки и соответственно цены на продукцию, готовности решить проблему, важную для большей части потребителей.

Именно стратегические преимущества позволяют отстроиться от конкурентов. Стратегические преимущества выявляются только путем сравнения вашего предложения с тем, что есть у других похожих компаний.

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ХАРАКТЕРИСТИКА УСЛОВИЙ КОНКУРЕНЦИИ МЕЖДУНАРОДНЫХ КОМПАНИЙ В ГЛОБАЛЬНОЙ ЭКОНОМИКЕ

Актуальность выбранных тем обусловлена процессом глобализации мировой экономики, усилением конкуренции, а также нестабильностью и изменчивостью внешней среды. Это стало неотъемлемой чертой функционирования различных организаций в современной рыночной экономике, выдвигая на первый план методы конкурентной борьбы и способы повышения конкурентоспособности компании на внутреннем и мировом рынках.

Цель исследования: Изучить конкурентоспособность Xiaomi на зарубежных рынках и получить конкурентные преимущества.

Объект исследования: конкурентное преимущество Xiaomi на зарубежных рынках.

Тема исследования: Методы повышения уровня конкурентных преимуществ Xiaomi на зарубежных рынках.

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CHARACTERISTICS OF THE COMPETITIVE CONDITIONS OF INTERNATIONAL COMPANIES IN THE GLOBAL ECONOMY

The relevance of the selected topics is due to the process of globalization of the world economy, increased competition, and the instability and variability of the external environment. It has become an indispensable feature of the operation of various organizations in the modern market economy, highlighting competition methods and methods to improve the company's competitiveness in the domestic and global markets.

Research purpose: To study Xiaomi's competitiveness in foreign markets and gain competitive advantages.

Research object: Xiaomi's competitive advantage in foreign markets.

The theme of the research: Methods to improve the level of Xiaomi's competitive advantage in foreign markets.

Исторические корни глобализации уходят в процесс интернационализации, который с позиции отдельных стран развивается в

двух направлениях — вовнутрь и вовне. Развитие вовнутрь означает, что процесс идет по пути расширения использования иностранного капитала, товаров, услуг, технологии, информации в сфере внутреннего потребления данной страны.

Развитие вовне характеризуется преобладанием ориентации стран на мировой рынок и глобальной экспансией фирм в торговле, инвестициях и других сделках. Главным следствием этого процесса наряду с ростом взаимозависимости государств является пространственная и институциональная интеграция рынков.

Важным компонентом интернационализационного процесса и одним из основных источников глобализации является феномен транснационализации, в рамках которого определенная доля производства, потребления, экспорта, импорта и дохода страны зависит от решений международных центров за пределами данного государства.

В качестве ведущих сил здесь выступают транснациональные компании (ТНК), которые сами являются одновременно и результатом, и главными действующими лицами интернационализации.

Процесс глобализации ускорился в последние десятилетия, когда различные рынки, в частности капитала, технологии и товаров, а в известной степени и труда, становились все более взаимосвязанными и интегрированными в многослойную сеть ТНК. Эти весьма влиятельные и хорошо организованные образования постоянно стремятся к созданию новых связей в производстве, продуктовых разработках, дизайне, товарной универсализации и маркетинге.

Примерно 1/5 дохода промышленного развитых стран и 1/3 — развивающихся стран напрямую зависят от экспорта. По оценкам, в мире 40-45% занятых в обрабатывающей промышленности и примерно 10-12% в сфере услуг прямо или косвенно связаны с внешней торговлей, которая остается основным средством перераспределения мирового дохода.

В настоящее время все больше и больше стран пытаются выйти на мировой рынок со своей национальной продукцией и старается конкурировать на нем. С каждым годом количество стран, торгующих на мировом рынке, увеличивается, а следовательно, растет международная конкуренция.

Проблема международной конкуренции стала очень актуальна в наши дни. Сегодня ей озабочены правительства и промышленные круги любой страны. В ситуации обостряющейся мировой конкуренции роль государства возрастает по мере смещения конкурентной основы в сторону приобретения и усвоения новых знаний.

Конкурентное преимущество, в свою очередь, возникает и поддерживается вследствие существующей локализации проходящих процессов. Отличие национальных ценностей, культуры, структуры экономики, существующих организаций и исторического развития — все это вносит свой вклад в достижение успешной конкурентоспособности. При этом

существуют большие различия в моделях конкурентоспособности каждой из стран, так как ни одна страна в мире не в состоянии быть конкурентоспособной во всех или хотя бы в большинстве отраслей.

В конечном итоге некоторые страны достигают успеха в определенных отраслях, поскольку их внутренние условия оказываются наиболее благоприятными, динамичными и перспективными.

Рост международной конкуренции обусловлен увеличением числа участников международных торговых операций — за пределы национального рынка выходят не только крупные, но также средние и небольшие компании, что повышает плотность конкурентной среды.

На 2025 год общая тенденция такова, что конкурируют сегодня не только фирмы, но и государства. Традиционно высококонкурентными считаются Япония, США, Германия и Швейцария, экономики которых оперативно адаптируются к мировому спросу, а национальная специализация максимально отвечает внутренним возможностям.

На пятки лидерам наступают новые индустриальные страны: Аргентина, Южная Корея, Мексика, Тайвань, Сингапур, Гонконг, Бразилия. Быстрыми темпами растут экономики Индонезии, Малайзии, Таиланда, Чили, Турции, Ирана.

Перспективными в плане повышения конкурентоспособности считаются Египет, Вьетнам, Бангладеш, Пакистан и Нигерия. Конкуренция — благо для экономики страны и для международного рынка.

Благодаря конкуренции быстрее обновляются товарные линейки, более технологичной и функциональной становится даже привычная продукция, повышается качество товаров, а максимальная прибыль происходит не за счет ухудшения потребительских характеристик, а за счет снижения производственных издержек.

Особое значение для конкуренции имеет научно-технический прогресс, выступающий не только средством конкурентной борьбы, но и катализатором конкуренции. Именно научно-технический прогресс открывает обширные возможности для расширения и обновления номенклатуры товаров, дает возможность реагировать на рыночный спрос и изменение потребительских требований к качеству и функционалу товаров.

Благодаря научно-техническому прогрессу и конкуренции на рынок выходят новые «товары-пионеры», а сложные дорогостоящие товары становятся доступными большому количеству потребителей.

Результаты анализа мирового экспорта промышленных товаров показывают, что доля наукоемких товаров, обновляющихся под влиянием научно-технического прогресса, растет — страны-производители все активнее экспортируют интегральные схемы, компьютеры и другие электронные средства коммуникации, аппаратуру для звуко- и видеозаписи, промышленное оборудование, различные двигатели, бытовое и промышленное электротехническое оборудование.

Конкурентоспособность страны на мировом рынке оценивается более чем по 340 показателям.

Основными считаются: темпы роста экономики и экономический потенциал, эффективность промышленного производства, степень развития науки и техники, емкость и динамичность внутреннего рынка, гибкость финансовой системы государства, степень государственного регулирования экономики, уровень квалификации трудоспособного населения, обеспеченность экономики трудовыми ресурсами, социально-экономическая ситуация, внутривнутриполитическая обстановка.

В рамках данного пункта проведем исследование условий конкуренции международных компаний в глобальной экономике.

Итак, ситуация на международном рынке после пандемии коронавирусной инфекции и после событий, произошедших в 2022 году, характеризуется значительными изменениями. Данные изменения актуально рассматривать не только применительно к исследуемой компании, но и к БРИКС в целом.

Если говорить о размерах выручки, то важно отметить факт начала восстановления в 2023 году тех секторов, которые больше всего пострадали в результате пандемии. Показатели выручки существенным образом зависят от сектора работы компании, и от региона, в котором она функционирует.

Здесь можно сравнить (по показателям выручки) компании США Амвей и Гербалайф – как лидеров по размеру полученной выручки, и противопоставить их компании Фаберлик (Россия), где показатель выручки довольно скромный.

Если говорить о проблематике глобальной цепочки поставок, то все проблемы помогла выявить именно пандемия. В странах БРИК отмечается процесс локализации поставок. Также необходимо отметить существенный рост цен на производимые компаниями товары и услуги.

Говоря о доверии стран друг к другу на момент проведения анализа, можно отметить в качестве негативного фактора политическую нестабильность на мировом уровне. Такие государства, как Россия и Китай испытывают трудности в аспекте международной торговли. В частности сказываются санкции, наложенные странами запада.

Если проводить анализ применительно к компании XIAOMI, то можно отметить, что показатель выручки компании динамично растет, компания усиленно расширяет территорию своего влияния на мировом уровне, несмотря на жесткую конкуренцию с такими компаниями, как SAMCUNG и APPLE.

Цепочки поставок компании адаптированы к возникновению возможных раздражителей извне и позволяют оперативно реагировать на возможные сбои текущего характера. Ценовая политика XIAOMI отмечается как конкурентоспособная. Компания применяет доступные технологии, и это способствует привлечению новых клиентов, особенно в развивающихся государствах.

Расширение позиций рынка в странах БРИКС компании XIAOMI помогает укрепить позиции компании на международной арене.

Сформируем таблицу с анализом:

Таблица 1- Анализ условий конкуренции международных компаний в глобальной экономике

Компания/Критерий	Глобализация и доступ к рынкам	Инновации и технологии	Регулирование и стандарты	Изменение потребительских предпочтений	Конкуренция по цене и качеству	Кросс-культурные аспекты	Экологические и социальные факторы	Агрессивная маркетинговая стратегия	Сетевое взаимодействие
Амвей (США)	Пристутствует на рынке более чем 100 стран	Продуктовая линейка обновляется постоянно	Стандарты качества и безопасности строгорегулируются	Продукция компании адаптирована к современному тренду ЗОЖ (здорового образа жизни)	Ассортимент продукции широкий, цены – различные, диапазон	Локализация производства, линейки позволяют работать для разных культур	Применяются экологические технологии для производства упаковки продукции	Исползование прямых продаж и сетевого маркетинга	Обширная сеть партнеров и дистрибьютеров
Натура и Ко (Бразилия)	Растущая популярность не только на рынке Бразилии, но и на	Упор делается на продукты органического происхождения	Соблюдение стандартов на местном уровне	Рост на приобретение экологически чистых продуктов	Ценовая категория товаров – более доступная по сравнению с конкурентами	Традиции и предпочтения местного населения берутся за	Продвигается аспект социальной ответственности	Исполняются различные техники продвижения, в том числе и	Реализуется партнерство с производителями на местном уровне

	территории государств Латинской Америки				при условии и сохранения уровня качества	основу		социальные сети	
Herbali fe (США)	Границы присутствия определяются территориями более чем 90 государств мира	Линейка продукции обновляется на регулярной основе	Стандарты и нормы пищевой безопасности соблюдаются	Производство направлено на рост интереса потребителей к ЗОЖ	Ключевой упор делается на качество продукции. Уровень производимой продукции: премиум.	Маркетинговые инструменты могут быть адаптированы под различные рынки.	Реализуются программы поддержки уровня здоровья и благополучия.	Используются инструменты сетевых маркетинга и участие дистрибьюторов.	Есть довольное обширная дистрибуторская сеть.
EXP (США)	Быстрое расширение деятельности как на территории США, так и на международных	Первыми начали исполнять роль технологий по управлению недвижимостью.	Отличаются соответствием нормам и стандартам, установленным для недвижимости	Адаптируются к современным онлайн технологиям	Могут конкурировать в аспекте услуг и взимаемых за них комиссионных платежей.	Модели бизнеса варьируются в зависимости от государства	Экосистема для агентов динамично развивается	Ключевой упор делается на продвижение продукции в формате онлайн	Формирование сети агентов, использующих платформу для осуществления своей деятельности.

	рынка х.		жимо сти.						
Форверк (Германия)	Отмечается присутствие как на европейском рынке, так и на международных рынках	Отмечается частое создание и выпуск на рынок инновационных продуктов	Стандарты качества соблюдается	Ключевой акцент делается на здоровье и благополучие потребителя	Товары конкурентоспособны как в аспекте цены, так и в аспекте качества	Продукция адаптируется для разных рынков	Производство носит устойчивый и экологосберегающий характер	Маркетинг овыми инструментами выступают социальные сети или рекомендации других потребителей	Существует обширная сеть дистрибьюторов, работающих на независимой основе
ПМ Интернешнэл (Люксембург)	Компания работает более чем в 35 странах мира	Для осуществления дистрибуции применяются инновационные технологии	Компания придерживается стандартов Европейского уровня	Отмечается рост спроса на натуральные продукты	Упор в компании делается на качество и инновационные технологии	Маркетинг овые инструменты адаптируются в зависимости от территории применения	Отмечается использование экологически чистых партнерских практик	В аспекте онлайн продвижения используется инструмент прямых продаж	Дистрибьютерская сеть выступает мощным инструментом для повышения уровня конкурентоспособности

Коммунальн ый склад (Велик обрита ния)	Ключ евой сегме нт – рыно к Велик обрита нии, но есть выход на европ ейски й рыно к.	Для осущ ествл ения управ ления произ водст вом и хране нием товар ов испол зуют ся совре менн ые техно логии .	Прод укция компа нии соотв етств ует станд артам качес тва местн ого харак тера.	Компан ия практик ует методы адаптац ии клиенто в к сфере логисти ки.	В рамках конкур ентных отличи й можно отмети ть скорос ть и надежн ость.	В аспек те деятел ьнос ти комп ании учит ываю тся мест нын особе ннос ти	Компа ния характе ризуетс я устойч ивым развит ием и исполь зовани ем эколог ически чистых матери алов.	В качес тве марке тинго вого инстр умент а отмеч ается испол зова ние цифр овых платф орм.	Отмечае тся партнер ство на правах сотрудн ичества с другими компани ями.
Коуэй (Южна я Корея)	Прис утств ует на рынка х межд унаро дного уровн я.	Пред лагае т иннов ацион ные проду кты и техно логии .	Прод укция , произ води мая компа нией, соотв етств ует станд артам межд унаро дного класс а.	Продук ция адаптир ована под здоровь есберег ающий тренд.	По параме тру качеств а продук ции сущест венно превос ходит конкур ентов.	При прои зводс тве и реали зации прод укци и учит ываю тся особе ннос ти на мест ном уров не.	Произв одство ориент ирован о на консер вативн ые тенден ции. Редко примен яются иннова ционн ые технол огии.	Реали зуют проду кцию посре дство м испол зова ния интер нет- ресур сов.	В наличии развитая дистриб ьюторск ая сеть.

Сунра н (США)	Ключ евой акцен т делае тся на рынке США	В основ е форм ирова ния иннов ацион ных проду ктов лежат запро сы потре бителей	Прод укция компа нии соотв етств ует норм ам местн ого уровн я	Компан ия осущес твляет свою деятель ность сообраз но поддер жанию здоровь есберег ающих трендов .	Доступ ная цена продук ции выступ ает в качеств е ключев ого конкур ентног о преиму щества.	Прод укци я адапт иров ана под разли чные груп пы потре бителей.	Отмеча ется наличи е консер вативн ых устойч ивых практи к	В качес тве марке тинго вого инстр умент а компа ния приме няет метод пря мых прода ж	Компан ия находит ся в постоян ном процесс е налажив ания связей с другими компани ями.

В аспекте анализа фактора глобализации и доступа к рынкам необходимо учитывать тот факт, что работа международных компаний осуществляется в условиях глобализации, и это дает возможность выхода на новые рынки. Тем не менее, выход на международные рынки дает и иной эффект – столкновение с более сильными конкурентами.

Говоря об инновационных технологиях, можно отметить, что в деятельности компании они играют ключевую роль. Введение новых изобретений и технологий способствует существенному повышению уровня конкурентоспособности организации.

Несмотря на то, что конкурентная борьба порой бывает достаточно жесткой – нарушение законодательства недопустимо. Также важно учитывать и тот факт, что предпочтения потребителей имеют тенденцию к изменению. Поэтому компаниям важно оперативно реагировать на изменения предпочтений потребителя.

Говоря о конкуренции, не следует забывать о соотношении цены и качества продукции, ведь только при соблюдении пропорциональности между данными показателями можно добиться высокого уровня конкурентоспособности компании. Также для достижения высокого уровня конкурентоспособности маркетинговые инструменты должны быть адаптированы к культуре потенциальных потребителей.

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ВОПРОСЫ ОЦЕНКИ И УПРАВЛЕНИЯ КАДАСТРОМ ВОДНЫХ РЕСУРСОВ НА ОСНОВЕ ГИС-ТЕХНОЛОГИЙ

Аннотация: В статье рассматриваются современные методы оценки водных ресурсов с использованием современных ГИС-программ, их важная роль в ведении водного кадастра, научные и практические аспекты, необходимые для его разработки, а также описываются перспективы развития.

Ключевые слова: ГИС, Природные водные ресурсы, Водный кадастр, классификация космических снимков, гидрометрическое измерение, WGS-84,

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ASSESSMENT AND MANAGEMENT OF WATER RESOURCES CADASTRE BASED ON GIS TECHNOLOGIES

Abstract: The article discusses modern methods of water resources assessment using modern GIS programs, their important role in maintaining a water cadastre, scientific and practical aspects necessary for its development, and describes development prospects.

Keywords: GIS, Natural water resources, Water cadastre, classification of space images, hydrometric measurement, WGS-84.

В мире приоритетное внимание уделяется использованию современных ГИС-технологий в снижении воздействия хозяйственной деятельности человека на окружающую среду, в том числе при разработке и совершенствовании мер по оценке и ведению кадастра водных ресурсов.

Особое значение придается вопросам перераспределения водных ресурсов, использования каскадов крупных водохранилищ, орошения больших площадей земель, их рационального использования. В настоящее время развитые страны поставили перед собой цели по выявлению экологических рисков и изучению сильных и многогранных воздействий водохозяйственной деятельности на окружающую среду. В этой связи особое

внимание уделяется оценке, учету и повышению эффективности управления значительными антропогенными нагрузками на окружающую среду вследствие различных воздействий. Учитывая, что в мире, в том числе и в Узбекистане, расположенном в низовьях крупных рек, под влиянием изменения климата усложняются водные и экологические проблемы, в условиях увеличения спроса на воду и сокращения водообеспеченности, необходима разработка и внедрение методов, позволяющих своевременно и полно оценивать воздействие водохозяйственной деятельности и объектов на окружающую среду, повышая точность и оперативность оценки. Поэтому изучение многогранного и комплексного воздействия водохозяйственной деятельности и объектов на окружающую среду, разработка и совершенствование научно обоснованных методов, позволяющих производить его быструю и высокоточную оценку, являются актуальными задачами.

В современных условиях глобального изменения климата рациональное использование водных ресурсов и исследование эколого-географических особенностей водопользования на основе показателей водного кадастра с применением ГИС-технологий являются одними из актуальных задач, стоящих перед учеными всего мира.

В настоящее время водные кадастровые исследования во всем мире представляют собой регламентированный, постоянно обновляемый и при необходимости уточняемый свод сведений о водных объектах, водных ресурсах, режиме, качестве и использовании вод, а также о водопользователях, водопотребителях и водохозяйственных сооружениях, водоохраных зонах, прибрежных зонах и зонах санитарной охраны, питьевых и сточных водах.

Предметом водного кадастра является комплексное изучение и оценка природных водных ресурсов, их использования по количеству и качеству, права водопользования, а также использование вод в хозяйственных целях.

Ведение водного кадастра немыслимо без ГИС-технологий, позволяющих хранить и обрабатывать необходимую информацию о воде и водохозяйственных объектах, водных ресурсах, режиме, качестве и использовании вод, а также о водопользователях и водопотребителях.

Исходя из вышеизложенного, следует отметить, что ГИС-технологии представляют собой хорошо развитую систему, имеющую в своем составе комплексную базу данных, собираемых и анализируемых в различных отраслях народного хозяйства с использованием различных известных на сегодняшний день методов и инструментов. В настоящее время без географической информационной системы сложно собирать, обрабатывать, анализировать и визуализировать большие объемы текстовых, графических и других данных, связанных с географией и экологией.

Сегодня ГИС-технологии стали в значительной степени универсальными, развиваются очень быстро и охватывают все сферы деятельности человека. В этой связи соответствующими организациями

Узбекистана проводятся исследования по созданию Национальной географической информационной системы.

Основной задачей ведения водного кадастра с использованием ГИС-технологий является получение и хранение достоверной информации о водных ресурсах и водных объектах путем постоянного совершенствования технологии сбора, обобщения, хранения и представления информации на современном уровне с минимальными затратами.

Особенно остро эта проблема стоит в сельском хозяйстве, которое является основным потребителем воды, а также существует много проблем в обеспечении качественной водой для питьевых и промышленных нужд. Основными источниками загрязнения воды являются промышленные предприятия, сельскохозяйственная деятельность, а также коммунально-бытовая деятельность. Использование различных минеральных удобрений в сельском хозяйстве, возрастающая роль различных химикатов в повседневной жизни, частый сброс коммунально-бытовых и промышленных сточных вод в реки и канализацию без надлежащей очистки способствуют интенсивному загрязнению водных ресурсов. В настоящее время значительная часть минеральных удобрений и химических пестицидов, используемых на сельскохозяйственных полях, приводит к загрязнению поверхностных и грунтовых вод через коллекторно-дренажные воды. В связи с этим особое внимание уделяется экологическому анализу изменений качества воды и изучению влияния антропогенных факторов.

Учет количества и состояния водных объектов осуществляется методами картографии, гидрогеологии и геодезии с применением геоинформационных технологий в зависимости от размеров, состояния, изученности и значимости объектов.

Изучение режима водных объектов осуществляется стандартными приборами по типовым методикам, утвержденным соответствующими органами и согласованным с Узгидрометом.

Тематические слои водного кадастра формируются на базовой картографической основе для каждого вида государственного кадастра по видам объектов и видам информации (регистрация, учет, оценка).

Тематические слои по водному кадастру формируются в масштабах 1:5000, 1:10000, 1:25000 исходя из характера государственных кадастров и методики определения местоположения объектов, а уполномоченные органы обеспечивают, чтобы погрешность пространственного расположения объектов не превышала нормативов, установленных требованиями данного масштаба.

Математическая основа тематических слоев водного кадастра должна соответствовать математической основе базовой картографической основы, а предоставленные данные должны быть в координатах Всемирной геодезической системы 1984 года (WGS-84).

При формировании тематических слоев водного кадастра изображается взаимосвязь и близость векторных объектов (точки, линии, площади) с учетом их пространственного расположения.

Тематические слои базовой картографической основы водного кадастра и картографические основы, необходимые для ведения соответствующих геоинформационных систем государственных кадастров, формируются специально уполномоченным органом в области ведения государственных кадастров и предоставляются уполномоченным органам в режиме реального времени путем интеграции посредством геоинформационной системы.

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ТУПРОҚҚА ТУРЛИ УСУЛДА ИШЛОВ БЕРИШНИНГ ТУПРОҚ ҲАЖМ ОҒИРЛИГИГА ТАЪСИРИ

***Аннотация.** Тупроқни икки ярусли плуг билан 28-30 см чуқурликда шудгорлаш, оддий плуг билан шудгорлашга нисбатан тупроқнинг 0-30 см қатламида 0,03 г/см³ гача, 30-50 см қатламида 0,02 г/см³ гача камайтиради, бу эса ўз навбатида ўсимликларнинг яхши ўсиб ривожланишида ижобий таъсир этади.*

***Калим сўзлар:** ғўза, ғалла, омов, назорат, плуг, қатлам, вариант, тупроқ.*

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EFFECT OF DIFFERENT SOIL TREATMENT ON SOIL VOLUME WEIGHT

***Abstract.** Plowing the soil with a two-layer plow at a depth of 28-30 cm, compared to plowing with a regular plow, reduces soil moisture to 0.03 g/cm³ in the 0-30 cm layer and to 0.02 g/cm³ in the 30-50 cm layer, which in turn reduces the growth of plants. has a positive effect on good growth and development.*

***Key words:** cotton, grain, plow, control, plow, layer, variant, soil.*

Кириш. М.В.Мухамеджановнинг [88; 22-23-б.] таъкидлашича тупроққа асосий ишлов беришда тупроқнинг устки қатлами пастга ағдариб ташланиши керак. Натижада ернинг юза қисмини ғоваклиги ортиб, унинг агрофизик хоссалари ва озик режими яхшиланади, шу билан бирга бегона ўтлар уруғлари, ҳар хил зараркунанда ва касаллик тарқатувчилар тупроқ юзасидан унинг чуқур пастки қатламларига ағдариб ташланади. Пастки қатламдаги структураси бузилмаган, озик моддалар ва сув-физик хоссалари яхши бўлган тупроқ юза қисмга олиб чиқади.

Олиб борилаган тадқиқотимизда (1:1 тизимида) ғўза-ғалла навбатлаб экиш схемасида тупроққа ишлов бериш усуллариининг самарадорлиги ўрганилган бўлиб, бунда ғўза майдонни икки хил усулда, яъни оддий омовда

ағдармасдан шудгорлаш ҳамда икки ярусли омоч ёрдамида ағдариб шудгорланиб, икки ҳил фон яратилди.

Тадқиқот йилларида тажриба вариантларини жойлаштиришдан олдин тупроқнинг агрофизик хоссаларидан ҳажм оғирлиги ҳамда ғовакликни аниқлаш мақсадида даланинг беш нуқтасидан конверт усулида тупроқнинг 0-30 ва 30-50 см қатламларидан намуналар олиниб, таҳлил қилинди.

Олинган натижалар шуни кўрсатадики, тажриба олиб боришдан олдин тупроқнинг 0-30 см қатлами таҳлил қилинганида ҳажм оғирлик ўртача $1,34 \text{ г/см}^3$ ни, ғоваклик эса 48,3 фоизни кўрсатган бўлса, ушбу кўрсаткичлар тупроқнинг 30-50 см қатламида ҳажм оғирлик $1,42 \text{ г/см}^3$ га тенг бўлиб, ғоваклиги мос равишда 45,4 фоизни ташкил этганлиги аниқланди.

2022 йил баҳорда чигит экишдан олдин вариантлар кесимида тупроқнинг ҳажм оғирлиги аниқлаб чиқилди.

Олинган маълумотларнинг кўрсатишича, тупроқни оддий плуг билан 28-30 см чуқурликда шудгорланган 1-вариант (назорат)да тупроқнинг ҳажм оғирлиги ҳайдов (0-30 см) қатламда $1,25 \text{ г/см}^3$ ни, ҳайдов ости (30-50 см) қатламида $1,36 \text{ г/см}^3$ ни ташкил этган бўлса, бу кўрсаткич икки ярусли плуг билан 28-30 см чуқурликда шудгорланган 4-вариант (назорат)да тупроқнинг 0-30 см қатламда $1,24 \text{ г/см}^3$ ни, 30-50 см қатламда эса $1,34 \text{ г/см}^3$ ни ташкил этгани ҳолда оддий плугда ишлов берилган вариантга нисбатан тупроқнинг 0-30 см қатламида $0,01 \text{ г/см}^3$ гача, 30-50 см қатламида $0,02 \text{ г/см}^3$ гача камайганлиги кузатилди.

Тупроқни оддий плуг билан 28-30 см чуқурликда шудгорлаб, шудгор олдида Дафосат гербициди қўлланилган 2-вариантда тупроқнинг ҳажм оғирлиги ҳайдов (0-30 см) қатламда $1,27 \text{ г/см}^3$ ни, ҳайдов ости (30-50 см) қатламида эса $1,37 \text{ г/см}^3$ ни кўрсатиб, бу кўрсаткичлар икки ярусли плуг билан 28-30 см чуқурликда шудгорлаб, шудгор остига Дафосат гербициди қўлланилган 5-вариантда тупроқнинг ҳажм оғирлиги 0-30 см қатламда $1,23 \text{ г/см}^3$ ни, 30-50 см қатламда эса $1,35 \text{ г/см}^3$ га тенг бўлиб, оддий плуг билан ишлов берилган вариантга нисбатан тупроқнинг 0-30 см қатламида $0,04 \text{ г/см}^3$ гача, 30-50 см қатламида $0,02 \text{ г/см}^3$ гача камайганлиги аниқланган бўлса, 3-вариантда тупроқнинг ҳажм оғирлиги 0-30 см қатламда ўртача $1,26 \text{ г/см}^3$ ни, 30-50 см қатламида $1,37 \text{ г/см}^3$ ни, 6-вариант таҳлил қилинганида 0-30 см қатламда $1,25 \text{ г/см}^3$ ни, 30-50 см қатламда эса $1,35 \text{ г/см}^3$ ни ташкил этиб, оддий плуг билан шудгор қилинган вариантга нисбатан тупроқнинг 0-30 см қатламида $0,01 \text{ г/см}^3$ гача, 30-50 см қатламида $0,02 \text{ г/см}^3$ гача камайганлиги қайд этилди.

Ўўзанинг амал даври охирига келиб, тупроқнинг ҳажм оғирлиги вариантлар кесимида аниқланганида, вегетация даври давомида ўтказилган агротехник тадбирлар тупроқнинг физик хоссаларига сезиларли равишда таъсир этганлиги кузатилди.

Жумладан, тупроқни оддий плуг билан 28-30 см чуқурликда шудгорланган 1-вариант (назорат)да тупроқнинг ҳажм оғирлиги ҳайдов (0-30 см) қатламда ўртача $1,33 \text{ г/см}^3$ ни, ҳайдов ости (30-50 см) қатламида эса $1,41$

г/см³ ни, икки ярусли плуг билан 28-30 см чуқурликда шудгорланган 4-вариант (назорат) таҳлил қилинганида тупроқнинг 0-30 см қатламда 1,31 г/см³ ни, 30-50 см қатламда бу кўрсаткич 1,38 г/см³ ни ташкил этиб, оддий плугда ишлов берилган вариантга нисбатан тупроқнинг 0-30 см қатламида 0,02 г/см³ гача, 30-50 см қатламида эса 0,07 г/см³ гача камайганлиги аниқланди (1-жадвал).

1-жадвал

Тупроққа турли усулда ишлов беришни унинг хажм массасига таъсири (ғўза, 2023-2024 йй.)

Вариант	Қатламлар	0-30	30-50	0-30	30-50	0-30	30-50
Оддий омочда 28-30 см чуқурликда шудгорлаш							
1	Экишдан олдин	1,25	1,36	1,30	1,40	1,30	1,39
2		1,27	1,37	1,32	1,43	1,32	1,41
3		1,26	1,37	1,30	1,41	1,30	1,38
Ўртача		1,26	1,37	1,31	1,41	1,31	1,39
1	Амал даври охирида	1,33	1,41	1,34	1,45	1,34	1,44
2		1,34	1,41	1,36	1,44	1,36	1,42
3		1,33	1,40	1,35	1,43	1,34	1,41
Ўртача		1,33	1,41	1,35	1,44	1,35	1,42
Икки ярусли омочда 28-30 см чуқурликда шудгорлаш							
4	Экишдан олдин	1,24	1,34	1,28	1,40	1,27	1,32
5		1,23	1,35	1,30	1,42	1,25	1,30
6		1,25	1,35	1,27	1,39	1,27	1,31
Ўртача		1,24	1,35	1,28	1,40	1,26	1,31
4	Амал даври охирида	1,31	1,38	1,33	1,43	1,33	1,42
5		1,32	1,39	1,35	1,45	1,35	1,44
6		1,30	1,37	1,33	1,42	1,34	1,41
Ўртача		1,31	1,38	1,34	1,43	1,34	1,42

Тупрокни оддий плуг билан 28-30 см чуқурликда шудгорлаб, шудгор олдиан Дафосат гербициди қўлланилган 2-вариантнинг 0-30 см қатламида тупроқнинг ҳажм оғирлиги 1,34 г/см³ ни, 30-50 см қатламида эса 1,41 г/см³ ни, икки ярусли плуг билан 28-30 см чуқурликда шудгорлаб, шудгор остига Дафосат гербициди қўлланилган 5-вариантнинг 0-30 см қатламида 1,32 г/см³ ни, 30-50 см қатламда эса 1,39 г/см³ га тенг бўлиб, оддий плуг билан ишлов берилган вариантга нисбатан тупроқнинг 0-30 см қатламида 0,02 г/см³ гача, 30-50 см қатламида 0,02 г/см³ гача, чигит экиш билан бирга Стомп гербициди қўлланилган 3-вариант таҳлил қилинганида эса тупроқнинг 0-30 см қатламда ҳажм оғирлик 1,33 г/см³ ни, 30-50 см қатламида 1,40 г/см³ ни, ушбу кўрсаткич 6-вариантда 0-30 см қатламда 1,30 г/см³ ни, 30-50 см қатламда эса 1,37 г/см³ ни кўрсатиб, оддий плуг билан ишлов берилган вариантга нисбатан тупроқнинг 0-30 см қатламида 0,03 г/см³ гача, 30-50 см қатламида 0,03 г/см³ гача камайганлиги кузатилди.

Демак, олинган натижалардан кўриниб турибдики, тупроққа ишлов бериш усуллари тупроқнинг ҳажм оғирлигига сезиларли таъсир этганлиги аниқланди.

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ПРИМЕНЕНИЕ ПОНЯТИЯ ПРОИЗВОДНОЙ В ЭКОНОМИКЕ

***Аннотация.** В данной работе мы изучали решения экономических задач с помощью производной функции. Понятие производной широко употребляются в задачах о приросте доходов, приросте спроса, прироста предложений.*

***Ключевые слова:** предельные издержки, эластичность функции, выручка, производная, эластичность спроса, цена, предложение, средние затраты.*

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APPLICATION OF THE CONCEPT OF DERIVATIVE IN ECONOMICS

***Abstract:** This paper explores the use of derivatives in solving economic problems. The concept of the derivative is widely applied in tasks related to the increase of income, demand, and supply.*

Keywords: *marginal costs, function elasticity, revenue, derivative, demand elasticity, price, supply, average costs.*

Экономический смысл производной состоит в том, что она выступает как скорость изменения некоторого экономического процесса с течением времени или по отношению к другому исследуемому фактору например:

Издержки производства K однородной продукции есть функция количества продукции x . Поэтому можно записать:

$$K=K(x).$$

Предположим, что количество продукции увеличивается на Δx . Продукция $x + \Delta x$ соответствуют издержки производство продукции

$$K(x + \Delta x).$$

Следовательно, приращению количества продукции Δx соответствует приращение издержек производства продукции

$$\Delta K = K(x + \Delta x) - K(x).$$

Среднее приращение издержек производства есть

$$\frac{\Delta K}{\Delta x}$$

Это есть при

$$\lim_{\Delta x \rightarrow 0} \frac{\Delta K}{\Delta x} = K'(x)$$

называется предельными издержками производства.

Аналогично, если мы обозначим через $U(x)$ выручку от продажи x единиц товара, то предел

$$\lim_{\Delta x \rightarrow 0} \frac{\Delta U(x)}{\Delta x} = U'(x)$$

мы будем называть предельной выручкой.

ПРИМЕР 1. Издержки производства K зависит от объема продукции x по формуле

$$K = 100x - \frac{1}{30} x^3$$

Определить предельные издержки, если объем производства составляет: а) 10 единиц ; б) 15 единиц продукции.

ИМЕЕМ:

$$K' = 100 - \frac{1}{10} x^2,$$

откуда

$$K'(10) = 100 - \frac{1}{10} \cdot 10^2 = 90; K(15) = 100 - \frac{1}{10} \cdot 15^2 = 77,5.$$

Это означает, что при объеме производства в 10 единиц продукции издержки по изготовлению следующей (одиннадцатой) единицы продукции составит 90, при объеме производства в 15 единиц они составят 77,5.

ПРИМЕР 2. Функции цен спроса на какой-либо товара определяется формулой

$$p = 15 - 3x,$$

где x – спрос, а p – цена.

Выручка от продажи товара есть

$$u = x(15 - 3x) = 15x - 3x^2$$

откуда $u' = 15 - 6x$. Если, например, $x = 2$, то $u'(2) = 3$.

Это означает, что если спрос возрастет с 2 до 3 единиц, то выручка возрастет приблизительно на 3 единицы.

2. Эластичность функции – это показатель, который показывает, как одна величина изменяется относительно изменения другой. Во многих задачах удобнее исчислить процент прироста (относительное приращение) зависимой переменной, соответствующее проценту прироста независимой переменной. Это приводит нас к понятию эластичности функции (иногда ее называют относительной производной)

Дана функция $y = f(x)$. Предположим, что приращение независимой переменной x есть Δx , а относительное приращение зависимой переменной y есть $\frac{\Delta y}{y}$. Соответствующее приращение зависимой переменной есть

$$\Delta y = f(x + \Delta x) - f(x)$$

а относительное приращение зависимой переменной есть $\frac{\Delta y}{y}$.

Отношение относительного приращения функции (зависимой переменной) к относительному приращению независимой переменной составляет:

$$\frac{\Delta y}{y} : \frac{\Delta x}{x}.$$

Это соотношение показывает, во сколько раз относительное приращение функция больше относительного приращения независимой переменной. Его можно записать также и в следующем виде :

$$\frac{\Delta y}{y} : \frac{\Delta x}{x} = \frac{\Delta y}{\Delta x} \cdot \frac{x}{y} \quad (1)$$

Если существует производная функция $y = f(x)$, то

$$\lim_{\Delta x \rightarrow 0} \left(\frac{\Delta y}{y} : \frac{\Delta x}{x} \right) = \lim_{\Delta x \rightarrow 0} \left(\frac{x}{y} \cdot \frac{\Delta y}{\Delta x} \right) = \frac{x}{y} \lim_{\Delta x \rightarrow 0} \frac{\Delta y}{\Delta x} = \frac{x}{y} f'(x) = \frac{x}{y} \cdot \frac{dy}{dx}.$$

Передел(2) соотношения между относительным приращением функции $y=f(x)$ и относительным приращением независимой переменной, когда $\Delta x \rightarrow 0$, называется эластичностью функции $y = f(x)$ относительно переменной x . Эластичность функции $y=f(x)$ обозначается символом $E_x(y)$, следовательно,

$$E_x(y) = \frac{x}{y} \cdot \frac{dy}{dx}.$$

Эластичность относительно x есть приближенный процентный прирост функции (повышение или понижение), соответствующий приращению независимой переменной на 1%.

ращение издержек производства на единицу приращения количества продукции.

Передел

Пример 1. Рассчитать эластичность функции

$$y = 6x - 24.$$

По определению эластичности имеем:

$$E_x(y) = \frac{x}{y} \cdot \frac{dy}{dx} = \frac{x}{6x-24} \cdot 6 = \frac{6x}{6x-24} = \frac{x}{x-4}.$$

Если, например, $x=20$, то эластичность имеем;

$$\frac{20}{20-4} = \frac{20}{16} = \frac{5}{4}.$$

Это означает, что если x возрастет на 1%, то y возрастет на $\frac{5}{4}\%$.

Пример 2. Рассчитать эластичность функции

$$y = 2+4x-2x^2.$$

Имеем :

$$E_x(y) = \frac{x}{2+4x-2x^2} (4 - 4x) = \frac{4x-4x^2}{2+4x-2x^2}.$$

Например, для $x = 1$ эластичность составит: $\frac{4 \cdot 1 - 4 \cdot 1^2}{2 + 4 \cdot 1 - 2} = 0$

Это означает, что если независимая переменная возрастет на 1% (с 1 до 1,01), то значение зависимой переменной не изменится (в приближении),

ТЕОРЕМА 1. Эластичность произведения двух функции (u и v) равняется сумме показателей эластичности сомножителей.

Доказательство. По определению эластичности имеем:

$$\begin{aligned} E_x(uv) &= \frac{x}{uv} (uv)' = \frac{x}{uv} (uv' + u'v) = \frac{x}{uv} uv' + \frac{x}{uv} u'v = \\ &= \frac{x}{u} U' + \frac{x}{v} V' = E_x(u) + E_x(v). \end{aligned}$$

Пример 3. Исчислять эластичность функции

$$y = xe^x$$

Можно написать:

$$u=x; v=e^x.$$

Следовательно

$$E_x(y) = \frac{x}{x}(x)' + \frac{x}{e^x}(e^x)' = 1+x$$

ТЕОРЕМА 2. Эластичность частного двух функции равняется разности показателей делимого и делителя.

ДОКАЗАТЕЛЬСТВО. По определению эластичности имеем :

$$\begin{aligned} E_n\left(\frac{u}{v}\right) &= \frac{x}{\frac{u}{v}} \left(\frac{u}{v}\right)' = \frac{vx}{u} \cdot \frac{vu' - uv'}{v^2} = \frac{x}{u} \frac{vu' - uv'}{v} = \frac{x}{u} \left(u' - \frac{uv'}{v}\right) = \\ &= \frac{x}{u} u' - \frac{x}{v} v' = E_x(u) - E_x(v). \end{aligned}$$

3. Эластичность спроса относительно цены. Функциональная зависимость между спросом на данный товар и его ценой (при условии, что цена других товаров, доходы потребителя и структура потребностей - постоянные величины) позволяет цену поставить и соответствие спросу, надлежащим образом определённого. Однако во многих экономических исследованиях необходимо определить не величину спроса, а изменение

спроса, вызываемое определенным изменением цены. Иначе говоря, определяется эластичность спроса относительно цены.

Предположим, что спрос q зависит от цены p :

$$q = f(p)$$

Пусть Δp - приращение цены, а Δq - соответствующее приращение спроса. Относительное изменение цены есть $\frac{\Delta p}{p}$, а относительное изменение спроса есть $\frac{\Delta q}{q}$. Частное

$$\frac{\Delta q}{q} : \frac{\Delta p}{p}$$

выражает относительное изменение спроса, если цена товара возрастает на 1%. Эластичностью спроса относительно цены называется предел

$$E_p(q) = E_c = \lim_{\Delta p \rightarrow 0} \left(\frac{\Delta q}{q} : \frac{\Delta p}{p} \right) = \lim_{\Delta p \rightarrow 0} \left(\frac{p}{q} \cdot \frac{\Delta q}{\Delta p} \right) = \frac{p}{q} \lim_{p \rightarrow 0} \frac{\Delta q}{\Delta p}, (2)$$

и, следовательно

$$E_c = \frac{p}{q} \cdot \frac{dq}{dp}.$$

Эластичность спроса относительно цены приблизительно определяет, как изменится спрос на данный товар, если его цена возрастет 1%.

В большинстве случаев функция спроса есть понижающаяся функция, так как с повышением цены на товара спрос на него понижается. Следовательно, в таких случаях:

$$\frac{dq}{dp} < 0.$$

Чтобы избежать отрицательных чисел, при изучении эластичности спроса принимается, что

$$E_c = - \frac{p}{q} \cdot \frac{dq}{dp}. (4)$$

Если $E_c > 1$, т.е, если повышению цены на 1% соответствует снижение спроса более чем на 1%, говорят, что спрос эластичен.

Если $E_c = 1$, т.е, если повышению цены на 1% соответствует понижению спроса на 1%, то говорят, что спрос нейтрален.

Если $0 < E_c < 1$, т.е, если повышению цены на 1% соответствует понижению спроса менее чем на 1%, говорят, что спрос неэластичен.

П Р И М Е Р 1. Если функция спроса есть

$$q = 12 - p$$

то эластичность спроса равняется :

$$E_e = - \frac{p}{q} \cdot \frac{dq}{dp} = - \frac{p}{12 - p} \cdot (-1) = \frac{p}{12 - p}$$

Если, например, $p = 3$, то

$$E_e = \frac{3}{9} = \frac{1}{3}$$

Это означает, что при цене 3 повышение цены на 1% вызывает снижение спроса на $\frac{1}{3}\%$.

П Р И М Е Р 2. Если функция спроса есть

$$q = \frac{c}{p} \text{ (с постоянная),}$$

то эластичность спроса развивается:

$$E_e = - \frac{p}{q} \cdot \frac{dq}{dp} = - \frac{p}{c/p} (-c/p^{-2}) = p^2 \cdot p^{-2} = 1.$$

Следовательно, если спрос обратно пропорционален цене, то для любой цены эластичность спроса равняется 1.

П р и м е ч а н и е . Следует обратить внимание на то, что эластичность спроса - также функция и, следовательно разным ценам соответствует неодинаковые показатели эластичность спроса.

4.Эластичность спроса относительно дохода. Если факторы, то которых зависит спрос на данный товар, не изменятся, а изменятся только доход потребителей, то спрос q есть функция дохода r .

$$q = f(r) \text{ (1)}$$

Пусть Δr есть прирост дохода, а Δq - соответствующее повышение спроса на товар; частное

$$\frac{\Delta q}{q} : \frac{\Delta r}{r}$$

означает в этом случае относительный прирост спроса, соответствующий повышению спроса на единицу.

Эластичность спроса относительно дохода есть мера реакции спроса на изменение дохода потребителей.

$$E_r(q) = \lim_{\Delta r \rightarrow 0} \left(\frac{\Delta q}{q} : \frac{\Delta r}{r} \right) = \frac{r}{q} \cdot \frac{dq}{dr}$$

ПРИМЕР 1. Шведский экономист Герман Волд рассчитал эластичность спроса на некоторые продовольственные товары для периода после первое мировой войны (1933) в Швеции. Он получил результаты, ниже представленные:

Например, для муки эластичность спрос относительно дохода рабочих и служащих составляет - 0,5, а относительно доходов всего население - 0,55. Это означает, что с ростом дохода спроса на муку понижается, причём среди неработающей часть население это происходит в большей степени . Если доход повышается, то потребление муки понижается вследствие замены её другими продовольственными товарами.

Важной проблемой будет, например, изменение спроса с ростом заработной платы. Серьёзным облегчением в таких случаях оказывается знание эластичности спроса относительно дохода.

Пример 2 . Предположим, что государство предполагает повысить цены какого-либо товара на 10%. Если известно, что эластичность спроса составляет 0,3, то следует ожидать, что это вызывает снижение спроса на данный товар на 3%.

В результате такого решения доходы государство повысились бы на 7%.

4. Предложение и эластичность предложения. Под предложением понимается количество некоторого товара предлагаемого на продажу в единицу времени. Как правило, предложение какого-либо товара в данный период есть возрастающая функция цены. При прочих равных условиях предложение при данной цене больше, чем при более низкой цене. Но бывает также случаи, когда предложение повышается со снижением цены. Например, падение цен на зерно нередко вынуждает крестьянина повысить предложение, если он хочет получить определённый доход.

Эластичность предложения можно определить аналогично эластичности спроса.

Пусть $s = s(p)$ есть функция предложения. Пусть Δp - приращение цены, а Δs - соответствующее приращение предложения.

Относительное приращение цены составляет $\frac{\Delta p}{p}$, а относительный прирост предложения $\frac{\Delta s}{s}$.

Предел

$$E_p(s) = E_p = \lim_{\Delta p \rightarrow 0} \left(\frac{\Delta s}{s} : \frac{\Delta p}{p} \right) = \frac{p}{s} \cdot \lim_{\Delta p \rightarrow 0} \frac{\Delta s}{\Delta p} = \frac{p}{s} \cdot s' \quad (1)$$

называется эластичностью предложения относительно цены.

Следовательно, эластичность предложения относительно цены приблизительно определяет процент прироста предложения на 1% прироста цены.

6. Эластичность полных и средних затрат. Если предприятие производит x единиц какого-либо товара и определена функция полных затрат, то эластичность полных затрат составляет:

$$E_x(K) = E_k = \frac{x}{K} \frac{dK}{dx} = \frac{dK}{dx} : \frac{K}{x}, \quad (1)$$

и, следовательно, эластичность полных затрат есть относительное предельных издержек к средним издержкам.

Эластичность средних издержек $\pi = \frac{K}{x}$ составляет ;

(2)

$$E_x(\pi) = E_\pi = \frac{x}{\pi} \frac{d\pi}{dx} = \frac{x}{\frac{K}{x}} \cdot \frac{x \frac{dK}{dx} - K}{x^2} = \frac{x^2}{K} \cdot \frac{x \frac{dK}{dx} - K}{x^2} = \frac{x}{K} \cdot \frac{dK}{dx} - 1 = E_k - 1$$

и, следовательно, эластичность средних издержек на единицу меньше эластичности полных затрат.

Если $E_\pi = 1$, то эластичность средних затрат равняется нулю. Тогда $E_\pi = 0$, а это означает, что средние затраты постоянны. Отсюда следует, что

$$x \frac{dK}{dx} - K = 0, \text{ или } \frac{dK}{dx} = \frac{K}{x}. \quad (3)$$

Следовательно, если Эластичность полных затрат равняется 1, полные предельные издержки равняются средним полным издержкам.

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САМАРҚАНД ВИЛОЯТИ ИҚТИСОДИЁТИНИНГ ШАКЛЛАНИШИ ВА РИВОЖЛАНИШИ

Аннотация: мақолада Самарқанд вилояти иқтисодиётининг шаклланиши ва ривожланишига таъсир этган омиллар, вилоят ялпи ҳудудий маҳсулоти таркиби, киритилган инвестиция, экспорт ва импорт ҳажми, хорижий капитал иштирокидаги корхоналарнинг улуши ўрганилган ва илмий ҳулосалар берилган.

Калим сўзлар: географик меҳнат тақсимооти, хўжалик, саноат, қишлоқ хўжалиги, дехқончилик, чорвачилик, қадимий шаҳарлар, ипак йўли, ялпи маҳсулот, инвестиция, экспорт, импорт.

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IMPROVEMENT AND DEVELOPMENT OF THE ECONOMY OF SAMARKAND REGION

Abstract: the article discusses the factors that influenced the formation and development of the economy of Samarkand region, the structure of the gross domestic product of the region, the volume of investment, export and import, the share of enterprises with foreign capital, scientific conclusions are given.

Keywords: geographical distribution, economy, industry, agriculture, farming, livestock breeding, ancient cities, Silk Road, gross product, investment, export, import.

Кириш. Ўрта Осиё ҳудудида қадимда европоид ирқига мансуб бўлган форсийлар яшаган, улар томонидан деҳқончилик ўчоқлари яратилган. Ўша даврларда бу ҳудудда географик меҳнат тақсимооти натижасида, яъни ҳунармандчиликнинг деҳқончилик ва чорвачиликдан ажралиб чиқиши, бу ерда шаҳарларнинг пайдо бўлишига олиб келган. Қарийиб уч минг йил тарихга эга бўлган Ўрта Осиёнинг шаҳарлари - Самарқанд, Бухоро, Ўратепа, Панжакент, Хива, Тошкент, Хўжанд, Ўш, Мари ва бошқалар ҳисобланади. Қадимда бу ҳудудларда деҳқончилик чорвачилик билан бирга қоғоз ва пахта ҳамда ипакдан ҳар хил матолар, шиша буюмлар ишлаб чиқарилган ва хатто бошқа мамлакатларга экспорт қилинган. Шу билан бирга Ўрта Осиёда нафақат ички савдо ишлари ривожланган бўлган, турли жойлардан савдогарлар келиб, бу ерда савдо ишлари билан шуғилланган[8].

Асосий қисм. 2022-йилда вилоят ялпи ҳудудий маҳсулоти таркибида саноат ва қурилиш 24,7 фоиз, қишлоқ хўжалиги (ўрмон ва балиқ хўжалиги билан бирга) 32,1 фоиз, хизматлар соҳаси 43,2 фоизни ташкил этган. Самарқанд вилояти саноат корхоналарида таркибий ўзгаришларни амалга ошириш ва ишлаб чиқариш қувватларини технологик жиҳатдан янгилаш натижасида 2022-йилда ўтган йилга нисбатан ўсиш суръати 5,8 фоизга ўсган. Вилоятда 2022-йилда минтақанинг асосий капиталига 21955,2 млрд сўм миқдорида инвестициялар киритилган, 2021 йилга нисбатан ўсиш суръати 29.5% га тенг.

Инвестициялар ҳажмининг асосий қисми Самарқанд шаҳрига, қишлоқ туманлари орасида Ургут, Самарқанд ва Пастдарғомда киритилган. Самарқанд вилоятида қурилиш ишларига 8762,2 млрд сўм ажратилган ва ўсиш суръати ўтган йилга қараганда 10% ни ташкил этади (2022 й.).

Вилоят статистика бошқармаси маълумотларига кўра, қурилиш ишлари умумий ҳажмининг 81,6 фоизи бино ва иншоотларни қуриш бўйича қурилиш ишлари, 14,1 фоизи фуқаролик қурилиш объектларини қуриш бўйича ва 4,3 фоизи ихтисослаштирилган қурилиш ишларига тўғри келган. Шунингдек, умумий ҳажмдан 89,3 фоизи қурилишга тўғри келади. 2022 – йилда умумтаълим мактаблари, касб-ҳунар коллежлари, мусиқа ва санъат мактаблари қуриш, қайта таъмирлаш, бу жойларда спорт иншоотлари фойдаланишга топширилган. Коммунал қурилиш соҳасида ичимлик суви, газ тармоқлари ишга туширилган. Республикамиз мустақилликга эришгандан кейин, кичик бизнесга, инвестиция ва кичик қўшма корхоналарга катта эътибор берилди[5].

Самарқанд вилоятида 2023-йил маълумотида кўра кичик тадбиркорлик субъектларининг сони 47943 тани ташкил қилди. 2019-йилда бу кўрсаткич 17261 тенг бўлган. 2023-йил ҳудудий маҳсулотнинг 72,5 % и кичик тадбиркорлик субъектлари томонидан ишлаб чиқарилди. Тадбиркорликнинг ривожланиши кўп ижобий оқибатлари мавжуд, биринчидан меҳнат ресурслари шу билан банд бўлади, даромад олади, шу билан бирга давлатга солиқ тўлайди.

Вилоятда 2022-йилда саноат маҳсулотлари ишлаб чиқариш ҳажми 29373,7 млрд сўмни, қишлоқ хўжалиги (ўрмон ва балиқ хўжаликлари билан бирга) ишлаб чиқарилган маҳсулотлари умумий ҳажми 43933,0 млрд сўмни ташкил қилган. Вилоятда 21955,2 млрд сўмлик инвестициялар ўзлаштирилган, 8762,2 млрд сўмлик қурилиш ишлари бажарилган. Шунингдек, 656,1 млн АҚШ доллари миқдорида маҳсулотлар экспорт қилинди, 1728,4 млн АҚШ доллари миқдорида маҳсулотлар импорт қилинган. Самарқанд вилоятида 2023-йилда рўйхатга олинган юридик шахслар сони 47943 тани ташкил этади, шундан корхона ва ташкилотларнинг асосий қисми, яъни 18972 таси савдо, 4287 қишлоқ ва ўрмон хўжалиги, 8792 таси саноат, 4600 таси яшаш ва овқатланиш хизматлари ва 3534 таси қурилиш соҳасини ташкил этади. Рўйхатга олинган корхоналарнинг 7,1 % и давлат мулки, 92,9 % и нодавлат мулки, шундан 9,5 % и хусусий корхоналар, 0,5 % и чет эл сармояси иштирокидаги корхоналар ва 82,9 % бошқа корхоналар улушига тўғри келади[6].

Минтақада 2023-йил маълумотида кўра 47943 та кичик тадбиркорлик субъектлари рўйхатга олинган, шундан 28,7 %и Самарқанд шаҳрида, 8,7 %и Ургут, 8,6 %и Пастдарғом, 7,4% и Самарқанд ва қолган қисми бошқа туманларга тўғри келади.

1-жадвал

Самарқанд вилоятида хорижий капитал иштирокидаги корхоналар сони (2022-й).

Туманлар номи	Корхоналар сони	Корхоналар улуши, фоизда
Самарқанд вилояти	280	100,0
Самарқанд шаҳри	142	50,7
Каттакўрғон шаҳри	8	2,9
Туманлар:		
Оқдарё	7	2,5
Булунғур	7	2,5
Жомбой	24	8,6
Иштихон	3	1,1
Каттакўрғон	2	0,7
Қўшрабат	1	0,4
Нарпай	4	1,4
Паяриқ	2	0,7
Пастдарғом	12	4,3
Пахтачи	3	1,1

Самарқанд	14	5,0
Нуробод	5	1,8
Ургут	36	12,9
Тайлоқ	10	3,6

Жадвал вилоят статистика бошқармаси маълумотлари асосида тузилди.

1-жадвал шуни кўрсатадики, Самарқанд вилоятида хорижий капитал иштирокидаги корхоналар сони жами 280 тани ташкил этади, шундан асосий қисми, яни 142 таси Самарқанд шаҳрида, 36 таси Ургут, 24 таси Жомбой, 14 таси Самарқанд, 12 таси Пастдарғом ва қолган қисми бошқа туманларда жойлашган.

Қадимда Самарқанд вилояти ҳудудида туб жой аҳолиси томонидан дехқончиликнинг барча турлари яратилган ва ривожланган бўлган. Ижтимоий меҳнат тақсимооти натижасида кейинчалик хунармандчилик ажралиб чиқган. Ўша вақтларда бу ҳудудда қоғоз, ипак матолар, шиша буюмлар ишлаб чиқариш ривожланган бўлган, ҳатто ишлаб чиқарилган маҳсулотлар хориж мамлакатларида экспорт қилинган.

I-II асрларда Самарқанд Кушон подшолиги таркибидаги Сўғднинг йирик шаҳри бўлган, бу вақтларда бу ерда савдо ва қоғоз ишлаб чиқариш ривожланган бўлган. Ўрта Осиё давлатлари, Хитой, Кавказ, Қора денгиз бўйи, Ўрта ер денгизи давлатлари билан савдо ривожланган бўлган.

VIII-X асрларга келиб, Самарқанд арабларнинг марказига айланган. Араблар ҳукумронлиги пайтида бу ерда ипакчилик ривожланиб, хунармандчилик ва савдо марказлари вужудга келган. Шунингдек, бу ерда яшил ўсимликлар ва далалар кўпаяди. Самарқанд воҳаси ҳудудида 12 та шаҳарлар барпо этилган[2].

X-XI асрларда Самарқанд Сомонийлар давлати маркази бўлган, бу даврда ишлаб чиқариш ва савдо билан бирга, қишлоқ хўжалиги ҳам ривожланган. Ипак ва пахта матолар ишлаб чиқариш, зардўзлик, сопол ва шиша маҳсулотлари ишлаб чиқариш ривожланган, шунингдек, пахта, буғдой, гуруч ва бошқа маҳсулотлар етиштирилган. Ғарб ва Шарқ мамлакатлари билан савдо алоқалари ривожланган.

XII-XIII асрларга келиб, Самарқанд Қорахонийлар давлатининг маркази, кейинчалик Хоразмшоҳ қароргоҳи бўлган. Бу асрлар мобайнида қурилиш ишлари ривожланган бўлиб, жуда кўп мачитлар, хаммомлар, кошонолар, архитектура мажмуалари қурилган. XIII асрда Самарқанд Чингизхон томонидан босиб олинган, шаҳар ва унинг атроф ҳудудида ривожланиш тўхтаган ва хўжалиги тараққиёти ҳам пасайган. XVI асрда Самарқанд Темур империясининг марказига айланган. Иқтисодий, сиёсий ва маданий ҳаёт кўтарилади, савдо ва шаҳарсозлик ривожланган. Амир Темур ҳукумронлиги даврида шаҳар ва унинг атрофидаги ҳудудлар ҳар томонлама ривожланиб гуллаб яшнади. Бу даврда Шохи-Зинда мавзолеи, Бибихоним

мачити, Гўри Амир ва бошқалар қурилган. Самарқанд йирик савдо ва хунармандчилик маркази бўлган. Кўп аҳоли пунктлари, боғлар, кўчалар, майдон, кўприклар, ирригацион иншоотлар қурилган.

XV-XVI асрларда Самарқанд Шайбонийхон давлатининг маркази бўлган. Шайбонийхон хукмронлиги пайтида махсулот ишлаб чиқариш ва савдо пасайган, ғарб ва шарқни боғлаб турган савдо йўли ўз аҳамиятини йўқотади, хўжаликнинг ривожланиши сусаяди.

1868-1899 йилларда Самарқанд шаҳри Зарафшон харбий округининг маркази бўлган, кейин рус империяси қошидаги Самарқанд вилояти марказига айланган. Бу даврда ишлаб чиқариш ва Европача иморатлар қуриш ривожланган. Бозорлар, пахтани ва терини қайта ишлаш ривожланади, воҳа орқали темир йўл ўтади, тери, вино ва пахта тозалаш заводлари кўпайиб ривожланган.

1925-1930 йилларда Самарқанд ЎзССРнинг пойтахти бўлган. Бу йилларда маданий ва сиёсий ҳаёт, саноат ривожланган. Олий ўқув юртлари, театрлар, илмий текшириш институтлари очилган.

1910 йилда Самарқанд вилояти ҳудудида 35 пахта тозалаш, 5 та ёғ мой, 13 та чой қадоқлаш ва 20 та виночилик заводлари мавжуд бўлган. Пахта тозалаш заводлари Самарқанд, Челак, Каттақўрғон, Пайшанба ва бошқа жойларда қурилган бўлган. 30-йилларда Ўзбекистон ССР нинг пойтахти Тошкентга кўчирилганидан кейин, Самарқанд катталиги жиҳатидан республикамизнинг иккинчи шаҳри бўлган. 1934 йил маълумотига кўра, Самарқандда 52 та корхона бўлиб, унда 9 минг киши ишлаган. Таққослаш учун шуни таъкидлаш лозимки, ўша пайтда Тошкентда 145 та, Фарғонада 21 та корхона бўлган. 1940 йилда корхоналар сони 73 тага етгандан кейин, Самарқандда ялпи махсулот ишлаб чиқариш 1928-1929 йилларга нисбатан 6 мартага ошган (Муллажонов, 1973).

1941-1945 йилларда бўлган уруш вақтида бир неча саноат корхоналари Россиядан Самарқанд шаҳрига кўчирилган, жумладан “Красный двигатель”, “Кинап” ва бошқа корхоналар Собик Иттифоқ даврида Самарқанд вилояти ҳудудида кўплаб саноат корхоналари қурилган. Масалан нефт заводи, холодилик заводи, фарфор заводи, метални қайта ишлаш ва машинасозлик заводлари, тўқимачилик корхоналари, ёғ-мой, чой қадоқлаш, вино комбинатлари, тамаки ферментлаш, пахтани тозалаш ва қайта ишлаш заводлари, терини қайта ишлаш заводлари, кимё заводи, ғишт заводлари ва хоказо.

Хозирги вақтда Самарқанд вилояти саноати кўп тармоқли бўлиб, бу ерда озиқ-овқат, енгил, кимё, фарфор, машинасозлик саноати яхши ривожланган. Ўзбекистон мустақилликга эришгандан кейин, бу ҳудудда қурилган замонавий юк машиналар ва автобуслар “ИСУЗУ” “МАН” қўшма корхоналарининг конвейрларидан чиқди. Бу қурилган корхоналар вилоят иқтисодиётини юксалтиришда катта аҳамиятга эга бўлди[9].

Самарқанд вилоятининг асосий саноат корхоналари Самарқанд шаҳрида жойлашган. Булар автомобил, совутгич, шиша чинни идишлар,

консерва, вино заводлари, кимё, чой қадоқлаш, газлама фабрикалари ва бошқалар Каттакўрғон шаҳри ва туман марказларида ёғ-мой комбинатлари, пахта тозалаш заводлари, дон ва вино заводлари мавжуд

2-жадвал

Самарқанд вилояти иқтисодий ривожланишининг асосий кўрсаткичлари.

	Млрд. сўм	2022 йилга нисбатан фоиз ҳисобида
Ялпи ҳудудий маҳсулот	62440,3	105,8
Саноат маҳсулоти	29373,7	109,0
Истеъмол товарлари	18374,5	119,4
Қишлоқ, ўрмон ва балиқ хўжалиги	43933,0	103,7
Асосий капиталга киритилган инвеститсиялар	21955,2	129,5
Қурилиш ишлари	8762,2	110,1
Чакана товар айланмаси	27232,9	112,2
Хизматлар, жами	22734,9	114,9
Ташқи савдо айланмаси (млн. АҚШ долл)	2384,5	124,2
Экспорт	656,1	123,4
Импорт	1728,4	124,5
Салдо (+;-)	-1072,3	-

*Жадвал Самарқанд вилояти статистика бошқармаси маълумотлари
асосида тузилди*

Ингичкада тоғ-кон корхонаси ишлаб турибди.

Вилоятимиз саноатини келажакда ўсиши учун, ўзимизда бор хом-ашёларни қайта ишлаб, тайёр маҳсулотни экспорт қилиш орқали эришишимиз мумкин. Бунинг учун эса, чет мамлакатлар билан қўшма корхоналар очиш талаб этилади.

Хулоса. Вилоятнинг табиий ва иқтисодий географик ўрни, тарихий-географик тараққиёт босқичлари, транспортнинг роли унинг ижтимоий-иқтисодий салоҳиятини ўзига хос ҳудудий хусусиятларини ташкил этади. Минтақада энг аввало вилоятнинг маркази Самарқанд шаҳри, иккинчи маркази Каттакўрғон шаҳри унинг ривожланишида муҳим рол ўйнайди. Ҳар бир вилоят ўзига хос такрорланмас хусусиятга эга, бундай географик ўзига хослик бир вилоят, қишлоқ тумани, ҳатто алоҳида қишлоқда бўлиши мумкин. Маълум жойларни ҳар жиҳатдан ўрганиш, география фанининг ноёб устунлиги ҳисобланади.

Ҳар бир географик объектни ўрганишда, барибир шаҳар функцияси асосий ҳисобланади, шунинг учун айнан шу шаҳар ҳаётининг ҳамма жабҳаларига таъсир кўрсатади. Масалан, аҳоли сони динамикаси, унинг ўсиши, аҳолининг табиий ва механик ҳаракати, меҳнат ресурслардан фойдаланиш характери, умумий экологик вазият ва ижтимоий муҳитига таъсир этади.

Самарқанд вилояти географиясини ўрганиш шундан далолат берадики, туманлар ичида кўп ҳолларда Жомбой, Пастдарғом, Ургут, Пахтачи, Нарпай, Самарқанд олдинда туради. Масалан, ҳам саноат, ҳам қишлоқ хўжалиги маҳсулотлари ишлаб чиқаришда, аҳолига хизмат кўрсатишнинг турли соҳаларида ҳам уларнинг улуши юқоридир. Келажакда вилоятимизнинг қолган қисмлари ҳам ижтимоий-иқтисодий жиҳатдан ривожланиб боради. Келажакда Самарқанд “ Сайқали рўи замин” мақомини сақлаш учун, вилоятимиз ҳар соҳада жадал ривожланмоғи лозим. Бунинг учун, ишнинг мазмунидан келиб чиқиб, илмий-амалий хулосалар қуйидагилардан иборат:

1. Самарқанд вилояти ижтимоий-иқтисодий ривожланишни таъминлаш учун жозибадор “инвестиция иқлими”ни шакллантириш;

2. Самарқанд шаҳрининг келажакдаги ролини мустаҳкамлаш;

3. Вилоят ҳудудларида хорижий ҳамкорлар билан ишлашни, инвестицияларни жалб этишни ривожлантириш;

4. Самарқанд вилояти аҳоли жойлашуви тизимини шакллантириш учун, вилоятнинг бошқа шаҳарларини ҳам қуйи бошқарувчи сифатида фаол ривожлантириш;

5. Тадқиқотлар шуни кўрсатадики, вилоятнинг катталиги бўйича иккинчи шаҳри Каттақўрғон ривожланиши анча орқада. Навоий шаҳрининг пайдо бўлиши, қадимий Каттақўрғон шаҳрининг Самарқанд ва Бухоро шаҳарлари ўртасида турувчи ёки воситачи номини тортиб олди. Шунинг учун эндиликда Каттақўрғон Самарқанд вилоятининг ғарбида жойлашган туманлар ва Навоий вилоятининг қўшни туманлари билан мустаҳкам алоқаси ривожланиши лозим[6];

6. Давлатимизнинг ижтимоий-иқтисодий сиёсатига мос равишда аҳолини тўғри ҳудудий ташкил этишни вилоят ва туманларнинг ижтимоий-иқтисодий дастурларини тузишда инобатга олиш.

7. Мамлакат халқ хўжалигининг бошқарилиши ва регионал сиёсатининг самарадорлиги кўп жиҳатдан унинг маъмурий ҳудудий тузилмаси билан боғлиқ. Шунинг учун туманлар ва вилоят чегарасининг барқарорлиги аҳолини ҳар кунлик ҳаётини ташкил этишда ҳамда йирик масштабли тарихий-географик тадқиқотларни аниқ статистик маълумотлар асосида олиб боришда катта аҳамият касб этади;

8. Мамлакатимиз, жумладан вилоятимизнинг кундан-кунга ҳар томонлама ривожланиб бориши, ҳозирги вақтда автомашиналарнинг кўпайиб кетганлиги сабабли, асосан Самарқанд шаҳри кўчаларини кенгайтиришни, кўчаларни икки қаватли қилишни, шаҳарда ҳаво йўли орқали осма йўлларни (конатный дорога) жорий этишни талаб этмоқда. Шунингдек, автомашиналар қўйиш шахобчаларини (автостоянка) иложи борица янги қурилган кўп қаватли уйлар остида (подвалида) ташкил этилса мақсадга мувофиқ бўлар эди, чунки шаҳарнинг кўп ерлари автомашина қўйиш шахобчалари билан банд;

9. Самарқанд шаҳрини об-ҳавосини тоза сақлаш мақсадида шаҳарда иложи борица саноат корхоналарини жойлаштирилмаса яхши бўлар эди. Самарқанд қадимдан тарихий ёдгорликлари-Регистон майдони, Гўри Амир,

Шоҳи-Зинда мақбалари ва бошқалар билан машҳурдир. Шунинг учун, республикамизда ва шаҳримизда туризмни янада ривожлантириш лозим бўлади. Бунинг учун чет эл сайёҳларини жалб этиш учун кўп ишлар қилиш керак. Масалан, ҳатто араб мамлакатларида ҳам туристларни жалб этиш учун, сайёҳлар дам оладиган кўнгилочар мажмуалар ташкил этилган. Самарқанд шаҳрида ҳам шундай қизиқарли бўлган кўнгилочар, дам оладиган мажмуалар очилса мақсадга мувофиқ бўлар эди. Шу билан бирга Самарқанд вилоятида чиройли табиат манзаралари мавжудлигини ҳисобга олиб, экотуризмни ривожлантиришга ҳам катта эътибор қаратилиши лозим деб биламан, чунки халқ хўжалигининг бошқа соҳаларига нисбатан туризмдан катта даромад олиш мумкин бўлади.

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РАСЧЁТНЫЕ ПРОТИВОЭРОЗИОННЫЕ ПАРАМЕТРЫ ЭЛЕМЕНТОВ ТЕХНИКИ ПОЛИВА

Аннотация. В работе изложены результаты исследования процессов эрозии почв при орошении. Результаты показывают, что полностью исключить смыв почвы практически невозможно. Поэтому основная задача заключается в подборе таких элементов техники полива, при которых смыв почвы будет находиться в допустимых пределах. Это позволит определить необходимые элементы техники нетрадиционных технологий орошения.

Ключевые слова: адыр, склон, уклон, борозды, рельеф, плодородие почвы, ирригационная эрозия, оросительная сеть, экспоненциальный закон, поливной трубопровод, традиционная технология орошения.

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CALCULATED ANTI-EROSION PARAMETERS OF IRRIGATION TECHNIQUE ELEMENTS

Abstract. This study presents research on soil erosion processes during irrigation. The results show that it is practically impossible to completely eliminate soil wash-off. Therefore, the main objective is to select irrigation technique elements that keep soil erosion within acceptable limits. This approach helps determine the necessary components of unconventional irrigation technologies.

Keywords: *adyr (hilly terrain), slope, gradient, furrows, relief, soil fertility, irrigation erosion, irrigation network, exponential law, irrigation pipeline, traditional irrigation technology.*

Посредством возделывания на основе высоких агротехнических мероприятий и возделывания сельскохозяйственных культур плодородие почвы сохраняется и повышается. Однако, орошение на землях с большими уклонами и сложными рельефом, связано, прежде всего с опасностью возникновения ирригационной эрозии. Производительная способность земель, подверженных эрозии, резко падает, что приводит к снижению эффективности их освоения. Особенно опасна ирригационная эрозия в маломощных почвах, подстиляемых галечником. Смыв верхнего мелкозема в этом случае – трудно поправимое явление.

Исследование процессов эрозии почв при орошении показывает, что полностью исключить смыв почвы практически невозможно. Поэтому задача состоит в подборе таких элементов техники полива, при которых смыв почвы находился бы в допустимых пределах. Допустимым пределом в данном случае необходимо считать такой объем смыва, который не превышает количества почвы образующейся в результате естественных процессов почвообразования.

В задачу расчета оптимальных элементов техники полива по бороздам входит определение расходов поливных струй, длин борозд, и продолжительности полива, обеспечивающих впитывание заданной поливной нормы, равномерное увлажнение почвы по длине борозды с заданным коэффициентом равномерности, минимальный поверхностный сброс воды и минимальную (допустимую) величину эрозии почвы.

В процессе разработки мероприятий по противодействию ирригационной эрозии орошаемых легких и типичных сероземных почв Андижанской области выявлены закономерности смыва промывки плодородного слоя почвы от величины параметров техники полива.

В работе рекомендуем использовать алгоритм расчетов, отмечая, что существующие и неизбежные проблемы в способе полива могут быть решены путем выявления и выбора оптимальных вариантов показателей элементов поливной техники.

Одним из основных требований к организации полива на полях с большим уклоном является кардинальное усовершенствование конструкции поливной техники и определение оптимальных показателей элементов техники и технологии поливов.

При использовании техники полива необходимо рассчитать оптимальные значения следующих элементов:

q -расход воды в начале поливов, л / сек;

ℓ - длина борозды, м;

t - продолжительность полива, (обеспечивающего полное поглощение количества воды, определенного в расчетной норме полива), час;

$W_{\min}$ - минимальное количество сточных вод в основании;

$\mathcal{E}_u$ - минимальный объем промывки плодородного слоя почвы.

В процессе расчета в качестве исходных данных используются следующие значения:

m - расчетная, поливная норма нетто, м³ / га;

i - уклон борозды;

K_p - коэффициент равномерности увлажнения по длине борозд;

η - коэффициент полезного действия сети;

$\mathcal{E}_{\text{доп}}$ - допустимый объем ирригационной эрозии т / га;

$V_{\text{уст}}$ - величина стабилизации скорости впитывания воды в почву, м / с;

t_c - время стабилизации расхода сбросной воды, час;

a - расстояние между рядами растений, м;

γ - плотность верхнего слоя почвы, т / га;

Алгоритм расчетной методики, использованной на основе экспериментов по изучению техники полива на адирных участках:

1. Максимально допустимое значение водопотребления с начала засушливого сезона определяется по следующей формуле:

$$q_{\text{дон}}^{\max} = \left[\frac{0,03 \cdot a \cdot \mathcal{E}_{\text{доп}}}{\gamma \cdot t^{0,58}} \right]^{3,85} \text{ м}^3/\text{час}$$

2. Расход воды в начале полива определялся исходя из следующих условий:

$$q_{\text{нач}} = (0,85 \div 0,90) \cdot q_{\text{дон}}^{\max}, \text{ м}^3/\text{час}$$

3. Объем фильтрации поливной воды через борозды определяется следующим образом:

$$q_y = P \cdot V_y, \text{ ёкк} P = 0,098 \left(\frac{q}{\sqrt{i}} \right)^{0,21}$$

учитывая, это

$$q_y = 0,098 \left(\frac{q_{\text{нач}}}{\sqrt{i}} \right)^{0,21} \cdot V_y, \text{ м}^3 / \text{час}$$

4. Преобразуем норму разового полива в количество адсорбированного слоя воды с влажного периметра поля:

$$h^{\text{нм}} = \frac{m_{\text{рост}}^{\text{нм}} \cdot a}{10000 \cdot P}, \text{ м}$$

5.Слой воды, который необходимо впитать даже в конце склона с большим уклоном, также должен быть $h_k=h^{HT}$, поэтому

$$h_k = 0,122(I - e^{-0,378t_k}) + 0,014t_k, м$$

Из экспоненциального закона t_k , то есть время поглощения воды в конце уравнения определяется как продолжительность поглощения водным слоем h_k ;

6. Количество воды, которая должна впитаться в начальной части эгата, определяется следующим образом, чтобы обеспечить коэффициент одной плоскости требуемой и определяемой влажности в виде водного слоя h_n :

$$h_n = \frac{h_k}{K_p}$$

Количество воды, необходимое для поглощения в начальной части борозды, то есть продолжительность поглощения водяного слоя h_n , определяется, как указано выше t_n (5-пункт);

7. Продолжительность потока воды до конца откоса рассчитывается по следующей связи:

$$t_d = t_n - t_k, (час)$$

8. Длина борозд рассчитывается следующим образом:

$$\ell_z = 814 \cdot 0,87 q_n^{0,94} \cdot i^{0,16} (I - e^{-0,52tg}), м$$

9. Переменная величина расхода воды определяется по следующей формуле:

$$q_{изм} = q_y \cdot \ell_z (м^3/час)$$

10. Переменная величина нормы полива определяется по следующей формуле:

$$m_{расч}^{бр} = \frac{m_{расч}^{шт}}{\eta}, (м^3 / га)$$

11. Определите продолжительность начального расхода воды:

$$t_{нач} = t_o + t_c, (час)$$

12. Продолжительность модифицированного расхода воды определяется по следующей формуле:

$$m_{расч}^{зр} = \frac{10^4}{a \cdot \ell_z} (q_{нач} \cdot t_{нач} + q_{изм} \cdot t_{изм})$$

13. Рассчитываем общую продолжительность полива:

$$t_n = t_{нач} + t_{изм} \cdot (час)$$

14. По следующей формуле определяем допустимую величину ирригационной эрозии:

$$\mathcal{E} = 0,372 \cdot q^{3,21} \cdot i^{1,49} \cdot t^{1,47} \cdot \ell_z^{1,21}, (m / за)$$

Количество смываемого слоя плодородного слоя почвы по параметрам элементов поливной техники, определяемым на основании описанной выше методики найдено по формуле:

$$\mathcal{E} = \mathcal{E}_{нач} + \mathcal{E}_{изм}$$

где: $\mathcal{E}_{нач}$, $\mathcal{E}_{изм}$ - величина смыва плодородного слоя почвы при задании начального и модифицированного объемов водопотребления с начала поливов.

$$\mathcal{E}_{нач} = 0,372 \cdot q_{нач}^{3,21} \cdot i^{1,49} \cdot t$$

Находит с помощью выражений

Если: $\mathcal{E}_{нач} + \mathcal{E}_{изм} \text{ сув } > \mathcal{E}_{доп}$ получен результат, параметры элементов техники полива, определенные выше, должны быть уточнены.

Для светло-сероземных почв Андижанской области в программу будут включены следующие данные [3]:

По длине борозды заданное значение коэффициента равномерности увлажнения $K_p - 0.9$

Расчетная норма полива $m = 900 \text{ м}^3/\text{га}$;

Расстояние между рядами, $a = 0,6 \dots 0,9 \text{ м}$

Уклоны борозд получены данные в таблице по уклону земельного фонда Андижанской области- (от $i = 0,008$ до... $0,1$)[3];

Коэффициент использования воды ($K_{ИВ} = 0.90$);

Ирригационная эрозия допустимое количество $\mathcal{E}_{доп} = 2,2 \text{ т/га}$ [3];

Величина установившейся скорости впитывания воды почвой, $V_{уст} = 0,26 \text{ м/сек}$;

Время стабилизации расхода сбросной воды, $t_c = 15 \dots 18 \text{ часов}$;

В результате ввода исходных данных оптимальная производительность рассчитанной техники полива выражена в следующей специальной таблице.

Таблица-1.

Расчетные противозрозионные параметры элементов техники полива

Уклон поля (i)	Расход воды в начале 0000 (л/сек)			Длина борозд ℓ (м)	Продолжитель- ность полива (час)	Количество эрозии Ξ (т/га)
	$q^{\max}$	$q_{\text{нач}}$	$q_{\text{изм}}$			
0.005-0.008	2,23	1,90	1,12	104	7,1	0,55
0.008-0.01	1,69	1,43	0,97	76	8,5	0,25
0.01-0.05	0,54	0,46	0,41	58	12,0	0,15
0.05-0.08	0,16	0,14	0,11	40	31,0	0,05
0.08-0.10	0,043	0,037	0,032	24	61,6	0,04

По результатам расчета, если проводить полив с переменным расходом воды, длину борозд можно принять равной 24 ... 104 метра в соответствии с расходом воды в начале гребня, количеством поливная эрозия может быть резко снижена (таблица 1).

Результаты расчетов показывают, что при определении оптимальных значений параметров оросительного оборудования указанным выше методом теоретически доказано резкое снижение количества ирригационной эрозии, которая может возникнуть на орошаемых полях. Однако на практике визуально распределить такое небольшое количество поливной струи владельцам по полю с высокой точностью - очень сложная задача. Поэтому, безусловно, улучшение ирригационных сетей в регионе, автоматизация и механизация поливного процесса - одна из актуальных задач сегодняшнего дня.

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ОСОБЕННОСТИ ПРОВЕДЕНИЯ МАРКЕТИНГОВЫХ МЕРОПРИЯТИЙ ПРИ ПРИВАТИЗАЦИИ ДОЛЕЙ (АКЦИЙ) ГОСУДАРСТВЕННЫХ ПРЕДПРИЯТИЙ

***Аннотация.** В статье рассматриваются особенности организации и проведения маркетинговых мероприятий в процессе приватизации долей (акций) государственных предприятий. Особое внимание уделено роли маркетинга как инструмента повышения инвестиционной привлекательности активов, находящихся в государственной собственности. В работе рассмотрены практические подходы к продвижению объектов приватизации, включая целевое позиционирование, выбор каналов коммуникации и методы формирования положительного имиджа предприятия среди потенциальных инвесторов.*

***Ключевые слова:** сделка, маркетинг, капитал, приватизация, рынок, риск.*

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FEATURES OF CONDUCTING MARKETING EVENTS DURING THE PRIVATIZATION OF STOCKS (SHARES) OF STATE ENTERPRISES

***Abstract.** The article examines the specifics of organizing and conducting marketing activities in the process of privatization of shares (stocks) of state enterprises. Particular attention is paid to the role of marketing as a tool for increasing the investment attractiveness of assets in state ownership. The paper examines practical approaches to promoting privatization objects, including target positioning, selection of communication channels and methods for creating a positive image of the enterprise among potential investors.*

***Key words:** deal, marketing, capital, privatization, market, risk.*

Приватизация государственных предприятий продолжает оставаться одним из ключевых инструментов структурной трансформации экономики,

направленным на повышение эффективности управления активами, привлечение инвестиций и развитие конкурентной среды. Однако успешная реализация приватизационных сделок невозможна без должного маркетингового сопровождения, которое обеспечивает информирование потенциальных инвесторов, формирует положительное восприятие объектов приватизации и способствует достижению оптимальных условий продажи.

Реализация долей (акций) государственных предприятий является важным этапом в приватизационных процессах, и для ее успешного осуществления требуется тщательно разработанная маркетинговая стратегия. На современном этапе актуальным становится проведение IPO и SPO. Например, маркетинг IPO (Initial Public Offering) — это процесс продвижения и подготовки компании к первичному публичному размещению акций на фондовом рынке. Цель маркетинга IPO — привлечь внимание потенциальных инвесторов, повысить осведомлённость о компании и её акциях, а также обеспечить успешное размещение с максимальной оценкой [1].

Начало пути к первичному публичному размещению акций (IPO) похоже на движение по сложной и динамичной дороге. Это требует стратегического маркетинга и тщательной подготовки, чтобы обеспечить плавный выход на публичные рынки. Маркетинг играет ключевую роль в управлении процессом IPO, охватывающим несколько этапов [2].

В контексте реализации таких активов маркетинговые мероприятия должны быть направлены на привлечение инвесторов, обеспечение прозрачности и соблюдение всех нормативных требований, а также максимизацию стоимости доли или акций. В целом так же считается целесообразным привлечение специализированных консалтинговых компаний для осуществления продвижения маркетинговой кампании. Основные особенности осуществления практических маркетинговых мероприятий при реализации доли (акций) государственных предприятий могут включать в себя следующее.

1. Анализ ситуации и подготовка к реализации доли (акций) госпредприятия.

1.1. Оценка финансового состояния предприятия.

Финансовый анализ: необходимо провести подробный анализ финансовой отчетности предприятия, включая анализ доходов, расходов, активов, обязательств, а также перспектив роста и прибыльности. Это поможет сформировать представление о рыночной стоимости доли (акций).

Оценка эффективности управления: важно провести оценку качества управления предприятием, его операционных и стратегических возможностей. Это может включать анализ корпоративной структуры, внутренних процессов и состояния корпоративной культуры.

1.2. Анализ внешнего рынка и конкурентной среды.

Анализ рынка и конкурентов: важно понять, как данный актив будет восприниматься на рынке. Например, если предприятие работает в

высококонкурентной отрасли, нужно изучить, кто является конкурентами и как изменяются рыночные условия.

Перспективы роста и риски: необходимо выявить основные риски, связанные с развитием отрасли и предприятием, а также оценить долгосрочные перспективы роста или сокращения рыночной доли.

1.3. Подготовка юридической документации.

Важно предоставить полную информацию о правовом статусе предприятия, наличии задолженности, судебных делах, а также других юридических рисках. Прозрачность на данном этапе критична для привлечения инвесторов. Убедиться, что все документы соответствуют юридическим нормам.

2. Маркетинговые мероприятия для привлечения инвесторов.

2.1. Определение целевой аудитории.

Типы инвесторов: различаются корпоративные инвесторы, частные инвесторы, финансовые группы, стратегические инвесторы, которые заинтересованы в долгосрочном владении, а также частные инвесторы, заинтересованные в спекулятивной прибыли. Необходимо точно определить, какие инвесторы могут быть заинтересованы в акции (доле) предприятия.

Институциональные инвесторы: для таких крупных объектов, как государственные предприятия, особое внимание стоит уделить институциональным инвесторам, которые могут приобрести значительные пакеты акций и оказывают влияние на корпоративное управление.

2.2. Рекламная кампания.

Создание информационного пакета: подготовка подробных презентаций, отчетов, финансовых и стратегических документов о компании. Это включает не только базовые данные, но и прогнозы по прибыльности, возможным рискам и стратегиям развития.

Публикации в СМИ: важно использовать как традиционные, так и современные каналы коммуникации. Специализированные финансовые издания, новостные ресурсы и деловые порталы являются основными источниками информации для профессиональных инвесторов. Также возможно использование телевидения и радио для привлечения более широкой аудитории.

Реклама на специализированных платформах: размещение информации о реализации на платформах для частных и институциональных инвесторов, например, в специализированных базах данных или на финансовых рынках.

2.3. Продвижение через мероприятия и деловые сети.

Инвестиционные форумы и конференции: участие в инвестиционных форумах, выставках и семинарах, где можно презентовать информацию о предприятии, обсудить перспективы с потенциальными инвесторами и получить обратную связь.

Дни открытых дверей и презентации: организация специальных презентаций для заинтересованных инвесторов, на которых могут быть

представлены данные о предприятии, его финансовых результатах, инвестиционных возможностях и прогнозах.

2.4. Продажа через публичные торги или аукционы.

Публичные торги: проведение публичных аукционов или тендеров для продажи доли (акций) предприятия. Такой подход повышает прозрачность сделки и привлекает инвесторов, гарантируя конкурентные предложения.

Первичное размещение акций (IPO): если доля предприятия размещается на фондовой бирже, важно провести IPO с использованием маркетинговых инструментов (создание промо-материалов, PR-кампаний и привлечение аналитиков для оценки акций).

Открытые аукционы и конкурсные торги: применение методов, которые предполагают максимально открытое взаимодействие с рынком и полную прозрачность ценовых предложений.

3. Юридическая и финансовая поддержка.

3.1. Юридическая поддержка процесса.

Все маркетинговые мероприятия должны быть согласованы с юридическими аспектами приватизации, продажей и передачей акций. На этом этапе необходимо обеспечить юридическую чистоту сделки и устранить все возможные риски, связанные с правами собственности.

Для реализации акций предприятий важно соблюдать все требования законодательства, такие как соблюдение антимонопольных норм и национальных интересов.

3.2. Финансовая оценка и консультации.

Оценка стоимости доли или акций: в процессе реализации необходимо привлекать независимых экспертов для объективной оценки рыночной стоимости доли (акций) предприятия. Оценка должна учитывать не только текущие результаты, но и перспективы на будущее.

Привлечение финансовых консультантов: может быть целесообразным привлечь финансовых консультантов и инвестиционные банки для организации процесса продажи, разработки стратегии и привлечения крупных инвесторов.

4. Привлечение внимания к компании.

4.1. Создание доверия у инвесторов

Важно обеспечить инвесторов прозрачной информацией и раскрытием всех факторов, которые могут повлиять на стоимость компании. Например, можно представить результаты аудиторских проверок, планы реструктуризации или расширения предприятия, подробную информацию о менеджменте и т. д.

Маркетинговые мероприятия должны включать в себя планы по управлению рисками, а также стратегии, которые показывают, как государственное участие в управлении будет минимизировано.

4.2. Управление ожиданиями.

Важно четко управлять ожиданиями инвесторов, представляя как риски, так и возможные преимущества от покупки акций. Это создаст долгосрочное

доверие и снизит вероятность судебных разбирательств после завершения сделки.

5. Оценка эффективности маркетинговых мероприятий.

5.1. Анализ результатов

После завершения реализации доли (акций) необходимо провести анализ эффективности проведенной маркетинговой кампании. Оценка должна учитывать, насколько успешно привлечены инвесторы, как изменились рыночные цены на акции, а также общий эффект от продажи для государства.

Оценка интереса инвесторов: оценить количество запросов, количество заявок на участие в торгах, а также качество предложений от потенциальных инвесторов.

5.2. Обратная связь от инвесторов

Получение обратной связи от инвесторов после завершения сделки позволит лучше понять их восприятие процесса и выявить возможные улучшения для следующих программ приватизации.

Маркетинговые мероприятия по реализации доли (акций) государственных предприятий требуют комплексного подхода, включающего подготовку правовой и финансовой документации, проведение масштабных рекламных кампаний, а также использование различных методов продаж. Важно обеспечить прозрачность процесса, соответствие законодательным требованиям и привлечение надежных инвесторов для максимизации доходов государства и устойчивости приватизации.

Использованные источники:

1. Маркетинг IPO <https://gantbpm.ru/topics/marketing-ipo/>
2. Marketing on the Road to IPO /Beth Oporto Integrated Marketing Strategist, Brand Partnership Architect, Melissa Lotito Managing Director, Client Strategy <https://www.thericciardigroup.com/insights/marketing-on-the-road-to-ipo#:~:text=Marketing%20is%20a%20vital%20component,growth%20in%20the%20public%20markets.>

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ДЕРИВАТОГРАММА ТЕРМИЧЕСКИЙ АНАЛИЗ ТИОСЕМИКАРБАЗОМ ПАРАОКСИБЕНЗОАЛЬДЕГИДА С МОЛИБДЕНОМ

Аннотация: Синтезированы координационные соединения тиосемикарбазон параоксибензоальдегид с молибденом. Установлены состав, индивидуальность, способы координации молекул тиосемикарбазона, параоксибензоальдегидного фрагмента. Методами колебательной спектроскопии и термического анализа доказаны способы координации органических лигандов, окружение центрального иона и термическое поведение синтезированных соединений. Сравнением межплоскостных расстояний и относительных интенсивностей тиосемикарбазона, параоксибензоальдегид и их комплексных соединений состава $[\text{MoO}_2(\text{TCKnOBA})_2] \cdot 2\text{H}_2\text{O}$ показано, что новые координационные соединения отличаются между собой, а также от исходных компонентов, следовательно, соединения имеют индивидуальную кристаллическую решетку.

Ключевые слова: Синтез, состав, индивидуальность, физико-химические методы анализа, термическая устойчивость, координационные соединения, тиосемикарбазон парабензоальдегид.

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DERIVATOGRAM THERMAL ANALYSIS OF THIOSEMICARBAZONE PARAOXYBENZOALDEHYDE WITH MOLYBDENUM

Abstract: Coordination compounds of thiosemicarbazone paraoxybenzaldehyde with molybdenum were synthesized. The composition, individuality, and coordination modes of thiosemicarbazone and paraoxybenzaldehyde fragment molecules were established. The coordination modes of organic ligands, the environment of the central ion, and the thermal behavior of the synthesized compounds were demonstrated using vibrational spectroscopy and thermal analysis methods. By comparing the interplanar distances and relative intensities of thiosemicarbazone, paraoxybenzaldehyde, and their complex compounds of the composition $[\text{MoO}_2(\text{TSKpOBA})_2] \cdot 2\text{H}_2\text{O}$, it was shown that the new coordination compounds differ from each other as well as from the starting components, indicating that the compounds possess an individual crystal lattice.

Keywords: Synthesis, composition, individuality, physicochemical methods of analysis, thermal stability, coordination compounds, thiosemicarbazone paraoxybenzaldehyde.

Введение. В современной координационной химии в разделе химии твердого тела металлокомплексы, содержащие в лигандном окружении разные N,O-донорные центры, занимают особое место. Интерес к ним обусловлен тем, что исследование таких металлокомплексов развивается в связи с их использованием в качестве молекулярных магнетиков, каталитических систем, компонентов оптических регистрирующих сред и др. Они являются хорошими моделями для изучения проблемы конкурентной координации в химии комплексных соединений благодаря специфическому действию их окружения на стереохимию полиэдров. Комплексные соединения металлов обладая рядом специфических свойств, нашли широкое практическое использование во многих отраслях народного хозяйства.

Объекты и методы исследования. Для осуществления синтеза тиосемикарбазона параоксибензальдегида взяли 9,1 г (0,1 моль) тиосемикарбазона и растворили в 50 мл дистиллированной воды и добавили параоксибензальдегида (12,2 г (0,1 моль) в 50 мл этаноле). Температуру реакционной смеси добавили до 85°C при интенсивном перемешивании. Через 3 часа выпал осадок белого цвета, который промыли горячей водой и сушили при комнатной температуре. Выход продукта 86%.

Для синтеза новых координационных соединений состава $[\text{MoO}_2(\text{TSKpOBA})_2] \cdot 2\text{H}_2\text{O}$ нами выбрано 2,41 г (0,01 моль) натрия молибдата, который растворили в 50 мл дистиллированной воды. Затем к 50 мл дистиллированной воды добавили 2,90 г (0,01 моль) тиосемикарбазона параоксибензальдегида. Смешали оба раствора, нагрели до 80-85°C. При интенсивном перемешивании. Через 20 мин раствор стал мутным, зелено-

голубого цвета с $pH=8$. Добавляя по капля концентрированную HCl , pH раствора довели до нейтральной, после чего цвет раствора стал коричневым. Осадок промыли и сушили при комнатной температуре. Выход продукта составил 89% от ожидаемого.

Анализ синтезированных соединений на содержания молибдена проводили согласно. Азот определяли по методу Дюма, углерод и водород-сжиганием в токе кислорода. Результаты элементного анализа координационных соединений диоксокомплекса молибдена (VI) с тиосемикарбазонам приведены в таблице 1. Для установления индивидуальности синтезированных соединений снимали рентгенограммы на установке ДРОН-2,0 с Cu -анткатодом. ИК-спектры поглощения записывали в области $400-4000\text{ см}^{-1}$ на спектрометре AVATAR-360 фирмы "Nicolet". Термический анализ проводили на дериватографе системы F.Paulik- J.Paulik- L.Erdey [12] со скоростью 9 град.мин, и навеской 0,1 гр. при чувствительности гальванометров Т-900, ТГ-200, ДТА, ДТГ-1/10. Запись осуществляли в атмосферных условиях. Держателем служил платиновый тигель диаметром 10 мм без крышки. В качестве эталона использовали Al_2O_3 .

Таблица 1.

Результаты элементного анализа комплексных соединений диоксокомплекса молибдена (VI) с тиосемикарбазоном

Соединения	Элементы в процентах									
	Me, %		C, %		H, %		N, %		S, %	
	Найдено	Вычислено	Найдено	Вычислено	Найдено	Вычислено	Найдено	Вычислено	Найдено	Вычислено
$[MoO_2(TSKBA) \cdot H_2O] \cdot H_2O$	26.4 4	25.1 3	32.6 8	34.8 5	2.98	3.69	12.4 2	11.0 8	9.11	8.44
$[MoO_2(TSKпОБА)_2]2H_2O$	19.1 7	19.4 3	39.0 6	39.4 1	4.81	3.50	17.5 1	17.9 1	5.45	6.54

Результаты и их обсуждение. Кривая нагревания ДТА соединения ТСКп-ОБА обуславливается эндоэффектами при 110; 190; 230; 360 и экзоэффектами при 390 и 420°C. Первый эндоэффект следует отнести к плавлению. Последующие эндоэффекты характеризуется интенсивным разложением органического лиганда. Последние два экзоэффекты соответствует окончательному выгоранию продуктов.

Термолиза $Mo(TSKп-ОБА)_2 \cdot 2H_2O$ отмечены эндоэффект при 90; 832 и экзотермические эффекты при 210; 390; 500; 545°C. Первый эффект следует

отнести к отщеплению двух молекул воды. Убыль массы по кривой ТГ составляет 6.85% (вычислено 6.95%). Природы других экзотермических эффектов обусловлены интенсивным стадийным разложением комплекса. Общая убыль массы при 600°C составляет 76.0%.

На кривой ДТА комплекса $\text{MoO}_2(\text{TCKBA}) \cdot 2\text{H}_2\text{O}$ отмечены эндоэффекты при 87; 130; 280; 305; 615 и экзоэффекты при 350, 450 и 535°C. Первый эндоэффект соответствует удалению 1.5 молекулы воды. При этом убыль массы по кривой ТГ составляет 6.55% (вычислено 6.49%). Второй эндоэффект характеризуется обезвоживанием комплекса, убыль массы в интервале температур 120-140°C составляет 2.16%. Природа последующих термоэффектов связано интенсивным разложением безводного комплекса диоксомолибдена (VI). Характер двух последних экзотермических эффектов обусловлен окислением продуктов термоллиза молибденового комплекса. Убыль массы в диапазоне температур 450-520°C составляет около 2%. Общая убыль массы при 600°C составляет 73%.

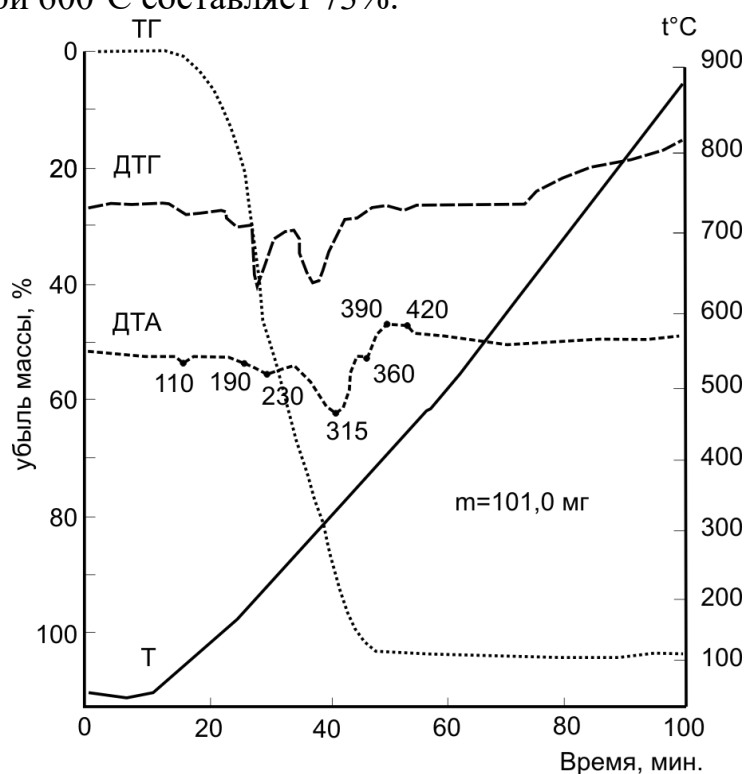


Рисунок 5. Дериватограмма свободного молекулы TCKnOBA.

Заключение. Впервые разработаны условия синтеза тиосемикарбазона п-бензальдегида с молибденом (VI). С помощью рентгенофазового, дериватографического анализов доказаны индивидуальность, способы координации молекул тиосемикарбазида и п-оксибензальдегида с молибденом (VI) и термическое поведение синтезированных соединений.

В результате исследования термического поведения соединений установлено, что термические характеристики синтезированных комплексов зависят от природы лигандов, состава соединений, дентатности

ацидолигандов и характера внешнесферных анионов. Кристаллизационные молекулы воды удаляются при низких температурах. Показано что конечными продуктами термолиза являются MoO_2S .

Полученные результаты могут быть использованы для синтеза других органических лигандов и координационных соединений d-металлов, а также могут служить в качестве справочных данных для научных сотрудников и работающих в области координационной химии.

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ОРГАНИЗАЦИЯ ФИЗКУЛЬТУРНО-МАССОВОЙ РАБОТЫ В УЗБЕКИСТАНЕ В ПРЕДВОЕННЫЕ ГОДЫ И В ПЕРИОД ВЕЛИКОЙ ОТЕЧЕСТВЕННОЙ ВОЙНЫ

***Аннотация:** Статья раскрывает различные формы физкультурно-массовой работы в Узбекской ССР в предвоенные годы и в условиях Великой Отечественной войны. Отмечается, что введенный в СССР в 1931 г. комплекс «Готов к труду и обороне» был положен в основу физического воспитания по всей стране. Подчеркивается, что одновременно с государственным развитием физкультуры и спорта набирали силу добровольные оборонные общества. С началом войны перед физкультурно-массовыми и спортивными организациями встали новые задачи. Они были направлены на военно-физическую подготовку граждан как боевого резерва Красной Армии и предусматривали широкое развертывание учебно-спортивной и военно-физкультурной работы с населением.*

***Ключевые слова:** военно-физическая подготовка и спорт, ГТО, Всеобуч, спортсмены, война.*

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ORGANIZATION OF PHYSICAL CULTURE AND MASS WORK IN UZBEKISTAN IN THE PRE-WAR YEARS AND DURING THE GREAT PATRIOTIC WAR

***Annotation:** The article explores various forms of mass physical education activities in the Uzbek SSR during the pre-war years and the Great Patriotic War. It notes that the "Ready for Labour and Defence" (GTO) complex, introduced in the USSR in 1931, became the foundation of physical education nationwide. The text emphasizes that alongside state-driven development of physical culture and sports,*

voluntary defense societies gained momentum. With the outbreak of the war, physical education and sports organizations faced new challenges. Their focus shifted to military-physical training of citizens as a combat reserve for the Red Army, involving large-scale sports education and military-physical programs for the population.

Keywords: *military-physical training and sports, GTO, Vseobuch (Universal Military Training), athletes, war.*

Введение. В предвоенные и военные годы в СССР занятиям физкультурой и спортом придавалось большое значение. Физкультурное движение охватило широкие массы рабочей и дехканской молодежи. Методы физкультурной подготовки были максимально использованы для совершенствования: физической закалки трудящихся, да поднятия производительности труда и укрепления обороноспособности страны.

Изложение основного материала статьи. На основании изучения и анализа архивных источников подтверждается, что в военный период, несмотря на экстремальные обстоятельства, физкультурно-массовая работа в тыловых регионах не прекратилась, проводились эстафеты, кроссы, футбольные матчи и т.д. В процессе спортивных занятий развивались такие важные личностные качества, как уверенность в себе, сила воли, стойкость, самообладание, которые имели решающее значение в боевой обстановке для достижения победы над врагом.

Руководство Узбекской ССР, неоднократно обсуждало состояние физкультурной работы в республике, и принимал решения о широком вовлечении в физкультурное движение рабочих и колхозников, обязал профсоюзные, общественные и комсомольские организации, наряду с использованием национальных видов спорта, наибольшее внимание уделять широкому внедрению общих его видов, обратить внимание на спортивные игры и физические упражнения.

Введенный постановлением Всесоюзного совета физической культуры 11 марта 1931 года комплекс ГТО (Готов к труду и обороне) стал основой советской системы физического воспитания и имел своей целью способствовать укреплению здоровья и всестороннему физическому развитию советских людей, успешной их подготовке к трудовой деятельности и защите Родины. Нормативы комплекса ГТО: ползание по-пластунски, оказание первой помощи, стрельба из малокалиберной винтовки, скоростной пеший переход, метание связки гранат, лазание по канату и шесту, переноска патронного ящика, плавание с гранатой в руке, преодоление полосы препятствий, оборонительные и нападающие приемы различных единоборств, знание топографии, умение метать гранату из разных положений. За десять предвоенных лет значкистами ГТО стали миллионы юношей и девушек. В процессе подготовки к сдаче нормативов комплекса молодежь овладевала разнообразными физическими, прикладными и военными упражнениями, запасалась необходимыми в трудовой и воинской

жизни качествами, знаниями, навыками и умениями. Прохождение этих мирных испытаний комплекса ГТО облегчило его значкистам самый сложный путь к победе над фашизмом. В 1934 г. введен комплекс БГТО (будь готов к труду и обороне), который носил прикладной, оздоровительный характер. Установление этого комплекса завершило оформление всей системы комплекса ГТО, в котором нашли отражение основные принципы советской системы физического воспитания – прикладность, всесторонность и оздоровительная направленность. Благодаря комплексу ГТО советские люди приобщались к систематическим занятиям физической культурой. Со сдачи норм ГТО начали свой путь многие известные спортсмены.

В 1935 году в городе Ташкенте был открыт Узбекский государственный техникум физической культуры. Он явился первой кузницей молодых специалистов по физкультуре в Республике. В 1936 году был организован комитет по делам физкультуры и спорта при СНК (Совет Народных Комиссаров). В 1937 году были открыты детские спортивные школы отделов народного образования. Это было началом нового этапа в развитии физкультурного движения в Узбекистане.

В условиях надвигающейся второй мировой войны, перед физкультурными организациями республики были поставлены конкретные задачи содействовать более широкому развитию среди населения оборонно-прикладных видов спорта, активизации работы по комплексам ГТО, «Готов к санитарной обработке» (ГСО), «Готов к противовоздушной и химической обороне» (ПВХО), Ворошиловский стрелок и усилению допризывной подготовки молодежи в общеобразовательных школах.

Своей целенаправленностью она способствовала не только боевой и физической закалке советской молодежи, но и укреплению обороноспособности страны. Военно-прикладные виды спорта помогли советской молодежи закалить себя, приобрести военные навыки и знания и выработать волю к победе.

В марте 1940 года при Наркомпросе (Народный комиссариат просвещения) Уз.ССР было создано управление военной подготовки и физического воспитания учащихся. Военная подготовка широко проводилась и в высших учебных заведениях. Особенно большая работа была проделана в Узбекистане в 1940 году. Это был год кипучей организаторской работы по развитию физической культуры и спорта. К концу этого года в республике было подготовлено более 104 тысяч физкультурников, из них 8 мастеров спорта, объединенных в тридцать добровольных спортивных обществ. Только по линии государственного бюджета на развитие физической культуры в 1940 году было израсходовано 439 тысяч рублей против 36,6 тыс. рублей в 1932 г.

С первых дней Великой Отечественной войны физкультурное движение стало перестраиваться на военный лад. Задачи вставшие перед физкультурными организациями в годы войны формулировались так: 1)

подготовить резервы Красной Армии; 2) проводить массовую военно-физическую подготовку населения; 3) готовить кадры специалистов по лечебной физической культуре для работы в госпиталях.

Физкультурные организации включились в проведение военно-физической подготовки населения, предоставив для этого кадры специалистов, спортивные базы, инвентарь и оборудование. Для ведения занятий на военно-учебные пункты направлялись преподаватели и тренеры, инструкторы физической культуры, студенты физкультурных учебных заведений.

Вместе с тем начавшаяся война показала, что апробированных методов подготовки населения к обороне недостаточно, необходимы новые формы работы по военному обучению советских людей. И вновь опорой стали «Осоавиахим» (организация содействия авиации и химической отрасли) и спортивные организации. Формировались новые учебные группы, большей частью из призывников и военнообязанных, изменилось программное содержание соревнований, активнее стали пропагандироваться военно-прикладные виды спорта (бег по естественной местности, штыковой бой, переползание по-пластунски и т.д.). 18 сентября 1941 г. было опубликовано постановление Государственного Комитета Обороны «О всеобщем обязательном обучении военному делу граждан СССР». При военкоматах были созданы отделы Всеобуча, главной задачей которого объявлялись организация и руководство военным обучением населения.

Обучение проводилось по 110-часовой программе бойца-стрелка без отрыва от производства, и включала огневую, тактическую, строевую подготовку, рукопашный бой, самоокапывание и уставы. Вся программа была рассчитана на пять месяцев из расчета два занятия в неделю. Потенциальные бойцы учились пользоваться винтовкой и автоматом, овладевали тактическими приемами. Особое внимание уделялось физической подготовке и воспитанию выносливости, выдержки, самообладания.

Важное значение придавалось освоению средств противовоздушной и противохимической защиты. Оборонные общества и физкультурно-спортивные организации оказывали максимальное содействие Всеобучу (всеобщее военное обучение). Согласно указанию Центрального Совета «Осоавиахима» СССР от 30 октября 1941 г. в целях планомерной военной подготовки населения органам Всеобуча передавалось оружие, приборы, учебно-наглядные пособия, стенды, плакаты.

В сентябре 1941 г. было введено всеобщее военное обучение трудящихся. Физкультурные организации совместно с «Осоавиахимом» и Красным Крестом помогали органам Всеобуча готовить воинов прикладных и технических специальностей.

Составной частью военно-физической подготовки населения стали массовые лыжные и легкоатлетические кроссы, военизированные походы, марш-броски, сдача норм на значок ГТО. В целях приближения комплекса ГТО к требованиям военного времени в 1942 г. в него были внесены

некоторые дополнения: изучение материальной части винтовки, знание топографии, оказание санитарной помощи и др.

В годы войны физкультурные организации много сделали по внедрению лечебной физической культуры в госпиталях.

Во второй половине ноября – начале декабря 1941 года большинство гражданских учебных заведений республики приступили к обучению учащихся военному делу. Допризывная военная подготовка, проводившаяся в школах и техникумах с начала 1941/42 учебного года, страдала организационными недостатками.

Так, школы и техникумы Сурхандарьинской и Наманганской областей были укомплектованы военруками всего лишь на 55-60 %, к тому же их часто заменяли в связи с призывом в армию. В большинстве областей республики учебные заведения не были обеспечены учебной материальной базой для проведения занятий по военной подготовке. Городские и районные военные комиссариаты военной подготовкой учащихся почти не занимались, передоверив её военрукам школ и техникумов. Сборы, методические инструктажи и командирская подготовка с военруками не проводились [1]. Партийные организации, военные комиссариаты и органы «Наркомпроса» Республики в соответствии с постановлением ЦК КП (б) Узбекской ССР от 6 сентября 1941 года [2] и с учётом отмеченных недостатков организовали в 1942/43 учебном году начальную и допризывную военную и физическую подготовку в средних школах и техникумах и военно-физическую подготовку в начальных классах неполных средних школ. Она вошла в общую систему обучения и воспитания учащихся и проводилась по программам НКО СССР.

Военная подготовка учащихся проводилась с целью: «Воспитать подрастающее поколение, – говорилось в положении о начальной и допризывной подготовке, – в духе беззаветной любви к Родине и преданности Советской власти, подготовить дисциплинированных, физически крепких и выносливых юношей, овладевших военным делом в объёме сокращённой программы, а также девушек к выполнению обязанностей санитарных дружинниц, радисток, телефонисток и телеграфисток» [3]. На основании этих постановлений военно-физическая и военно-санитарная подготовка учащихся осуществлялась следующим образом: ученики 1-4-х классов проводили военно-физическую подготовку по одному часу в неделю в 1-2-х классах, по два часа – в 3-4-х классах. В 5-7-х классах проводилась начальная военная подготовка по три часа в неделю. В 8-9-х классах средних школ и на 1-2-х курсах техникумов по четыре, а в 10-х классах и на 3-м курсе техникумах – по пять часов в неделю. Кроме того, юноши 8-9-х классов средних школ и 1-2-х курсов техникумов в период летних каникул проходили двухнедельные лагерные сборы по специальной программе с целью совершенствования строевой, топографической и тактической подготовки в полевых условиях, выполнения упражнений по огневой подготовке и получения навыков в инженерном оборудовании огневого рубежа [3, с. 381, 383]. Постановлением СНК СССР от 24 октября 1942 года в Наркомпросах Республики учреждались

должности заместителя Наркомпроса по военному обучению и в областных отделах народного образования – заместитель зав. народного образования по военному обучению. Вводились также военные руководители и преподаватели военного дела в школах и техникумах [3, с. 380].

Для улучшения военного обучения и воспитания учащихся гражданских учебных заведений, в округе при управлении боевой подготовки, в республиканском и областных военных комиссариатах были созданы инспекторско-инструкторские отделы инспектирования военной подготовки учащихся гражданских учебных заведений (ВИГУЗ), а в городских и районных военкоматах – введены в штат два старших инструктора и шесть инструкторов. На 1 апреля 1943 года эти органы были укомплектованы: отдел республиканского военного комиссариата на 85,2 %, областные военные комиссариаты – на 88 %, городские и районные военкоматы – на 86,4 % [4]. Укомплектованность личным составом отделов инспектирования военной подготовки учащихся гражданских учебных заведений Узбекской ССР на 1 апреля 1943 года, которая считалась резервом республики, в его состав включал по штату следующие должности: начальники отдела инспекции, старших инспекторов, инспекторов, старших инструкторов, инструкторов. На тот момент составляло: начальники отдела инспекции – 11, старших инспекторов – 1, инспекторов – 12, старших инструкторов – 141, инструкторов – 403, всего в республике – 568 человек (91 %) [4, с. 154, 230-234].

Военные отделы партийных комитетов и военные комиссариаты комплектовали школы, техникумы, а отдел кадров округа – высшие учебные заведения военными руководителями, старшими преподавателями и преподавателями. Комплектование вузов проводилось прежде всего старшим и средним комсоставом, вышедшим в запас после ранения, а школы и техникумы – старшинами и сержантами запаса, имевшими практику в командовании, обучении и воспитании бойцов, а также военруками-женщинами, имевшими физкультурное образование или спортсменками со средним образованием [3, с. 380, 381].

Подбор и расстановка этих кадров позволили к началу 1942/43 учебного года укомплектовать учебные заведения преподавателями в Сурхандарьинской, Ташкентской, Ферганской и других областях республики на 96-100 %, техникумов и равных им учебных заведениях – на 98,2 %, средних школ – на 81,4 %, школ трудовых резервов – на 100 % [5]. Наряду с этим имелись отдельные области, в которых школы не были полностью укомплектованы военруками. Партийные и советские организации приняли необходимые меры и помогли военным комиссариатам в начале учебного года полностью обеспечить школы военруками из числа сержантского состава и подготовленных физкультурников. Но если в начале 1942/43 учебного года гражданские учебные заведения были в основном укомплектованы преподавателями и военруками, то в течение учебного года многие военруки школ, техникумов, ремесленных училищ были призваны в армию, а младшего

командного состава запаса для выдвижения на должности военруков не хватало. Поэтому ЦК КП (б) Узбекской ССР и СНК республики принял специальное постановление об увеличении контингента обучающихся младших командиров на курсах Всеобуча при райвоенкоматах и открытии постоянно действующих 3-6-месячных курсов для подготовки военруков из числа молодёжи, преимущественно женщин, прошедших программу Всеобуча. Кроме того, Совнарком Узбекской ССР постановил создать при городских и районных военкоматах 3-6-месячные курсы без отрыва от производства для подготовки военруков и преподавателей военно-физической подготовки в школах [6]. Подготовка военруков и преподавателей военно-физической подготовки на курсах позволила к началу 1944 года укомплектовать гражданские учебные заведения Узбекистана необходимыми кадрами на 83,5 % [7].

Весьма важное значение для качественного обучения учащихся военному делу, имела подготовка самих военруков и преподавателей военно-физической подготовки. Поэтому партийные организации и военные комиссариаты уделяли самое серьёзное внимание проведению командирских семинаров, кратковременных сборов, инструктивно-методических занятий с военруками и преподавателями военной подготовки. В этих целях кроме командирской подготовки, инструктивно-методических занятий и семинаров с офицерами кафедр военной подготовки вузов и военруками школ, техникумов и ремесленных училищ в летнее время проводились 15-дневные лагерные сборы, а во время зимних каникул – 10-дневные инструктивно-методические сборы [3, с. 95]. Сборы проводились в две очереди при одном из вузов в областях. Начальники военных гарнизонов выделяли из воинских частей подготовленных по огневой и тактической подготовке офицеров. Для проведения занятий по педагогике привлекались лучшие методисты из числа преподавателей военно-учебных заведений и гражданских вузов. Инструкторы физической подготовки республики и областных отделов Всеобуча проходили месячные учебно-методические сборы. На указанных сборах офицерский состав Всеобуча, кафедр военной подготовки, а также военруки повышали методические навыки по боевой подготовке, знакомились с основами советской педагогики и закрепляли свои знания по материальной части оружия. Инструкторы по физической подготовке под руководством научных сотрудников всех институтов повышали свою квалификацию и получали необходимые организационно-методические навыки по руководству физической подготовкой учащихся гражданских учебных заведений и бойцов Всеобуча. Весьма важным мероприятием партийных, советских и военных органов являлось проведение 15-дневных лагерных сборов учащихся школ, техникумов и училищ. На основании приказа командующего войсками округа руководство, организация и проведение лагерных сборов возлагались на республиканские и областные военные комиссариаты. Начальниками лагерных сборов и учебных подразделений назначались офицеры военных комиссариатов. Личный состав

лагеря объединялся в батальоны, состоящие из нескольких рот. В отдельных случаях, при малой численности обучавшихся вместо батальонов создавались учебные роты. В некоторых горных приграничных районах при наличии незначительного числа учащихся (20-30 человек) создавались двухдневные военно-учебные пункты, в которых занятия проводились по программе лагерного сбора. С офицерским составом, сержантами и военруками, назначенными на командные должности, до начала лагерных сборов проводились 6-дневные учебно-методические занятия по программе отдела Всеобуча округа. На лагерных сборах вводился твёрдый воинский порядок. Политотделы республики и областных военных комиссариатов до начала лагерных сборов проводили среди учащихся и их родителей разъяснительную работу о значении лагерной подготовки учащихся, а также проводили политико-воспитательную работу в лагерях. Партийные и советские органы непосредственно занимались проведением лагерных сборов учащихся. В результате проведения лагерных сборов учащиеся физически крепки, приобретали элементарные навыки действий одиночного бойца и в составе отделения на местности, оборудованной в инженерном отношении, улучшали строевую подготовку, получали практику в стрельбе из боевой винтовки и учились несению караульной службы и суточного наряда. Военные занятия с учащимися давали не только знания по военному делу, что очень важно, но и оказывали благотворное влияние на всю жизнь школы. *«Прежде всего, – писал директор 50-й мужской средней школы Ташкента А. Саруханов, – значительно повысилась дисциплина в школах. Они стали заметно вежливее не только с преподавателями, но и вообще со всеми старшими по возрасту. Изменился и внешний вид школьников. Они стали подтянутыми»*[8]. Кроме плановых учебных занятий по военной подготовке проводились военные игры и соревнования по военно-прикладным видам спорта. Такие игры и соревнования проводившиеся комсомолом, способствовали физической закалке учащихся и втягиванию их в военизированные походы. 23 августа 1944 года военный совет округа подвёл итоги военно-физической и допризывной подготовки в учебных заведениях за 1943/44 учебный год, где отмечалось, что «в результате напряженной работы наркомпросов республик и их органов на местах, директоров школ и техникумов, военруков и педагогического персонала в военном обучении учащихся достигнуты значительные успехи. Учащиеся большинства школ, техникумов и училищ достигли хороших результатов по строевой и физической подготовке, возросла активность молодёжи в овладении военными знаниями, значительно улучшилась дисциплина. Военная подготовка глубоко проникла в жизнь школ»[9]. Включившись в смотр-соревнование по строевой и физической подготовке на приз военного совета округа, многие учебные заведения добились отличных и хороших показателей в усвоении программного материала по военной подготовке. За высокую учебную дисциплину и хорошую строевую и физическую подготовку учащихся военный совет наградил призами средние школы № 1 и № 61 города Ташкента и грамотами

другие школы. За занятие первого места в окружном смотре-соревновании Ташкентская мужская средняя школа № 50 была награждена переходящим призом военного совета округа [9, с. 132].

Заключение. Таким образом, усилиями партийных организаций, местных органов военного управления и органов Наркомпроса республики была организована и проводилась допризывная военная подготовка в гражданских учебных заведениях. Учащиеся одновременно с приобретением общеобразовательных знаний получали военные знания в объёме программы подготовки одиночного бойца, способного действовать в составе подразделения, что помогало им при последующем прохождении службы в армии быстро усваивать военное дело. Указанные мероприятия наилучшим образом подготавливали молодёжь к выполнению почётной обязанности каждого гражданина Советского Союза – военной службе.

Использованные источники:

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МОРФОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ ЛИМФАТИЧЕСКИХ СОСУДОВ ТОНКОЙ КИШКИ СОБАК ПРИ ЗАТРУДНЕННОМ ЛИМФООТТОКЕ

Резюме: В статье изучены морфологии млечных сосудов тонкой кишки собаки при застое лимфы, вызванном перевязкой на разных уровнях лимфатических сосудов, транспортирующих млечную жидкость в вены, поскольку в доступной нам литературе этот вопрос недостаточно освещен. А также состояния вне органых лимфатических сосудов тонкой кишки на собаках.

Ключевые слова: собака, тонкая кишка, вне органые лимфатические узлы, лимфатические сосуды, брюшная полость, млечные сосуды, брыжеечный узел.

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MORPHOLOGICAL CHANGES IN LYMPH NODES VESSELS OF THE SMALL INTESTINE OF DOGS WITH OBSTRUCTED LYMPH DRAINAGE

Abstract: One of the main ways of nutrient absorption in the small intestine is, as is known, its interorgan lymphatic system, from which lymph is diverted to the extracorporeal milk vessels. The extra organ milk vessels of the human small intestine, located in the mesentery, are formed from the diverting lymphatic vessels of the submucosa and the diverting lymphatic vessels of the serosa. They follow from the mesenteric edge of the small intestine to the main lymph nodes of the mesentery root together with or separately from the blood vessels, terminating in numerous mesenteric lymph nodes.

Key words: dog, small intestine, extra organ lymph nodes, lymph vessels, abdominal cavity, lactic vessels, mesenteric node.

Введение. Одним из основных путей всасывания питательных веществ в тонкой кишке является, из которой как известно, ее внутриорганная лимфатическая система, из которой лимфа отводится во вне органые

млечные сосуды[]. Вне органы млечные сосуды тонкой кишки человека, находящиеся в брыжейке, формируются из отводящих лимфатических сосудов подслизистого слоя и отводящих лимфатических сосудов серозной оболочки[]. Они следуют от брыжеечного края тонкой кишки к главным лимфатическим узлам корня брыжейки вместе с кровеносными сосудами или отдельно от них, прерываясь в многочисленных брыжеечных лимфатических узлах[].

Цель исследования. Задачей настоящей работы является изучение морфологии млечных сосудов тонкой кишки собаки при застое лимфы, вызванном перевязкой на разных уровнях лимфатических сосудов.

Материалы и методы исследования. Материалом исследования служили 23 животных (собаки), из них 3 контрольных. На экспериментальных животных с целью создания затрудненного оттока лимфы выполнено 4 серии опытов.

В первой серии опытов у 5 собак перевязаны грудной лимфатический проток в области шеи, у места впадения в левый венозный угол.

Во второй серии опытов у 5 собак легирован кишечный ствол у начала краниальной брыжеечной артерии.

В третьей серии опытов у 5 собак произведено 2 операции: вначале перевязан грудной лимфатический проток в области шеи, а через 4, 5, 7, 10 и 15 дней после этого сделана вторая операция - легированы эфферентные лимфатические сосуды краниального брыжеечного узла. В четвертой серии опытов у 5 собак были перевязаны афферентные лимфатические сосуды краниального брыжеечного узла у места впадения их в узел. Экспериментальных животных забивали через 1, 3, 5, 7, 10 и 15 суток после операции.

Результаты исследования. В результате проведенного исследования было выявлено, что у 5 собак 1 серии и 5 собак 3 серии через 2-7 суток после операции отчетливо видны расширенные (в 1,5-2 раза) млечные сосуды как на стенке тонкой кишки, так и в ее брыжейке. Количество последних по сравнению с нормой значительно увеличено как в тощей, так и в подвздошной кишке, очевидно, за счет расширения резервных лимфатических сосудов.

По длине тонкой кишки отчетливо заметна сеть лимфатических сосудов серозной оболочки, петли которой различной формы располагаются почти поперечно к длиннику кишки. Из этой сети формируются собирательные лимфатические сосуды, которые, сливаясь попарно и пересекая тонкую кишку поперек, достигают ее брыжеечного края и вступают в толщу брыжейки, где, анастомозируя друг с другом и с отводящими лимфатическими сосудами

I серия опытов: Через 8—15 дней после операции у других собак этой серии состояние вне органов лимфатических сосудов тонкой кишки и ее брыжейки было подобно вышеописанному, однако диаметр лимфатических сосудов несколько уменьшился, а в свободных от сосудов участках брыжейки наблюдалось помутнение различной степени вследствие разрастания

соединительной ткани. У всех собак названной серии производилось последовательное изучение лимфатических сосудов краниального брыжеечного лимфатического узла соответственно направлению тока млечной жидкости до вены. Эфферентные лимфатические сосуды краниального брыжеечного узла были многочисленными. 5 собак этой серии были забиты, а у 5 животных перевязали хорошо наполненные млечной жидкостью эфферентные лимфатические сосуды краниального брыжеечного узла и оставили их для дальнейшего исследования.

II серия опытов: У 3 собак была произведена неполная перевязка кишечных стволов, в связи с тем, что остались незамеченными добавочные кишечные стволы. Очевидно, поэтому видимых морфологических изменений со стороны лимфатических сосудов стенки тонкой кишки и ее брыжейки у этих животных через 7, 10, 15 суток после операции не было обнаружено.

У собаки, забитой через 5 суток после операции, во время инъекции лимфатических сосудов стенки тонкой кишки массой Герота наблюдалось неполное наполнение лимфатических сосудов ее брыжейки. Эфферентные лимфатические сосуды краниального брыжеечного узла в виде пучка направлялись краниально и впадали непосредственно в цистерну, либо проходили через поджелудочно-двенадцатиперстный узел. Кишечные стволы были облитерированы на всем протяжении от краниального брыжеечного узла до места перевязки.

III серия опытов: Задачей исследования этой серии было дальнейшее изучение состояния вне органных лимфатических сосудов тонкой кишки на 5 собаках 1 серии, у которых вначале был перевязан грудной лимфатический проток на шее, а через 4, 5, 10, 15 дней производилась перевязка эфферентных лимфатических сосудов краниального брыжеечного узла.

Через 5—7 дней после операции наблюдалось резкое переполнение лимфатических сосудов как стенки тонкой кишки, так и ее брыжейки, деформация, извилистость и увеличение их количества, некоторое уплотнение и утолщение стенки кишки. Собираательные лимфатические сосуды серозной оболочки тонкой кишки формировались в основном на ее свободном крае, они пересекали кишку в виде белых плотных тяжей, в которые впадали лимфатические сосуды стенки кишки. Возле облитерированных кишечных стволов была обнаружена масса мелких и крупных эфферентных лимфатических сосудов краниального брыжеечного лимфатического узла, которые были местами резко расширены и, объединяясь друг с другом, образовывали на задней брюшной стенке сплетение, которое обеспечивало в какой-то степени компенсаторный лимфоотток из узла. Одни эфферентные лимфатические сосуды краниального брыжеечного лимфатического узла, наполненные синей массой, следовали краниально и впадали или прямо в цистерну, или прерывались в поджелудочно-двенадцатиперстных узлах. Другие следовали в каудальном

направлении либо к аортальным узлам, либо позади нижней полой вены к поясничным лимфатическим узлам.

IV серия опытов: У 5 собак этой серии были перевязаны афферентные лимфатические сосуды краниального брыжеечного лимфатического узла на месте впадения их в узел, в правую и левую его половины.

Через 3—5 дней после перевязки наблюдался резкий застой млечной жидкости в вышеуказанных сосудах. Расширенные аркады лимфатических сосудов брыжеечного края кишки соединяли лимфатические сосуды соседних сосудисто-нервных пучков брыжейки. На 7 сутки после операции по ходу лимфатических сосудов в брыжейке встречались расширения в виде млечных «озер», разрастание соединительной ткани и помутнение брыжейки. В связи с утолщением стенки и уменьшением просвета лимфатические сосуды были плотными на ощупь, извилистыми. Стенка тонкой кишки у этих животных была отечной и уплотненной. Гонкой кишки, до впадения грудного лимфатического протока в венозный угол была произведена перевязка лимфатических сосудов на различных уровнях.

В результате исследования было обнаружено, что перевязка грудного лимфатического протока у места впадения его в левый венозный угол различно отражается на состоянии тока лимфы. У 3 собак была обнаружена широкая связь грудного лимфатического протока с лимфатическими сосудами, впадающими в правый венозный угол. Видимых изменений в хилёзных сосудах тонкой кишки у этих животных не наблюдалось.

У других животных, у которых не удалось обнаружить видимых связей между грудным лимфатическим протоком и лимфатическими сосудами правого венозного угла, наблюдали затруднение в различной степени оттока лимфы. Вместе с этим отчетливо выявлялось добавочное лимфатическое русло (компенсаторное расширение мелких лимфатических сосудов, сопровождающих кровеносные сосуды).

При перевязке одного крупного эфферентного лимфатического сосуда видимых морфологических изменений лимфатических сосудов брыжейки через 7, 10, 15 суток после операции не обнаруживалось.

Вывод. Одновременная перевязка крупных и мелких эфферентных лимфатических сосудов краниального брыжеечного лимфатического узла в значительной степени отражается на состоянии вне органных лимфатических сосудов тонкого кишечника; что выражается в увеличении количества и диаметра отводящих лимфатических сосудов, уплотнении и утолщении стенки лимфатических сосудов и стенки самой тонкой кишки, уплотнении и увеличении краниального брыжеечного лимфатического узла, а в некоторых случаях наблюдаются мелкоточечные кровоизлияния и изъязвления слизистой оболочки тонкой кишки.

Подобные изменения вне органных лимфатических сосудов тонкой кишки и ее брыжейки могут возникать при блокаде лимфатических сосудов и лимфатических узлов клетками злокачественных опухолей, а также и при других болезненных процессах.

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ЦИТОМОРФОЛОГИЧЕСКИЙ АНАЛИЗ СЕКРЕТОРНОЙ ДЕЯТЕЛЬНОСТИ ПРИ НЕЙРОДИСТРОФИЧЕСКИХ ПРОЦЕССАХ В ПЕЧЕНИ

Резюме: В статье изучены дифференциальный анализ тканевых изменений в печени, которые возникают в ней при различных видах денервации. Для изучения секреторной деятельности денервированной печени экспериментальные и интактные животные забивались всегда в одни и те же часы суток — в 9—10 часов утра, после предварительного их 24-часового голодания. Денервация печени лишь ограничивающая регулирующее влияние нервной импульсации на паренхиму печени, вызывает расстройство всей секреторной деятельности гепатоцитов.

Ключевые слова: кошки, печень, денервация, гепатоциты, перерезки нервов,
эксперимент, билиарный полюс, желчных кислот, аппарат Гольджи.

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CYTOMORPHOLOGICAL ANALYSIS OF SECRETORY ACTIVITY IN NEURODYSTROPHIC PROCESSES IN THE LIVER

Abstract: The article studies the differential analysis of tissue changes in the liver that occur in it with various types of denervation. To study the secretory activity of the denervated liver, experimental and intact animals were always killed at the same time of day - at 9-10 am, after a preliminary 24-hour fast. Denervation of the liver only limits the regulatory effect of nerve impulses on the liver parenchyma, causing a disorder of the entire secretory activity of hepatocytes.

Key words: cats, liver, denervation, hepatocytes, nerve transection, experiment, biliary pole, bile acids, Golgi apparatus.

Введение. В целостном организме железистая клетка выступает как часть целого. В то же время железистая клетка, как и любая другая соматическая клетка сама является интегрированной системой, т. е. она не может развиваться, функционировать и воспроизводить себя без какого-либо

из своих элементов [2,3]. Выяснение механизмов центрального регулирования внутриклеточных регуляторных систем представляет большой теоретический и практический интерес и является актуальным на современном этапе науки[1,4].

Дробное выключение афферентного или эфферентного звена рефлекторной дуги может служить одним из возможных методов для выяснения их значения в структурно-функциональной организации желез[5].

Цель исследования. Объектом изучения в настоящей работе была денервированная печень в эксперименте.

Материалы и методы исследования. Экспериментальными животными в работе служили самцы домашних кошек. Все экспериментальные и интактные животные содержались в условиях вивария и были на обычной смешанной диете. После оперативного вмешательства экспериментальные животные забивались в разные сроки - от 1 недели до 6 месяцев, всегда в 9-10 часов утра после предварительного 24-часового голодания. В контрольных операциях производилось вскрытие спинномозгового канала или брюшной полости без последующей перерезки нервов или удаления нервных ганглиев. Секреторная деятельность гепатоцитов у интактных животных исследовалась в различные сроки после кормления и часы суток. Всего было обследовано 20 оперированных и около 10 интактных животных. Кусочки органа, взятые от интактных и оперированных животных, исследовались с помощью цитологических, гистохимических и биохимических методов.

Результаты исследования. Секреторная деятельность гепатоцитов проявляется в выработке ими как белковых (белки плазмы крови, ферменты, выделяемые с желчью), так и небелковых (желчные кислоты, фосфолипиды плазмы крови, холестерин) секреторных продуктов. Кроме того, гепатоциты способны в отличие от мышц, беспрепятственно поглощать глюкозу из крови и депонировать ее в своей цитоплазме в виде глыбок гликогена. Деятельность печени, как пищеварительной железы, осуществляется через билиарный полюс гепатоцитов путем выделения в полость 12-перстной кишки желчных кислот, щелочной фосфатазы и в небольшом количестве других ферментов. Через их сосудистый полюс поступают из крови в клетки исходные вещества и выделяются обратно в кровь готовые секреторные продукты. Именно в этой области печеночных долек и создаются сложные структурно-функциональные взаимоотношения между кровеносной системой и сосудистым полюсом гепатоцита. Наши данные показывают, что клеточные органоиды принимают участие в секреции желчных кислот. По биохимическим данным структурные преобразования митохондрий и их перемещение в клетке в разные фазы секреции желчных кислот свидетельствуют о том, что митохондрии не только обеспечивают биоэнергетику желчеобразования, но и сами участвуют в секреции желчных кислот. Для изучения секреторной деятельности денервированной печени экспериментальные и интактные животные забивались всегда в одни и те же

часы суток — в 9—10 часов утра, после предварительного их 24-часового голодания. У интактных животных в эти часы суток большинство клеток в печеночных долях заполнены секреторными гранулами (фаза накопления желчных кислот). При смешанной денервации (удаление узлов солнечного сплетения или перерезка блуждающих нервов) степень нарушения в секреторной деятельности печени зависит от обширности ее денервации. Наиболее обширная денервация печени в наших экспериментах достигалась после удаления полулунных узлов солнечного сплетения или же одновременного удаления узлов солнечного и верхнебрыжжеечного сплетений и перерезки обоих блуждающих нервов под диафрагмой. Следует отметить, что при смешанной денервации сосуды печени денервируются как в чувствительном, так и в двигательном отношении, что естественно вызывает нарушение внутриорганной циркуляции. Однако несмотря на сосудистые нарушения в печени при смешанной денервации никогда не происходит полного исчезновения гликогена, хотя, количество его и падает обычно в то время как при деафферентации печени печеночные клетки теряют полностью способность насыщаться гликогеном. При смешанной денервации в печени, как уже указывалось, возникают более обширные некротические очаги, чем при чистой деафферентации органа. В остающихся сохранных участках паренхимы долек в одних клетках секреторная деятельность сохраняется, в других же гепатоцитах - обнаруживаются все признаки нарушения секреторного процесса. При этом отмечаются изменения в структуре клеточных органоидов. Аппарат Гольджи сильно гипертрофируется. Желчные канальца выглядят растянутыми, и во многих местах фрагментируются.

В некоторых гепатоцитах встречаются небольшие по площади бесструктурные зоны. Биохимическое исследование белков плазмы крови (альбуминов и глобулинов), произведенное с помощью электрофореза на бумаге, показало резкое уменьшение через 2 недели после денервации печени общего белка в сыворотке крови, главным образом, происходящее за счет уменьшения фракции альбуминов. Через 5 месяцев после смешанной денервации печени в сыворотке крови отмечалась тенденция к нормализации содержания в ней различных белковых фракций. Таким образом, из приведенного в настоящей статье экспериментального материала следует, что производимая в наших опытах даже частичная денервация печени, лишь ограничивающая регулирующее влияние нервной импульсации на паренхиму печени, — вызывает расстройство всей секреторной деятельности гепатоцитов. В наших экспериментах четко разграничивается влияние на секреторную деятельность гепатоцитов чистой деафферентации печени от смешанной ее денервации. В последнем случае на общую картину денервационных изменений накладываются усиливающиеся, вследствие полной денервации сосудов — сосудисто-циркуляторные расстройства. Денервация печени влечет за собой возникновение в ней целого ряда цепных реакций, которые вообще лежат в основе всех физиологических механизмов

организма и которые обеспечивают взаимодействие различных частей организма. Для того, чтобы разобраться в сложном переплетении факторов, влияющих на секреторную деятельность денервированных гепатоцитов, рассмотрим кратко основные изменения, возникающие при денервации печени. Деафферентация печени достигалась в наших экспериментах, путем удаления спинномозговых узлов. Мы говорили, что деафферентация печени приводит к потере способности гепатоцитов поглощать глюкозу и депонировать ее в виде глыбок гликогена. У интактных голодавших животных глюкоза индуцировала в печени синтез фермента глюкокиназы, в то время как у голодающих животных с де-нервированной печенью глюкоза не влияла на сниженный уровень активности этого фермента. Голодание индуцирует в нормальной печени синтез глюкозо-6-фосфотазы, но не вызывает этого же эффекта в денервированной печени. С другой стороны, введение инсулина восстанавливает в печени синтез глюкокиназы в диабетическом организме, однако введение инсулина в кровь при денервации печени не изменяет в ней сниженный уровень активности фермента глюкокиназы. В наших опытах мы видели, что гликогендепонирующая функция гепатоцитов не восстанавливается даже через 6 месяцев после деафферентации печени. Иными словами, денервированный в чувствительном отношении гепатоцит утрачивает способность реагировать на воздействие многих внешних факторов, в том числе и гормональных. Вместе с тем, следует иметь в виду, что нарушение обмена глюкозы в печени вызывает изменение во внутриклеточных энергетических ресурсах гепатоцитов и приводит в конечном счете к нарушению синтеза АТФ в их митохондриях. Можно думать, что нарушение синтеза АТФ изменяет конформационное состояние белков в митохондриальных мембранах. В наших экспериментах четко демонстрируется вся динамика структурно-функциональных нарушений митохондриального аппарата денервированного гепатоцита.

Вывод. В поздние сроки деафферентации отмечается уменьшение количества митохондрий в клетках печени, а в некоторых гепатоцитах они полностью исчезают. В ранние сроки денервации (2 недели после операции) бросается в глаза переполнение секреторными гранулами печеночных клеток. Секреторные гранулы набухают, часто имеют смазочные контуры. Иногда они сливаются в крупные фуксинофильные конгломераты, между которыми лежат вакуоли разной величины. Через 1 месяц и 3 месяца после деафферентации печени количество секреторных гранул и митохондрий в клетках заметно уменьшено, а в некоторых клетках они совсем исчезают.

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ЗАРУБЕЖНЫЕ МОДЕЛИ ОРГАНИЗАЦИИ ГОСУДАРСТВЕННОЙ ГРАЖДАНСКОЙ СЛУЖБЫ

Аннотация: целью настоящего исследования является сравнительный анализ зарубежных моделей организации государственной гражданской службы. Глобализация и усложнение общественных процессов требуют постоянной модернизации государственного управленческого аппарата, что в свою очередь обуславливает высокую степень актуальности изучения зарубежного опыта функционирования института государственной службы. В статье рассмотрены основные модели государственной гражданской службы, исторически сложившиеся в зарубежных странах под влиянием различных общественно-политических причин. Рассматриваются вопросы разделения должностей государственной службы на категории, а также основные компетентностные требования, предъявляемые к каждой из них, а также подходы к развитию данных компетенций и основные методы, применяемые в данном процессе.

Ключевые слова: государственная служба, государственная гражданская служба, государственный служащий, модель государственной службы, государственная служба за рубежом.

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FOREIGN MODELS OF STATE CIVIL SERVICE ORGANIZATION

Abstract: the purpose of this study is a comparative analysis of foreign models of public civil service organization. Globalization and the increasing complexity of social processes require constant modernization of the state administrative apparatus, which in turn determines the high degree of relevance of studying the foreign experience of the functioning of the institute of public administration. The article examines the main models of the state civil service that have historically developed in foreign countries under the influence of various socio-political reasons. The issues of dividing civil service positions into categories, as well as the main competence requirements for each of them, as well as

approaches to the development of these competencies and the main methods used in this process are considered.

Keywords: *public service, public civil service, civil servant, model of public service, public service abroad.*

К настоящему времени, в мировой практике обеспечения функционирования аппарата государственной власти сложились две основные модели организации государственной службы одновременно выступающие типами систем государственной службы: открытая и закрытая. Открытый тип, отличается отсутствием четкого механизма правового регулирования государственной службы, упрощенной системой освобождения от должности, открытой конкурсной системой, характерен для стран англо-саксонской ветви права. Закрытая модель, в основе которой лежит строгое соблюдение принципов субординации, относится к странам романо-германской группы права.

Тем не менее, мировая практика реализации положений данных моделей в процессе организации государственной службы, позволяет выделить ряд общих черт, позволяющих обеспечивать эффективную реализацию полномочий публичной власти: высокий уровень ответственности государственных служащих при выполнении должностных обязанностей и грамотный контроль за их деятельностью со стороны руководства⁹⁴.

Под воздействием различных общественно-политических факторов, в мировой практике исторически сложились различные системы государственной службы, имеющие отличительные черты в том числе и в категориях должностей. Модели государственной гражданской службы имеют четко выстроенные вертикали субординации, кроме того системы государственной службы ряда стран имеют категориальный аппарат топ-менеджеров или высших должностных лиц, относящийся к особому корпусу государственной службы.

К настоящему времени в странах Европейского союза сложились пять основных моделей системы корпуса топ-менеджеров государственной службы.

Первая модель характеризуется наличием особого административного офиса, целью которого является обеспечение деятельности корпуса топ-менеджеров государственной службы. В основные функциональные задачи офиса входят вопросы подбора, отбора, найма, оплаты труда и иные вознаграждения топ-менеджеров.

В основе второй модели лежит закрепление корпуса топ-менеджеров государственной службы на законодательном уровне, при этом

⁹⁴ Мочеран В.Д., Кудряков В.Г. Зарубежный опыт организации государственной гражданской службы // Экономика и управление: актуальные вопросы теории и практики. 2023. С. 334. Режим доступа: <https://elibrary.ru/item.asp?id=54819608> (дата обращения 05.03.2025).

административный офис, обеспечивающий функционирования данного корпуса власти отсутствует. Обеспечением деятельности корпуса топ-менеджеров, как правило, занимается ведомство, в ведение которого находится вся вертикаль государственной службы.

Третья модель характеризуется формальным закреплением корпуса высших должностей государственной службы. Не смотря на выделение данной категории должностей на законодательном уровне, обеспечение функционирования корпуса топ-менеджеров проходит на общих условиях.

Законодательное закрепление топ-менеджеров в рамках реализации положений четвертой модели отсутствует, при этом корпус негласно существует и к его представителям применяются особые условия подбора, отбора, найма, оплаты труда, в том числе премирования и вознаграждения.

Пятая модель характеризуется как формальным, так и реальным отсутствием особого корпуса топ-менеджеров. В рамках данной модели топ-менеджеры рассматриваются как часть общего института государственной службы и не имеют особого положения и условий прохождения государственной службы.

В большинстве зарубежных стран замещение должности государственной гражданской службы сопровождается прохождением ряда конкурсных процедур, заключительной частью которых выступает итоговый экзамен.

Примечателен также опыт Венгрии, где топ-менеджеров набирают исключительно на основе их управленческих навыков и опыта, без предыдущего опыта работы на государственной службе. В Нидерландах создана программа для молодых талантливых ученых, чтобы они могли начать свою карьеру в гражданской службе. В основном лучшие кандидаты выбираются и назначаются по результатам конкурса. В Великобритании, кроме Кабинета министров, высший корпус государственных служащих играет важную роль в управлении в качестве независимого органа. Назначение на должность высших государственных служащих является королевской прерогативой⁹⁵.

Наиболее сложная система на должность государственной гражданской службы действует в Германии⁹⁶. Примечательно, что в данной стране понятие «государственная служба» в принципе отсутствует, сотрудники органов власти, обеспечивающие функционирование государства в Германии проходят публичную службу. Публичные служащие могут быть назначены на свою должность как пожизненно, так и временно на ограниченный срок, который может быть либо испытательным, либо подготовительным для

⁹⁵ Немкова В.А., Кузнецов И.А. Понятие и модели организации государственной службы России и зарубежных стран // Modern Science. 2020. № 5-3С. 355. Режим доступа: <https://elibrary.ru/item.asp?id=42911973> (дата обращения 05.03.2025).

⁹⁶ Карасаева Л.В. Публичная (государственная) служба Федеративной Республики Германия // Актуальные вопросы развития государственности и публичного права. Материалы VI международной научно-практической конференции, в 2-х т.. Санкт-Петербург, 2020. С. 187. Режим доступа: https://elibrary.ru/download/elibrary_44185034_77409036.pdf (дата обращения 05.03.2025).

дальнейшего прохождения публичной службы. Пожизненное назначение на должность публичной службы возможно только при условии прохождения испытательного срока, продолжительность которого в Германии может быть определена на период до 5 лет⁹⁷.

Система набора на госслужбу в Великобритании предполагает проведение определенных письменных экзаменов общего типа и обязательного собеседования по программе ведущих университетов (Оксфордского и Кембриджского), обеспечивающих большую часть кандидатов на руководящие посты⁹⁸.

Как уже было отмечено ранее, система государственной гражданской службы многих современных стран характеризуется наличием корпуса топ-менеджеров. Наличие данного института государственной службы с течением времени доказало свою эффективность. Высший корпус не только оказывает положительное влияние на всю систему государственной службы, но и как правило способствует ее непрерывному развитию, а также повышению результативности и эффективности деятельности. немаловажное значение в этих процессах играет личный пример топ-менеджеров, в связи с чем при отборе кандидатов для данной группы должностей большое внимание уделяется не только профессиональным, но и личностным качествам кандидатов, в том числе культурному аспекту.

Для каждой категории должностей государственной гражданской службы устанавливаются квалификационные требования, которые подлежат строгой оценке в процессе проведения конкурсных процедур. В различных странах профили данных компетенций отличаются, так в Болгарии при найме кандидатов большое внимание уделяется оценке навыков текущего ситуативного анализа и стратегического планирования. В Эстонии строго оцениваются организаторские способности, проверка которых происходит посредством тестирования кандидатов в специализированном Центре компетенций.

В большинстве европейских стран на первом месте находятся квалификационные компетенции непосредственно необходимые для успешной реализации должностных обязанностей.

Подобно отечественной практике, зарубежом оценке подлежат способности служащих к потенциальному руководству, их лидерские качества. При этом в европейских странах, в отличие от России, кандидатам, у которых в процессе тестирования не выявлены лидерские качества, в дальнейшем практически невозможно занять руководящую должность.

⁹⁷ Костерина Е.Н. Правовое регулирование государственной службы в германии // Скиф. Вопросы студенческой науки. 2020. № 6 (46). С. 365. Режим доступа: https://elibrary.ru/download/elibrary_44197910_43093240.pdf (дата обращения 05.03.2025).

⁹⁸ Кулигина Н.Д. Государственная служба в Великобритании // Наука и инновации XXI века. 2020. С. 38. Режим доступа: <https://elibrary.ru/item.asp?id=44215443> (дата обращения 05.03.2025).

Вне зависимости от действующей модели государственной гражданской службы, во всех зарубежных странах обязательным условием прохождения государственной службы является непрерывное повышение квалификации. При этом в большинстве европейских стран методы обучения и повышения квалификации, применяемые в отношении вновь принятых работников и работников со стажем, принципиально различаются.

Наряду с традиционными способами обучения государственных служащих, в европейских странах набирают популярность такие формы как: сторителлинг, коучинг, импровизированные обучающие семинары и др. Во многих странах применяются не только традиционные виды обучения, но и семинары, конференции, обмен опытом, групповые или индивидуальные сессии обратной связи и т.д.

Исходя из анализа действующих зарубежных моделей государственной службы можно сделать вывод о том, что некоторые их составляющие можно применить для модернизации института государственной гражданской службы в Российской Федерации. При этом попытка пересадки модели управления на российский опыт не должна копировать, а должна быть модернизирована конкретно под страну с учетом особенностей данной страны.

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ГАРАНТИИ РЕАЛИЗАЦИИ ПРАВОВОГО СТАТУСА ГОСУДАРСТВЕННОГО СЛУЖАЩЕГО В ЗАРУБЕЖНЫХ СТРАНАХ

Аннотация: целью настоящего исследования является сравнительный анализ правового статуса государственных гражданских служащих в зарубежных странах. В статье приводятся основные права, обязанности и гарантии, которыми наделены государственные гражданские служащие в различных странах, дается сравнительный анализ права социального обеспечения государственных служащих за рубежом, рассматриваются вопросы законодательного закрепления правового статуса как самого государственного гражданского служащего, так и института государственной службы в целом.

Ключевые слова: государственная служба, государственная гражданская служба, государственный служащий, правовой статус государственного служащего, правовые гарантии государственной службы за рубежом.

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GUARANTEES FOR THE IMPLEMENTATION OF THE LEGAL STATUS OF A CIVIL SERVANT IN FOREIGN COUNTRIES

Abstract: the purpose of this study is a comparative analysis of the legal status of government civil servants in foreign countries. The article presents the basic rights, duties and guarantees granted to civil servants in various countries, provides a comparative analysis of the social security rights of civil servants abroad, and examines the issues of legislative consolidation of the legal status of both the civil servant and the institution of public service in general.

Keywords: civil service, civil service, civil servant, legal status of civil servants, legal guarantees of public service abroad.

Совокупность прав и обязанностей государственного служащего составляет основу его правового статуса. Наиболее полное определение правового статуса содержится в федеральном законе от 27.05.1998 № 76-ФЗ (ред. от 28.12.2024, с изм. от 12.02.2025) «О статусе военнослужащих». Статус

военнослужащих, согласно данному нормативно-правовому акту, есть совокупность прав, свобод, гарантированных государством, а также обязанностей и ответственности военнослужащих, установленных настоящим Федеральным законом, федеральными конституционными законами, федеральными законами и иными нормативными правовыми актами Российской Федерации.

Основой для определения должностных обязанностей, а также прав и полномочий государственного гражданского служащего, как в отечественной, так и в зарубежной практике выступает его правовой статус, который выражается в государственных гарантиях.

Институт государственных гарантий государственного служащего в зарубежных странах включает в себя следующие основные функциональные элементы:

- 1) правовое регулирование;
- 2) деятельность органов социальной защиты при высших и местных органах власти и управления;
- 3) разработка вариантов решения возникающих проблем в сфере предоставления гарантий, предварительная проверка их обоснованности;
- 4) периодическая проверка норм, закрепленных в законодательных актах, на соответствие их современным реалиям;
- 5) выявление новых процессов и потребностей в реализации системы гарантий⁹⁹.

Государственная гражданская служба как сфера профессиональной деятельности сформировалась в европейских странах задолго до появления в нашей стране. Одной из первых стран, в которой появился институт государственной службы является Германия, характерной чертой государственной службы в которой является единство прав и обязанностей государственных служащих при правовом регулировании служебно-правовых отношений. В Германии оплата труда для государственных служащих состоит из основного оклада, местной доплаты, должностных надбавок, а также прочих дополнительных выплат. При этом оплата труда выступает не прямой платой за проделанную работу, а является компенсацией за службу в целом. Премия выплачивается, как правило, за выдающиеся заслуги, ее получают только около 10 % служащих, и может достигать размера среднемесячного заработка. Пособие по выполнению выплачивается в размере 7 % ежемесячного заработка и выплачивается на протяжении года, потом может быть снято¹⁰⁰.

⁹⁹ Гилязетдинов А.И., Кузнецов И.А. Правовой статус государственного служащего в зарубежных странах // Аллея науки. 2024. Т. 1. № 4 (91). С. 708. Режим доступа: <https://elibrary.ru/item.asp?id=72755967> (дата обращения 05.03.2025).

¹⁰⁰ Гилязетдинов А.И. Правовой статус государственного служащего в зарубежных странах // Научные исследования 2024: актуальные теории и концепции. Москва. 2024. С. 78. Режим доступа: <https://elibrary.ru/item.asp?id=69204240> (дата обращения 05.03.2025).

В Германии заработная плата государственных служащих, должности которых относятся к высшей категории, имеет фиксированный характер. При этом правовое регулирование процесса расчета, назначения и выплаты данных окладов абсолютно идентично для всех госслужащих, как федерации, так и общин.

За государственными служащими в Германии закреплено право на социальное обеспечение (пенсионное обеспечение, некоторые компенсационные выплаты, связанные с осуществлением профессиональной деятельности и т.д.). Кроме того, социальное обеспечение государственного служащего в Германии предусматривает материальную помощь членам его семьи в случае его в процессе выполнения должностных задач¹⁰¹.

Одной из особенностей правового статуса государственного служащего в Великобритании является отсутствие правового акта, регулирующего вопросы государственной, в том числе гражданской службы. Различные аспекты государственной гражданской службы в стране регламентируются актами делегированного законодательства отдельных должностных лиц.

В Великобритании разработаны определенные критерии заработной платы государственного служащего, объединенные в специальную шкалу. Также, при должном выполнении должностных обязанностей, государственные служащие могут рассчитывать на назначение ежегодной надбавки.

Вопросы определения критериев и норм заработной платы государственных служащих в Германии находится в ведении Казначейства. Все нормативы по заработной плате и надбавках вносятся в специальные циркуляры.

Французское законодательство о государственной службе также содержит основные гарантии государственного гражданского служащего, среди которых особое место отводится свободе мнения, недопущению дискриминации государственных служащих, основанной на их личных принципах и убеждениях.

Отличительной особенностью законодательной базы государственной службы во Франции является закрепление правового не только государственного служащего, но и самого института государственной службы. Таким образом, при причинении служащим ущерба третьему лицу в связи с ошибками, допущенными при исполнении служебных обязанностей, такой ущерб возмещается самой публичной службой¹⁰².

¹⁰¹ Гафарова А.Д. Правовой статус государственных гражданских служащих в России и в зарубежных странах: сравнительный анализ // Modern Science. 2020. № 5-3 С. 357. Режим доступа: https://elibrary.ru/download/elibrary_47432541_10123269.pdf (дата обращения 05.03.2025).

¹⁰² Немкова В.А., Кузнецов И.А. Понятие и модели организации государственной службы России и зарубежных стран // Управление социально-экономическими системами: теория, методология, практика. Сборник статей IX Международной научно-практической конференции. Пенза, 2021. С. 114-117. Режим доступа: <https://elibrary.ru/item.asp?id=42911973> (дата обращения 05.03.2025).

Подобно отечественной системы государственной службы, размер оплаты труда государственного служащего во Франции также зависит от категории должности, а также от соответствующего данной должности звания, выступающему аналогом классного чина российских государственных служащих. Государственные служащие во Франции имеют права на особые условия социального обеспечения.

Условия регулирования правового статуса государственного служащего в Германии, при сложившейся децентрализованной системе органов государственного управления, являются в европейских странах эталонными по ряду критериев и бесспорно доказали высокую степень эффективности.

Государственные служащие в Германии имеют высокий социальный статус, в дополнении к которому в стране функционирует институт почетного чиновника. Кроме того, как уже было отмечено ранее государственные служащие в Германии могут рассчитывать на особые условия социального обеспечения, а, следовательно, и правовых гарантий.

В системе государственной службы в Германии действуют принципы пожизненного назначения, аналогичные японской модели управления.

Однако данный факт не говорит о «застое» кадров в системах государственной службы обеих стран, в Германии, как и в Японии, практикуется ротация кадров как между ведомствами одного, так и разного уровней.

Государственные служащие в Японии имеют высокий социальный статус, что делает государственную службу престижной. При этом замещение вакантных должностей государственной службы доступно для всех желающих, конкурсные процедуры носят открытый характер.

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СОВЕРШЕНСТВОВАНИЕ УЧЕТА, АНАЛИЗА И АУДИТА ФИНАНСОВЫХ РЕЗУЛЬТАТОВ ПО ВИДАМ ДЕЯТЕЛЬНОСТИ ОРГАНИЗАЦИИ

***Аннотация:** В статье рассматриваются теоретические и прикладные аспекты организации учета, анализа и аудита финансовых результатов в разрезе различных направлений деятельности коммерческой организации.*

Актуальность темы обусловлена необходимостью повышения качества управленческой информации, используемой для оценки эффективности, а также возрастающими требованиями к прозрачности и достоверности отчетности.

Раскрыты основные проблемы действующей практики учета и анализа, обусловленные фрагментарностью информации, недостаточным вниманием к внутренним источникам формирования прибыли и отсутствием интеграции между бухгалтерским и управленческим учетом.

***Ключевые слова:** финансовые результаты, учет анализ аудит, виды деятельности, управленческая отчетность, эффективность достоверность, внутренняя информация*

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IMPROVING ACCOUNTING, ANALYSIS, AND AUDIT OF FINANCIAL RESULTS BY TYPES OF ORGANIZATIONAL ACTIVITIES

***Abstract:** The article examines theoretical and practical aspects of organizing accounting, analysis, and audit of financial results in terms of various areas of activity within a commercial organization.*

The relevance of the topic is due to the need to improve the quality of management information used for performance evaluation, as well as the growing requirements for transparency and reliability of financial reporting. The main problems of current accounting and analysis practices are identified, including fragmented information, insufficient attention to internal sources of profit

generation, and the lack of integration between financial and managerial accounting systems.

Keywords:*financial results, accounting, analysis, audit, types of activity, management reporting, efficiency, reliability, internal information*

Введение

В условиях высокой конкуренции и нестабильной внешней среды вопросы повышения эффективности управления финансовыми результатами приобретают особую значимость. Традиционные подходы к учету прибыли и убытков нередко оказываются недостаточными для точной оценки реальной ситуации, поскольку они не учитывают особенностей отдельных направлений деятельности. Унификация отчетных форм, ориентация на налоговые требования и отсутствие должного внимания к детализации показателей создают риски искажения управленческой информации. Принятие обоснованных решений невозможно без комплексного анализа финансовых результатов, основанного на достоверных данных. Поэтому актуальной задачей становится совершенствование учета, анализа и аудита прибыли и убытков по видам деятельности, что позволит не только повысить прозрачность отчетности, но и обеспечить более точную оценку рентабельности бизнес-процессов. В целях реализации данной задачи необходимо изучить теоретические основы проблемы, выявить слабые места существующей практики, а также предложить инструменты, способствующие комплексному подходу к управлению финансовыми результатами.

Материалы и методы

Методологическую основу исследования составили принципы системного и процессного подхода, позволяющие рассматривать финансовые результаты не как статический показатель, а как результат функционирования различных элементов внутрихозяйственного механизма. В работе использованы методы сравнительного анализа, логического моделирования, классификации и группировки данных, а также нормативно-правовой анализ действующего законодательства в сфере бухгалтерского учета и аудита. Информационной базой послужили данные бухгалтерской и управленческой отчетности российских предприятий, материалы финансовой аналитики, а также международные стандарты финансовой отчетности и аудита. В процессе исследования проведено сопоставление методик расчета и представления прибыли по направлениям деятельности, проанализированы типовые ошибки и недостатки в отражении данных. Также рассмотрены практические аспекты взаимодействия учетных и контрольных служб в процессе подготовки и проверки информации.

Результаты

Финансовый результат представляет собой разницу между доходами и расходами организации за отчетный период. Однако в целях анализа и принятия решений гораздо важнее не просто знать общий итог, а понимать, какие именно направления деятельности приносят прибыль, а какие —

убытки. Согласно международным стандартам, целесообразно выделять три ключевых вида деятельности: операционную, инвестиционную и финансовую. Операционная деятельность включает производство и реализацию основной продукции, инвестиционная — вложения в долгосрочные активы, финансовая — привлечение капитала и управление обязательствами. На практике такая классификация редко применяется в полном объеме, особенно в малом и среднем бизнесе.

Основными проблемами текущей практики учета финансовых результатов являются отсутствие детализации в первичных документах и регистрах, формальный подход к составлению отчетности, а также слабая связь между учетными данными и управленческими потребностями. Кроме того, в большинстве организаций отсутствуют четко прописанные процедуры распределения доходов и расходов по направлениям деятельности, что снижает точность аналитических показателей.

В результате проведенного анализа установлено, что внедрение управленческого учета по видам деятельности, использование центров финансовой ответственности, а также применение систем классификации затрат, таких как ABC (Activity-Based Costing), позволяет значительно повысить точность учета и анализа. Внедрение цифровых инструментов учета, интеграция бухгалтерской программы с системами BI-аналитики открывает дополнительные возможности для моделирования различных сценариев развития.

В части аудита финансовых результатов важно обеспечить проверку корректности распределения доходов и расходов, оценить соответствие учетной политики требованиям законодательства и стандартов, выявить потенциальные искажения, возникающие вследствие недостатков внутреннего контроля. Особое внимание должно уделяться проверке обоснованности внутренних расчетов, корректности применения методик распределения, соблюдению принципов непрерывности и сопоставимости.

Обсуждение

Проведенное исследование показало, что детализированный учет и анализ финансовых результатов по видам деятельности позволяет существенно повысить прозрачность и управляемость финансовых потоков. В то же время реализация такого подхода требует от организации существенных изменений в структуре учетной политики, подготовки персонала, а также модернизации учетных программных средств. Одним из препятствий на пути внедрения может стать отсутствие должной мотивации у управленцев и собственников бизнеса, особенно в условиях ограниченных ресурсов. Однако выгоды от повышения точности оценки эффективности деятельности значительно превышают затраты на внедрение новых методов.

Внедрение внутреннего аудита с ориентацией на проверку аналитических разрезов отчетности позволяет дополнительно повысить качество управления, выявить неэффективные направления и снизить уровень финансовых рисков. Важно отметить, что совершенствование учета, анализа

и аудита должно осуществляться комплексно, с учетом стратегических целей организации и требований внешней отчетности.

Заключение

Совершенствование учета, анализа и аудита финансовых результатов по видам деятельности является важным направлением повышения эффективности управления организацией. Детализация информации о доходах и расходах позволяет более точно определить источники формирования прибыли, выявить слабые звенья и оптимизировать бизнес-процессы.

Использование современных методов учета и цифровых аналитических инструментов способствует получению объективной и своевременной информации для принятия управленческих решений. Аудиторская проверка финансовых результатов в разрезе деятельности организации позволяет повысить достоверность отчетности, выявить нарушения и минимизировать риски. В современных условиях такой подход становится неотъемлемой частью стратегии устойчивого развития предприятия.

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PRP-ТЕРАПИЯ В ЛЕЧЕНИИ ОСТЕОАРТРОЗА КОЛЕННОГО СУСТАВА: ОПЫТ ПРИМЕНЕНИЯ В ЧАСТНОЙ КЛИНИКЕ «GOLDEN VODIY»

Аннотация: Остеоартроз коленного сустава (гонартроз) — одно из самых распространённых заболеваний опорно-двигательной системы, особенно среди лиц пожилого возраста. В условиях растущего спроса на малоинвазивные методы терапии, обогащённая тромбоцитами аутологичная плазма (PRP) привлекает внимание как потенциально эффективный и безопасный способ лечения. В данной статье представлены результаты применения PRP-терапии у 100 пациентов с остеоартрозом коленного сустава в частной клинике «Golden Vodiу» в течение трёх месяцев в 2025 году. Проанализированы клинические исходы, таблицы, сравнительный анализ с международными исследованиями, а также обсуждены преимущества и ограничения метода.

Ключевые слова: PRP, остеоартроз, коленный сустав, гонартроз, обогащённая тромбоцитами плазма, артроз, регенеративная медицина.

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PRP THERAPY IN THE TREATMENT OF KNEE OSTEOARTHRITIS: EXPERIENCE FROM THE PRIVATE CLINIC "GOLDEN VODIY"

Abstract: Knee osteoarthritis (gonarthrosis) is one of the most common musculoskeletal disorders, especially among the elderly. Amid the growing demand for minimally invasive treatments, platelet-rich plasma (PRP) has emerged as a potentially effective and safe therapeutic option. This article presents the results of PRP therapy in 100 patients with knee osteoarthritis at the private clinic "Golden Vodiу" over a three-month period in 2025. Clinical outcomes are analyzed, supplemented with data tables, comparisons with international studies, and a discussion of the advantages and limitations of the method.

Keywords: PRP, osteoarthritis, knee joint, gonarthrosis, platelet-rich plasma, arthrosis, regenerative medicine.

Введение

Остеоартроз (ОА) представляет собой хроническое прогрессирующее заболевание суставов, характеризующееся дегенерацией суставного хряща, субхондральной склерозой, синовии́том и болевым синдромом. Согласно данным ВОЗ, гонартроз — наиболее частая локализация остеоартроза, от которой страдают миллионы людей во всём мире.

Традиционные методы лечения гонартроза включают применение НПВП, хондропротекторов, физиотерапии, внутрисуставного введения глюкокортикостероидов и гиалуроновой кислоты. Однако эффективность этих методов ограничена во времени, а длительное применение может вызвать побочные эффекты.

PRP (Platelet-Rich Plasma, плазма, обогащённая тромбоцитами) — инновационная технология, основанная на инъекционном введении аутологичной плазмы пациента с высокой концентрацией тромбоцитов и факторов роста. Эти факторы способствуют регенерации тканей, ангиогенезу и противовоспалительному действию.

В литературе описаны обнадеживающие результаты использования PRP при ортопедических, спортивных и дегенеративных заболеваниях, включая остеоартроз коленного сустава. Однако данные об эффективности в реальной клинической практике, особенно в условиях амбулаторного приёма, остаются ограниченными.

Цель исследования — оценить клиническую эффективность и безопасность PRP-терапии у пациентов с гонартрозом в условиях частной клиники.

Материалы и методы

Исследование проводилось в частной клинике «Golden Vodi» (г. Андижан) в период с января по март 2025 года. В исследование были включены 100 пациентов (61 женщина и 39 мужчин) в возрасте от 42 до 78 лет с диагнозом остеоартроз коленного сустава I–III степени по классификации Kellgren–Lawrence.

Критерии включения:

- Подтверждённый диагноз гонартроза
- Возраст от 40 до 80 лет
- Отсутствие внутрисуставных инъекций за последние 6 месяцев

Критерии исключения:

- Инфекционные артриты
- Системные аутоиммунные заболевания
- Онкологические заболевания

Методика: У всех пациентов проводилась процедура PRP-терапии: забор венозной крови, центрифугирование для получения обогащённой тромбоцитами плазмы, затем внутрисуставное введение в поражённый

коленный сустав. Процедура повторялась 3 раза с интервалом в 7–10 дней. Все процедуры выполнялись сертифицированным врачом с использованием стерильных наборов.

Оценка клинической эффективности проводилась до начала лечения и через 3 месяца после последней инъекции с использованием шкалы VAS и WOMAC.

Результаты

Таблица 1. Характеристика участников исследования

Показатель	Значение
Общее количество пациентов	100
Женщины	61%
Мужчины	39%
Возрастной диапазон	42–78 лет
Средний возраст	59,6 ± 9,3 лет
Степень ОА I	21%
Степень ОА II	47%
Степень ОА III	32%

Таблица 2. Динамика VAS и WOMAC до и после лечения

Показатель	До PRP	После PRP	Δ (разница)	р-значение
VAS (боль)	7,5 ± 1,2	3,2 ± 1,0	–4,3	<0,001
WOMAC - боль	12,4 ± 2,1	7,4 ± 1,7	–5,0	<0,01
WOMAC - скованность	6,8 ± 1,9	4,1 ± 1,5	–2,7	<0,01
WOMAC - функция	34,3 ± 5,2	20,3 ± 4,7	–14,0	<0,01

Обсуждение и заключение

Полученные в ходе настоящего исследования результаты демонстрируют высокую клиническую эффективность и хорошую переносимость PRP-терапии у пациентов с остеоартрозом коленного сустава. Уменьшение выраженности болевого синдрома и улучшение функциональных показателей по шкале WOMAC спустя три месяца после курса PRP-инъекций являются клинически значимыми и статистически достоверными, что подтверждает положительное влияние данной методики на течение гонартроза.

Анализ данных соответствует результатам многочисленных зарубежных и отечественных исследований. Так, по данным метаанализа Lee

J.H. et al. (2022) [PMID: 35776843], в который были включены 14 рандомизированных контролируемых исследований, PRP превосходила как глюкокортикостероиды, так и гиалуроновую кислоту по снижению боли (VAS) и улучшению функции сустава на сроках до 6 месяцев. Авторы подчёркивают, что PRP обладает способностью не только временно устранять симптомы, но и модулировать воспалительный процесс, активировать хондрогенез и ускорять восстановление хрящевой ткани.

Dai W.L. et al. (2019) в метаанализе 10 РКИ с участием более 1000 пациентов пришли к выводу, что PRP-инъекции способствуют устойчивому снижению болевых ощущений и улучшают общее состояние пациентов с гонартрозом. Эффект сохраняется до 12 месяцев, особенно у пациентов с ранними и средними стадиями заболевания. Особенно важно, что в большинстве случаев побочные эффекты были минимальными и ограничивались локальными реакциями на инъекцию.

В крупном исследовании Bennell K.L. et al. (2021) — RESTORE trial [PMID: 34799398], проведённом в Австралии, сравнивали PRP и физиологический раствор в двойном слепом РКИ. Через 12 месяцев у пациентов, получавших PRP, наблюдалось достоверное улучшение болевого синдрома, физической функции и удовлетворённости лечением. Авторы подчеркнули необходимость дальнейшей стандартизации протоколов приготовления PRP и определения оптимального количества инъекций.

В обзоре American Journal of Sports Medicine (AJSM, 2021) также указано, что PRP может оказывать долговременное терапевтическое действие за счёт высокой концентрации факторов роста (PDGF, TGF- β , VEGF), которые стимулируют пролиферацию хондроцитов, ангиогенез и торможение воспалительных медиаторов (IL-1 β , TNF- α). Эти механизмы особенно важны при ранних стадиях остеоартроза, где еще возможно замедлить прогрессирование дегенеративных изменений.

Кроме того, стоит отметить данные обзора Smith et al. (2023), где акцент делается на индивидуализации PRP-протоколов: отбор пациентов, стадия заболевания, объём введения и техника инъекции могут существенно влиять на исходы. Так, пациенты с начальной стадией заболевания (I–II по Kellgren–Lawrence) демонстрировали более выраженный ответ на терапию по сравнению с пациентами III стадии.

Таким образом, опыт применения PRP-терапии в клинике «Golden Vodi» подтверждает её практическую значимость и соответствие современным международным рекомендациям. Метод обладает рядом преимуществ: безопасность, минимальная инвазивность, возможность амбулаторного применения, отсутствие системного воздействия и потенциал к структурной модификации хряща.

Однако необходимо отметить и ограничения: отсутствие контрольной группы, короткий срок наблюдения (3 месяца), а также возможные вариации в качестве и составе PRP. В будущем рекомендуется проведение более

масштабных многоцентровых рандомизированных исследований с длительным наблюдением и сравнение различных PRP-протоколов.

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ТЕОРЕТИЧЕСКАЯ ОСНОВА И КЛЮЧЕВЫЕ ОСОБЕННОСТИ МЕЖДУНАРОДНОЙ ЭЛЕКТРОННОЙ КОММЕРЧЕСКОЙ СТРАТЕГИИ HUAWEI

***Аннотация:** В условиях глобализации и цифровой экономики электронная коммерция является важным инструментом для расширения присутствия компаний на международных рынках. В данной статье на примере компании Huawei рассматриваются сущность и особенности электронной коммерции, а также ее применение в процессе глобализации компании. Анализируются теоретические основы и ключевые особенности международной электронной коммерческой стратегии Huawei, а также ее будущие тенденции развития. Подчеркивается важность технологических инноваций, балансировки глобализации и локализации, а также управления безопасностью данных и соблюдением нормативных требований.*

***Ключевые слова:** Huawei; электронная коммерция; стратегия международной экспансии; цифровая трансформация; ключевые конкурентные преимущества; интеллектуализация; зеленая цепочка поставок.*

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THE THEORETICAL FOUNDATION AND KEY CHARACTERISTICS OF HUAWEI'S INTERNATIONAL E-COMMERCE STRATEGY

***Abstract:** Driven by globalization and the digital economy, e-commerce strategy is crucial for companies to expand in the international market. Taking Huawei as an example, this paper deeply explores the essence and characteristics of e-commerce and its application in Huawei's globalization layout. It analyzes the theoretical basis, core characteristics, and future development trends of Huawei's*

international e-commerce strategy, highlighting the importance of technological innovation, the balance between globalization and localization, as well as data security and compliance management.

Keywords: *Huawei; E-commerce; International strategy; Digital transformation; Core competitiveness; Intelligence; Green supply chain*

С развитием глобализации и цифровой экономики электронная коммерция стала важным стратегическим инструментом для расширения международных рынков и повышения конкурентоспособности компаний. В качестве одного из ведущих мировых технологических предприятий Huawei в сфере электронной коммерции не только способствовала увеличению продаж и доли рынка своих продуктов, но и с помощью технологических инноваций и изменений моделей бизнеса перестроила глобальную цепочку поставок и бизнес-модели. Цель данной статьи — на основе международного опыта Huawei глубже изучить сущность и особенности электронной коммерции, а также её теоретическую основу в контексте глобальной экспансии компании, а также, учитывая тенденции развития отрасли, проанализировать перспективы развития международной электронной коммерции Huawei.

1. Суть и особенности электронной коммерции

1.1 Суть электронной коммерции

Электронная коммерция, проще говоря, — это интеграция всех бизнес-процессов с использованием цифровых технологий, включая обмен информацией, обработку транзакций, логистику и послепродажное обслуживание. Она ломает пространственные и временные ограничения традиционных бизнес-моделей, позволяя коммерческой деятельности выходить за географические рамки и обеспечивать бесперебойное соединение глобальных рынков. Возникновение электронной коммерции значительно повысило эффективность бизнеса и способствовало оптимизации и использованию глобальных ресурсов.

1.2 Особенности электронной коммерции

Ключевые особенности электронной коммерции выражаются в следующих аспектах:

Децентрализация и глобализация: Электронная коммерция разрушает географические ограничения традиционных бизнес-моделей, позволяя компаниям легко выходить на глобальные рынки. Например, Huawei Cloud поддерживает транснациональные транзакции с помощью распределенной архитектуры, и её услуги охватывают более 170 стран и регионов, что позволяет компании осуществлять настоящую глобальную операцию.

Принятие решений на основе данных: В условиях электронной коммерции широкое применение находят технологии больших данных и искусственного интеллекта, что позволяет компаниям делать точные прогнозы и принимать решения на основе данных о поведении потребителей. Huawei, собирая и анализируя данные о поведении потребителей,

прогнозирует спрос на рынке и динамически регулирует запасы и логистические ресурсы, что повышает эффективность и гибкость управления цепочками поставок.

Интеграция всех каналов: Электронная коммерция способствует глубокой интеграции онлайн-платформ и оффлайн-услуг, создавая модель розничной торговли через все каналы. Типичным примером является модель Huawei Mall «заказ онлайн + получение в оффлайн-магазине», которая не только повышает конверсию пользователей, но и усиливает взаимодействие и привязанность бренда к потребителям.

Практика электронной коммерции Huawei в международном бизнесе

2.1 Облачные услуги и их поддержка

Huawei Cloud, являющийся важной частью стратегии электронной коммерции Huawei, предоставляет мощную техническую поддержку и решения для глобальных торговых предприятий. Предоставляя эластичные вычислительные мощности, безопасные платежи и другие облачные услуги, Huawei Cloud помогает торговым компаниям справляться с высокими нагрузками и большими объемами данных. Например, в период распродажи «618» на одной из юго-восточных азиатских платформ, сервисы Huawei Cloud обеспечили масштабируемость за секунды, что гарантировало стабильную работу платформы и качество обслуживания пользователей.

2.2 Инновации в трансграничной торговле

Huawei также активно исследует и внедряет инновации в сфере трансграничной торговли. С помощью технологии блокчейн Huawei упростила процессы международных расчетов, снизив затраты на транзакции и время обработки. Кроме того, платформа xCare, разработанная совместно с операторами в Африке, оптимизировала процесс оплаты за международный роуминг, что улучшило удобство международных операций и повысило удовлетворенность пользователей.

2.3 Глобализация бренда

Huawei активно использует платформы электронной коммерции для продвижения своей высококлассной продукции, такой как серия Mate, и разрабатывает локализованные маркетинговые стратегии для повышения узнаваемости и влияния бренда на глобальных рынках. Например, в Европе Huawei привлекла внимание потребителей и успешно улучшила имидж бренда и долю на рынке через спонсорство спортивных событий.

3. Теоретическая основа международной электронной коммерции Huawei

Успешное внедрение стратегии международной электронной коммерции Huawei невозможно без её глубокой теоретической основы и дальновидной стратегической перспективы. Вот подробный анализ теоретической основы международной электронной коммерции Huawei.

3.1 Теория глобализационной стратегии

Huawei понимает, что глобализация является неизбежным трендом для развития бизнеса, поэтому активно расширяет международные рынки,

реализуя стратегию электронной коммерции для оптимального распределения и использования мировых ресурсов. Эта стратегия не только способствует международным продажам продуктов Huawei, но и способствует глобальному распространению технологий, бренда и культуры компании.

3.2 Теория цифровой трансформации

В эпоху цифровой экономики цифровая трансформация является ключом к повышению конкурентоспособности компаний. Huawei использует стратегию электронной коммерции для инновации и модернизации бизнес-моделей, переходя от традиционных продаж продуктов к обеспечению технологий и построению экосистемы, занимая лидирующие позиции на мировом рынке.

3.3 Теория развития через инновации

Инновации являются основным двигателем стратегии электронной коммерции Huawei. Независимо от того, речь идет о облачных услугах, трансграничной торговле или глобализации бренда, Huawei всегда сочетает технологические инновации с инновациями в бизнес-моделях, внося новые силы и импульсы в развитие индустрии электронной коммерции.

4. Основные особенности международной электронной коммерции Huawei

Основные особенности стратегии международной электронной коммерции Huawei можно выразить следующими пунктами.

4.1 Технологическое лидерство

Huawei имеет значительное преимущество в таких передовых технологиях, как облачные вычисления, большие данные и искусственный интеллект, которые обеспечивают мощную технологическую поддержку для реализации стратегии электронной коммерции.

4.2 Глобальная экспансия

Huawei с помощью стратегии электронной коммерции достигла широкого охвата и глубокой экспансии на международные рынки, её продукты и услуги присутствуют в многочисленных странах и регионах, что создает сильную международную конкурентоспособность.

4.3 Локализация операций

При глобальной экспансии Huawei уделяет большое внимание локализации операций и разработке маркетинговых стратегий, соответствующих особенностям местных рынков и предпочтений потребителей. Благодаря этому компания способна предложить продукты и услуги, более соответствующие потребностям местных рынков, завоевывая доверие и любовь потребителей.

4.4 Построение экосистемы

Стратегия электронной коммерции Huawei направлена не только на расширение продаж продуктов и доли на рынке, но и на построение и совершенствование экосистемы. Благодаря тесному сотрудничеству с

партнерами и совместному развитию Huawei создает здоровую и устойчивую экосистему электронной коммерции.

5.1 Интеллектуализация и персонализация

С развитием и распространением технологий искусственного интеллекта Huawei продолжит усиливать свои позиции в области интеллектуализации и персонализации. С помощью основанных на ИИ рекомендательных систем и кастомизированных услуг Huawei сможет более точно удовлетворять потребности потребителей, улучшая пользовательский опыт и лояльность. Например, предоставление персонализированных рекомендаций по продуктам на основе истории покупок пользователей, а также предложение индивидуализированных послепродажных услуг станут важной частью электронной коммерции Huawei.

5.2 Зеленая цепочка поставок

В условиях углубляющейся концепции устойчивого развития зеленая цепочка поставок становится важным инструментом для повышения социальной ответственности и имиджа бренда компании. Huawei будет использовать цифровые технологии для оптимизации управления цепочкой поставок и логистики, снижая углеродный след и потребление энергии. Например, оптимизация маршрутов логистики для сокращения потребления энергии в транспорте, использование экологически чистых материалов для упаковки продукции — все это станет частью усилий Huawei по построению зеленой цепочки поставок.

5.3 Прорыв на новых рынках

Новые рынки, как важный двигатель роста мировой экономики, обладают огромным потенциалом и рыночным пространством для развития. Huawei сосредоточит свои усилия на таких регионах, как Африка и Латинская Америка, тесно сотрудничая с местными партнерами и развивая региональные экосистемы электронной коммерции. Предлагая продукты и услуги, соответствующие потребностям местных рынков, а также развивая локализованные платежные и логистические системы, Huawei добьется большего успеха на новых рынках.

Заключение и прогноз

Подводя итог, можно сказать, что стратегия электронной коммерции Huawei является трансформацией от вывода продукции на рынок к созданию экосистемы, при этом технология является движущей силой. В будущем компании следует усилить управление безопасностью данных и соответствием требованиям, чтобы справляться с вызовами и рисками международных рынков. В то же время, продолжая углублять технологические и модельные инновации, укреплять экосистему и управлять партнерскими отношениями, а также развивать зеленую цепочку поставок и исполнять социальные обязательства, Huawei продолжит укреплять свои лидирующие позиции и конкурентные преимущества на международной арене электронной коммерции.

С развитием и углублением глобальной цифровой экономики, электронная коммерция станет ключевым инструментом для расширения международных рынков и повышения конкурентоспособности компаний. Как лидер отрасли, успешная реализация стратегии электронной коммерции и будущее развитие Huawei послужат примером и ориентиром для всей отрасли, ведя мировую электронную коммерцию к более широким рынкам и лучшему будущему.

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АНАЛИЗ ПРОБЛЕМ И ОРГАНИЗАЦИОННЫХ ВЫЗОВОВ HUAWEI В МЕЖДУНАРОДНОЙ ЭЛЕКТРОННОЙ КОММЕРЦИИ

***Аннотация:** С ускорением глобализации международная электронная коммерция стала важным способом для компаний расширять свои рынки за рубежом. Huawei, являясь ведущим мировым поставщиком коммуникационного оборудования, представляет собой пример практики в области международной электронной коммерции. Тем не менее, Huawei сталкивается с рядом проблем в процессе глобальной эксплуатации, таких как безопасность транзакций, налоговое соответствие и интеграция логистики. В данной статье, опираясь на практический пример Huawei, подробно анализируются коренные причины текущих проблем и предлагаются соответствующие направления для улучшения, с целью предоставить другим компаниям полезные рекомендации и уроки.*

***Ключевые слова:** Безопасность транзакций; Международное налогообложение; Логистическое управление; Huawei*

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ANALYSIS OF HUAWEI'S CHALLENGES AND ORGANIZATIONAL ISSUES IN INTERNATIONAL E-COMMERCE

***Abstract:** With the acceleration of globalization, international e-commerce has become an important way for enterprises to expand into overseas markets. Huawei, as a global leading supplier of communication equipment, has representative practices in the field of international e-commerce. However, Huawei faces numerous challenges in its global operations, such as transaction security, tax compliance, and logistics integration. This paper, based on Huawei's practical case, deeply analyzes the root causes of its current problems and proposes corresponding improvement directions, aiming to provide insights and lessons for other enterprises.*

Keywords: *Transaction Security; International Taxation; Logistics Management; Huawei*

Huawei достигла значительных успехов на международной платформе электронной коммерции, предоставляя продукты и услуги клиентам по всему миру через онлайн-платформы. Однако с расширением бизнеса Huawei столкнулась с рядом системных проблем. Эти проблемы касаются не только операционной эффективности и контроля затрат, но и напрямую влияют на конкурентоспособность компании на международном рынке. Поэтому глубокий анализ проблем, с которыми сталкивается Huawei в международной электронной коммерции, и поиск эффективных решений имеют важное значение для дальнейшего развития компании.

Причины и последствия низкой безопасности сделок

Технические уязвимости, приводящие к рискам безопасности

Одной из важнейших причин низкой безопасности сделок в международной электронной коммерции Huawei являются технические уязвимости. Из-за неунифицированных стандартов шифрования платежных интерфейсов данные могут быть перехвачены или изменены в процессе передачи, что приводит к утечкам данных. Согласно статистике, в последние годы количество инцидентов утечек данных из-за технических уязвимостей в Huawei увеличилось, что не только наносит ущерб интересам клиентов, но и серьезно влияет на репутацию и имидж бренда Huawei.

Проблемы с соблюдением нормативных требований, связанные с различиями в международном регулировании

Требования к защите данных в разных странах отличаются, как, например, в Европейском Союзе с Общим регламентом защиты данных (GDPR) и в Китае с Законом о кибербезопасности. Это создает сложную правовую среду для Huawei в условиях международной деятельности. Чтобы соответствовать различным требованиям регулирования, Huawei необходимо вкладывать значительные ресурсы в приведение в соответствие с местными стандартами, что увеличивает операционные расходы. Кроме того, из-за неопределенности нормативных актов, Huawei сталкивается с потенциальными рисками несоответствия.

Угрозы кибератак и меры по их противодействию

Кибератаки — еще один серьезный вызов, с которым сталкивается Huawei в международной электронной коммерции. Например, в 2024 году облачные сервисы Huawei подверглись DDoS-атаке, что привело к прерыванию некоторых торговых сервисов на более чем 6 часов и вызвало значительные экономические потери как для Huawei, так и для ее клиентов. Для противодействия угрозам кибератак Huawei применяет различные меры, такие как усиление системы защиты сетевой безопасности и повышение способности к быстрому реагированию на чрезвычайные ситуации. Однако, учитывая, что методы атак постоянно совершенствуются, Huawei должна постоянно обновлять и улучшать свои стратегии защиты.

Влияние низкой безопасности сделок на компанию

Низкая безопасность сделок может не только привести к утрате доверия клиентов и снижению рыночной доли, но и вызвать юридические споры и штрафные санкции. Для Huawei низкая безопасность сделок будет серьезно сдерживать расширение на международные рынки и повышение конкурентоспособности. Поэтому улучшение управления безопасностью сделок и повышение их безопасности являются неотложной задачей для развития международной электронной коммерции Huawei.

Сложности международного налогового администрирования

1. Проблема эрозии налоговой базы и перемещения прибыли (BEPS)

В рамках транснационального бизнеса Huawei использует связанные сделки для перемещения прибыли с целью снижения налогового бремени. Однако такие действия легко могут вызвать расследования налоговых органов в нескольких странах и привести к налоговым спорам и штрафам. Эрозия налоговой базы и перемещение прибыли не только наносят ущерб налоговым интересам государств, но и подрывают международный налоговый порядок. Для решения этой проблемы Huawei необходимо усилить внутреннее налоговое управление, обеспечить соответствие требованиям законодательства при связанных сделках и активно сотрудничать с налоговыми органами.

2. Споры о налоге на цифровые услуги и повышение затрат

С быстрым развитием цифровой экономики несколько европейских стран начали вводить налог на цифровые услуги для таких компаний, как Huawei, предоставляющих облачные услуги. Это привело к значительному увеличению операционных затрат Huawei на европейском рынке, примерно на 15%. Споры по налогу на цифровые услуги не только увеличивают налоговую нагрузку на Huawei, но и могут повлиять на её конкурентоспособность на европейском рынке. Для решения этой проблемы Huawei необходимо усилить коммуникацию и сотрудничество с правительствами европейских стран, чтобы добиться более разумных условий налогообложения.

3. Тарифные барьеры и корректировка цепочки поставок

США ввели 25%-ные тарифы на импорт оборудования Huawei, что значительно увеличило стоимость компании на американском рынке. Для преодоления тарифных барьеров Huawei была вынуждена скорректировать свою цепочку поставок, искать новых поставщиков и партнёров. Однако эта корректировка требует времени и ресурсов и может иметь долгосрочные последствия для глобального бизнеса Huawei. Поэтому Huawei необходимо внимательно следить за изменениями в международной торговой политике и своевременно корректировать свою стратегию цепочки поставок.

4. Влияние международных налоговых проблем на бизнес компании

Международные налоговые проблемы не только увеличивают налоговую нагрузку и операционные затраты Huawei, но и могут повлиять на её глобальную бизнес-структуру и конкурентоспособность. Для решения этих

проблем Huawei необходимо усилить налоговое планирование и управление, обеспечить соответствие налоговым требованиям, а также наладить более тесное сотрудничество с правительствами разных стран для создания более выгодной налоговой среды.

Недостаточное понимание комплексных логистических и транспортных систем

1. Проблема последней мили доставки

В таких развивающихся рынках, как Юго-Восточная Азия, из-за недостаточной технической способности местных логистических партнёров, у Huawei возникают серьёзные проблемы с доставкой последней мили. Уровень задержек в доставке достигает 20%, что серьёзно влияет на клиентский опыт и удовлетворённость. Для улучшения ситуации Huawei необходимо усилить сотрудничество с местными логистическими компаниями, обучать их и повышать их возможности и качество обслуживания.

2. Отсутствие эффективной обратной логистики

Обратная логистика является важной частью электронной коммерции, однако у Huawei есть явные проблемы в этой области. Процесс обработки возвратов неэффективен, в некоторых регионах время возврата превышает 30 дней, что не только увеличивает стоимость возврата для клиентов, но и влияет на качество послепродажного обслуживания. Для улучшения системы обратной логистики Huawei необходимо разработать эффективные процессы обработки возвратов, а также наладить коммуникацию и координацию с клиентами.

3. Отставание в области зелёной логистики и разрыв с ESG целями

С увеличением экологической осведомлённости, зелёная логистика становится новой тенденцией в развитии электронной коммерции. Однако, у Huawei нет системы учёта углеродных выбросов в транспортных операциях, что приводит к разрыву с целями ESG (экология, социальная ответственность и корпоративное управление). Чтобы продвигать зелёную логистику, Huawei необходимо интегрировать экологические показатели, такие как углеродные выбросы, в систему оценки поставок и усилить сотрудничество с поставщиками для улучшения экологических стандартов.

4. Воздействие недостаточного понимания комплексных логистических и транспортных систем на компанию

Недостаточное понимание комплексных логистических и транспортных систем не только снижает логистическую эффективность и качество обслуживания Huawei, но и может негативно сказаться на её расширении на международных рынках и конкурентоспособности. Поэтому Huawei необходимо усилить исследования и практическое внедрение комплексных логистических и транспортных систем, чтобы повысить свою логистическую конкурентоспособность в международной электронной коммерции.

Заключение и рекомендации

Создание межведомственного координационного механизма

Для системного решения проблем безопасности транзакций, налоговой compliance и интеграции логистики Huawei необходимо создать межведомственный координационный механизм. Это включает в себя объединение ресурсов юридических, технических и логистических команд для совместного решения возникающих задач. Также Huawei нужно создать эффективный механизм обмена информацией и коммуникации, чтобы обеспечить бесперебойный обмен информацией и скоординированные действия между различными департаментами.

Создание глобального центра налоговой compliance

Из-за сложности международного налогообложения Huawei может создать глобальный центр налоговой compliance, который будет отвечать за налоговое планирование, декларации и соблюдение налоговых норм по всему миру. Централизованное управление налоговыми вопросами поможет Huawei повысить налоговую compliance, снизить налоговые риски и добиться более выгодных налоговых условий.

Создание региональных логистических хабов

Для улучшения понимания интегрированности логистики и транспортных систем Huawei может создать региональные логистические хабы по всему миру. Оптимизация логистической сети повысит эффективность и качество обслуживания, снизит логистические расходы. Вдобавок, Huawei может укрепить сотрудничество с местными логистическими компаниями, улучшить их возможности по доставке и качество обслуживания.

Усиление инноваций в области технологий и вложений в НИОКР

Технологические инновации являются ключом к повышению безопасности транзакций и эффективности логистики. Huawei необходимо продолжать увеличивать свои инвестиции в исследования и разработки, продвигая инновации в области технологий шифрования платежных интерфейсов, защиты сетевой безопасности и логистической информации. Технологические инновации позволят Huawei повысить безопасность транзакций, снизить логистические затраты и улучшить качество обслуживания клиентов.

Укрепление сотрудничества с правительствами и международными организациями

Для решения сложных задач международной электронной коммерции Huawei необходимо укрепить сотрудничество с правительствами и международными организациями. Активное участие в разработке международных правил и проведении совместных проектов позволит Huawei создать более выгодную политическую среду и новые рыночные возможности. Кроме того, Huawei сможет использовать ресурсы и поддержку со стороны правительств и международных организаций для своего устойчивого роста на рынке международной электронной коммерции.

В заключение, Huawei сталкивается с системными вызовами в международной электронной коммерции, такими как безопасность

транзакций, налоговая compliance и интеграция логистики. Чтобы преодолеть эти проблемы, Huawei необходимо создать межведомственный координационный механизм, создать глобальный центр налоговой compliance, создать региональные логистические хабы, усилить инновации в области технологий и НИОКР, а также укрепить сотрудничество с правительствами и международными организациями. Реализация этих мер позволит Huawei повысить эффективность своих операций в международной электронной коммерции, улучшить конкурентоспособность и достичь устойчивого роста.

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НАПРАВЛЕНИЯ УЛУЧШЕНИЯ МЕЖДУНАРОДНОЙ ЭЛЕКТРОННОЙ КОММЕРЦИИ И СИСТЕМНЫЕ СТРАТЕГИИ HUAWEI

***Аннотация:** В условиях усиливающейся глобальной конкуренции и продолжающейся цифровизации, для Huawei, являющейся мировым лидером в области технологий, оптимизация и модернизация своей стратегии электронной коммерции становятся ключевыми задачами. Чтобы сохранить свою лидирующую позицию на мировом рынке и достичь устойчивого развития, Huawei необходимо сосредоточиться на четырех основных направлениях: кредитных системах, правовой среде, логистических услугах и подготовке кадров. С помощью многогранной системной оптимизации Huawei может построить более полную международную экосистему электронной коммерции. В данной статье рассматриваются пути улучшения в этих четырех аспектах, с учетом вызовов, с которыми сталкивается Huawei, и подтверждение их осуществимости через конкретные примеры.*

***Ключевые слова:** Цифровизация, Кредитные системы, Правовая среда, Логистические услуги*

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HUAWEI'S DIRECTIONS FOR IMPROVING INTERNATIONAL E- COMMERCE AND SYSTEMIC STRATEGIES

***Abstract:** In today's increasingly competitive global market and the ongoing wave of digitalization, Huawei, as a global leader in technology, finds the optimization and upgrading of its e-commerce strategy to be of paramount importance. To maintain its leading position in the global market and achieve sustainable development, Huawei must focus on four core directions: credit systems, legal environment, logistics services, and talent development. Through multidimensional systemic optimization, Huawei can build a more comprehensive*

international e-commerce ecosystem. This paper will discuss the improvement paths in these four aspects, combining the challenges Huawei faces, and verify their feasibility through specific case studies.

Keywords: *Digitalization, Credit Systems, Legal Environment, Logistics Services*

Совершенствование механизмов оценки кредитоспособности: практический путь

В международной электронной коммерции оценка кредитоспособности является ключевым элементом для снижения рисков сделок и повышения доверия пользователей. Huawei прекрасно осознает это и стремится создать динамичную и всестороннюю систему оценки кредитоспособности.

Модель управления рисками на основе больших данных

Huawei использует свои преимущества в области больших данных и искусственного интеллекта, интегрируя данные о транзакциях пользователей, социальное поведение и информацию о устройствах (например, привычки использования мобильных телефонов), чтобы с помощью передовых алгоритмов ИИ в реальном времени оценивать уровень кредитоспособности покупателей. Эта модель управления рисками не только повышает точность и оперативность оценки кредитоспособности, но и эффективно снижает затраты на вмешательство человека. Например, на платформе Huawei Cloud для международной торговли эта модель управления рисками с использованием больших данных позволила повысить точность выявления мошенничества в сделках до 98%, что обеспечило надежную кредитную защиту для Huawei и ее партнеров.

Использование технологии блокчейн для обеспечения прозрачности

Децентрализованная и неизменяемая природа технологии блокчейн делает ее идеальным инструментом для хранения кредитных доказательств. Huawei запустила пилотный проект по использованию блокчейна для хранения кредитных данных на рынке Африки, записывая важную информацию, такую как квалификация поставщиков и выполнение контрактных обязательств, в блокчейн, чтобы обеспечить подлинность и прослеживаемость данных. Этот шаг эффективно уменьшает проблему информационной асимметрии в международных партнерских отношениях, усиливает доверие между партнерами и создает надежную основу для расширения бизнеса Huawei на африканском рынке.

Создание союза третьих сторон для оценки кредитоспособности

Для дальнейшего улучшения охвата и эффективности оценки кредитоспособности Huawei активно сотрудничает с международными платежными системами, такими как Visa и PayPal, для создания совместной базы данных кредитных рисков. Обмениваясь информацией о черных списках высокорисковых пользователей, примерах мошенничества в сделках и других данных, Huawei совместно с этими организациями строит барьер для предотвращения международных дефолтов. Такой формат сотрудничества с третьими сторонами не только снижает риски сделок для Huawei, но и

способствует созданию надежной кредитной системы для всего сектора международной электронной коммерции.

Постепенное улучшение стратегии сотрудничества в юридической сфере

В условиях сложной и изменчивой международной юридической среды Huawei применяет стратегию "проактивного соблюдения нормативных требований + региональное сотрудничество", чтобы обеспечить соответствие законодательным требованиям и успешную работу своего бизнеса в области электронной коммерции по всему миру.

Создание глобальных центров соответствия требованиям

Для более эффективного соблюдения законодательных и нормативных требований в различных регионах Huawei открыла юридические центры в ЕС, Юго-Восточной Азии и других регионах. Эти центры специализируются на исследовании таких региональных норм, как GDPR (Общий регламент по защите данных в ЕС), цифровые налоги и другие местные законы, а также разрабатывают локализованные руководства по соблюдению требований. Благодаря этому шагу Huawei не только обеспечивает соблюдение нормативных требований для своего бизнеса, но и предоставляет партнерам профессиональную юридическую поддержку и консультации.

Участие в разработке международных стандартов

Huawei понимает важность участия в создании международных норм, поэтому активно присоединилась к таким организациям, как Глобальный альянс стандартов электронной коммерции (например, GS1). Через эти платформы Huawei сотрудничает с экспертами со всего мира, чтобы продвигать унификацию правил трансграничного движения данных в электронной коммерции, стремясь минимизировать конфликты и препятствия, возникающие из-за юридических различий. Это не только усиливает влияние Huawei на международной арене, но и вносит вклад в здоровое развитие мировой индустрии электронной коммерции.

Пилотные проекты по сотрудничеству между государственными и частными организациями

Huawei активно сотрудничает с правительствами, исследуя возможности для уменьшения пошлин и ускоренного таможенного оформления в рамках трансграничной электронной коммерции. Например, в Малайзии Huawei совместно с правительством этой страны создала "Цифровую свободную торговую зону", которая предоставляет такие льготы, как налоговые скидки и ускоренное таможенное оформление. Эта модель сотрудничества не только способствовала процветанию рынка электронной коммерции в Малайзии, но и обеспечила Huawei поддержку для расширения бизнеса в Юго-Восточной Азии.

Инновационные решения для повышения уровня обслуживания в логистической отрасли

Логистика является неотъемлемой частью электронной коммерции, и её уровень обслуживания и эффективность напрямую влияют на

пользовательский опыт и развитие бизнеса. Huawei, используя технологические возможности и экосистемное сотрудничество, переработала логистическую систему, улучшив общий уровень логистических услуг.

Оптимизация умной логистической сети

Huawei использует свои преимущества в области облачных вычислений и искусственного интеллекта, чтобы динамически планировать глобальные складские узлы с помощью вычислительных мощностей Huawei Cloud AI. Например, на рынке Латинской Америки Huawei внедрила модель "региональных складов + передовых складов", оптимизировав размещение складов и маршруты доставки с помощью умных алгоритмов, что позволило сократить время доставки с 15 дней до 3 дней. Это инновационное решение не только повысило эффективность логистики, но и снизило операционные расходы, предоставив пользователям более быстрые и надежные логистические услуги.

Применение технологий экологичной логистики

С ростом осведомленности о защите окружающей среды по всему миру, экологичная логистика становится новым трендом в развитии отрасли. Huawei в сотрудничестве с логистическими гигантами, такими как DHL, разработала алгоритм низкоуглеродного транспортирования, который оптимизирует маршруты и управление транспортными средствами с целью снижения углеродных выбросов. В пилотном проекте 2024 года углеродный след на европейских маршрутах был снижен на 22%, что принесло Huawei хорошую репутацию в области охраны окружающей среды и экологического имиджа.

Поддержка локальных логистических партнеров

Для повышения эффективности доставки "последней мили" Huawei в таких регионах, как Африка, сотрудничает с местными телекоммуникационными компаниями, используя платформу xCare для интеграции ресурсов малых и средних логистических компаний. Эта платформа не только предоставляет передовые системы управления логистикой и техническую поддержку, но и помогает этим компаниям улучшить качество обслуживания и операционную эффективность. С помощью этой модели сотрудничества Huawei успешно преобразовала свои преимущества в области логистических технологий и управления в поддержку и развитие локальной логистической экосистемы.

Создание экосистемы для подготовки профессиональных кадров

Кадры являются ключом к успешной международной электронной коммерческой стратегии Huawei. Для того чтобы подготовить больше специалистов, которые одновременно понимают технологии и бизнес, Huawei создала глобальную систему обучения.

Программа совместного обучения с университетами

Huawei сотрудничает с такими известными университетами, как Технологический университет Цинхуа и Национальный университет Сингапура для создания лабораторий по трансграничной электронной

коммерции. В рамках этого партнерства университеты и компания совместно готовят специалистов, обладающих знаниями в таких областях, как искусственный интеллект и международное право. Студенты, еще будучи в университете, имеют возможность ознакомиться с реальными бизнес-ценами и проектами Huawei, что помогает им развивать свои профессиональные навыки и компетенции через практические занятия и проекты.

Механизм внутреннего обучения на основе практики

Huawei также создала механизм внутреннего обучения, включая глобальную программу ротации кадров, которая позволяет сотрудникам работать в таких рынках, как Юго-Восточная Азия и Ближний Восток, для накопления опыта в межкультурной операционной среде. Этот практический тренинг не только позволяет сотрудникам глубже понять особенности рынков и культурные различия, но также способствует обмену и сотрудничеству среди сотрудников, повышая командный дух и боевую готовность.

Открытая экосистема разработчиков

Для привлечения большего количества глобальных технических талантов для инноваций в решениях Huawei Cloud запустила систему сертификации разработчиков по трансграничной электронной коммерции. Эта система предоставляет профессиональные тренинги и сертификацию, а также предлагает разработчикам многочисленные возможности для практики и ресурсную поддержку. На сегодняшний день более 20 000 разработчиков прошли сертификацию в этой области, что способствует постоянному инновационному вкладу в международную электронную коммерческую стратегию Huawei.

Заключение и перспективы

Таким образом, Huawei построила более устойчивую экосистему международной электронной коммерции с помощью четырех «двигателей»: кредит, право, логистика и кадры. Эта системная стратегия не только повысила конкурентоспособность Huawei на глобальном рынке, но и установила эталон для всей отрасли трансграничной электронной коммерции. В качестве примера, после пилотного запуска интегрированной платформы «кредит-логистика-соответствие» в Юго-Восточной Азии, доходы от электронной коммерции в 2024 году выросли на 47% по сравнению с предыдущим годом, что полностью подтвердило жизнеспособность и эффективность этой стратегии.

Смотря в будущее, Huawei продолжит придерживаться принципов открытости, сотрудничества и взаимовыгодного партнерства, углубляя сотрудничество и обмен опытом с международными партнерами, а также продолжит искать и внедрять новые модели и пути международной электронной коммерции. Кроме того, компания будет внимательно следить за изменениями глобальных законодательных норм и тенденциями отрасли, своевременно корректируя и оптимизируя свою стратегическую и бизнес-ориентированную деятельность, чтобы обеспечить лидерство и устойчивое развитие в мировой электронной коммерции.

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БУДУЩАЯ СТРАТЕГИЯ И ТЕХНОЛОГИЧЕСКИЕ ТЕНДЕНЦИИ HUAWEI В МЕЖДУНАРОДНОЙ ЭЛЕКТРОННОЙ КОММЕРЦИИ

Аннотация: С постоянными прорывами в технологиях 5G, ИИ и углеродной нейтральности, международная электронная коммерция вступает в новую фазу "интеллектуализированного глобализма". Huawei, являясь мировым лидером в области технологий, активно направляет трансформацию этой отрасли с помощью дальновидных стратегий. На основе глубокого анализа эволюции технологий и рыночных тенденций в статье подробно изложены ключевые стратегические направления Huawei на ближайшие пять лет, включая глубокое применение систем интеллектуального бизнес-решения, стратегию динамичного баланса между глобализацией и регионализацией, интеграцию ценностей зеленой экономики и ESG (экологические, социальные и управленческие факторы), а также экологическое сотрудничество и открытую инновацию. Реализуя эти стратегии, Huawei стремится построить умную, экологически чистую и устойчивую мировую систему электронной коммерции, достигнув исторического скачка от поставщика аппаратного обеспечения до строителя цифровых экосистем.

Ключевые слова: Интеллектуализация; Глобализация; Зеленая экономика; ESG; Экологическое сотрудничество

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HUAWEI'S FUTURE STRATEGY AND TECHNOLOGICAL TRENDS IN INTERNATIONAL E-COMMERCE

Abstract: With the continuous breakthroughs in 5G, AI, and carbon neutrality technologies, the international e-commerce field is entering a new phase of "intelligent globalization." Huawei, as a global technology leader, is proactively

driving this industry transformation with forward-thinking strategies. Based on in-depth analysis of technological evolution and market trends, this article outlines Huawei's core strategic directions for the next five years, including the deep application of intelligent business decision systems, dynamic balancing strategies between globalization and regionalization, the integration of green economy and ESG (Environmental, Social, and Governance) values, and ecological collaboration and open innovation. Through the implementation of these strategies, Huawei aims to build an intelligent, green, and resilient global e-commerce system, achieving a historic leap from a hardware supplier to a digital ecosystem builder.

Keywords: *Intelligent; Globalization; Green Economy; ESG; Ecological Collaboration*

В эпоху цифровой трансформации электронная коммерция стала важным драйвером мировой экономики. С быстрым развитием технологий 5G, искусственного интеллекта (ИИ) и углеродной нейтральности международная электронная коммерция постепенно вступает в новую фазу, характеризующуюся интеллектуализацией, экологичностью и глобализацией. Huawei, как мировой лидер в области технологических инноваций, активно исследует и ведет эту трансформацию, опираясь на свои глубокие технические наработки и дальновидную стратегическую позицию. Цель этой статьи — проанализировать будущие стратегии и технологические тенденции международной электронной коммерции Huawei и предложить отрасли полезные рекомендации и вдохновение.

Глубокое применение интеллектуальных бизнес-решений

На основе цифровой трансформации Huawei стремится продвигать электронную коммерцию от «цифровизации» к более высокому уровню «когнитивизации». Ключевым моментом этого перехода является глубокое применение интеллектуальных бизнес-решений, что проявляется в следующих аспектах:

1. Когнитивный AI-ассистент

Huawei разрабатывает систему AI-помощника с отраслевыми графами знаний. Например, в продажах смартфонов этот AI-ассистент не только рекомендует продукты на основе текущих потребностей пользователя, но и с помощью глубокого обучения прогнозирует потребности пользователя в обновлении устройства в течение следующих двух лет, предоставляя таким образом более персонализированные и предсказуемые услуги.

2. Опыт покупок в метавселенной

Используя мощные функции AR Engine от Huawei, компания создала 3D виртуальный выставочный зал, который позволяет пользователям взаимодействовать с продуктами в реальном времени, например, с функцией спутниковой связи Mate 60 Pro. Этот иммерсивный опыт покупок значительно повышает вовлеченность пользователей и коэффициент конверсии, который может быть в три раза выше, чем у традиционных страниц.

3. Автономные решения для цепочек поставок

Столкнувшись с глобальной нехваткой чипов, Huawei использует облачные AI-технологии для автоматической настройки распределения мировых запасов, обеспечивая интеллектуальное управление цепочками поставок. Эта мера не только повысила скорость и гибкость реагирования цепочки поставок, но и эффективно снизила затраты на запасы.

Стратегия динамического баланса глобализации и регионализации

На фоне глобализации Huawei понимает различия и сложности на разных региональных рынках. Поэтому компания использует модель «глобальные стандарты + региональная настройка», чтобы достичь динамического баланса между глобализацией и регионализацией.

1. Вывод технических стандартов

Huawei активно принимает участие в разработке международных стандартов для 5G-электронной коммерции, таких как протоколы мгновенных платежей (RTP), и продвигает унификацию технических правил в рамках 3GPP. Это не только усиливает влияние Huawei на международной арене, но и обеспечивает сильную поддержку для здорового развития глобальной электронной коммерции.

2. Глубокое освоение региональных рынков

С учетом особенностей разных региональных рынков Huawei внедряет дифференцированные стратегии. Например, на африканском рынке компания предложила модель «покупка в рассрочку за 1 доллар», интегрируя оплату через счета мобильных операторов, что эффективно активизировало потребительский потенциал низкооплачиваемых групп.

3. Хеджирование геополитических рисков

Для борьбы с глобальной геополитической неопределенностью Huawei создала треугольную поставочную цепочку «Китай-Мексика-Польша». Такая структура не только повышает гибкость поставок, но и обеспечивает Huawei возможность поддерживать 85% своих поставок на рынок Северной Америки, даже в условиях увеличения тарифов со стороны США.

Интеграция зеленой экономики и ценностей ESG

Стремясь к экономической эффективности, Huawei всегда ставит охрану окружающей среды и социальную ответственность на первое место. Компания интегрирует цели по углеродной нейтральности в цепочку электронной коммерции и активно способствует развитию зеленой экономики.

1. Центры обработки данных с нулевым углеродом

Huawei использует передовые энергосберегающие технологии, такие как жидкостное охлаждение и солнечные батареи, с планами снизить показатель PUE (эффективность использования электроэнергии) в центрах обработки данных Huawei Cloud для электронной коммерции до значения ниже 1.1 к 2025 году, обеспечивая экологичную эксплуатацию данных центров.

2. Платформаной экономики

Huawei запустила систему обмена старых устройств на новые, осуществляя переработку старых телефонов и чипов для производства устройств Интернета вещей, способствуя циклическому использованию ресурсов. Ожидается, что к 2024 году эта платформа позволит сократить количество электронных отходов на более чем 500 тонн.

3. Прозрачность углеродного следа

Для стимулирования зеленого потребления среди потребителей, Huawei разместила на страницах товаров данные об углеродных выбросах за весь жизненный цикл продукции, от производства до доставки. Эта инициатива не только повышает экологическую осведомленность потребителей, но и способствует выбору и покупке экологически чистых продуктов.

Экологическое сотрудничество и открытые инновации

Huawei прекрасно понимает, что в цифровую эпоху одиночные усилия уже не могут соответствовать быстрому изменению рынка. Поэтому компания перестроила экосистему электронной коммерции с помощью модели "платформа + партнеры", реализуя экологическое сотрудничество и открытые инновации.

1. Мотивирование разработчиков экосистемы

Чтобы стимулировать инновационную активность разработчиков, Huawei Cloud учредила инновационный фонд в размере 10 миллиардов юаней, чтобы поощрять разработчиков создавать приложения на базе чипов Kunpeng, такие как (международные платежи), интеллектуальные сервисы поддержки и другие. Эта инициатива не только расширяет экосистему приложений Huawei Cloud, но и предоставляет разработчикам широкие возможности для развития.

2. Цифровая трансформация для малых и средних предприятий

В ответ на трудности и вызовы, с которыми сталкиваются малые и средние предприятия в процессе цифровой трансформации, Huawei в Юго-Восточной Азии внедрила "облегченное решение для электронной коммерции". Это решение снижает порог и затраты на цифровизацию, снижая ежемесячные расходы малых торговцев до 300 долларов и обеспечивая рост числа торговцев на 120% ежегодно.

3. Технологическая интеграция между отраслями

Huawei активно исследует возможности для кросс-отраслевого сотрудничества, например, с автомобильной промышленностью. Например, совместно с автомобильными компаниями была разработана система электронной коммерции для автомобилей, позволяющая водителям через операционную систему Harmony OS осуществлять операции, такие как бронирование зарядных станций и оплата в процессе вождения. Это нововведение не только повышает удобство для пользователей, но и открывает новые возможности для "мобильного потребления".

Заключение

будущее стратегическое направление и технологические тренды Huawei в международной электронной коммерции характеризуются такими яркими

особенностями, как интеллектуализация, глобализация, экологичность и экосистемное сотрудничество. Благодаря глубокой интеграции интеллектуальных коммерческих решений, реализации стратегии динамичного баланса между глобализацией и регионализацией, синергии зеленой экономики и ценностей ESG, а также продвижению экосистемного сотрудничества и открытых инноваций, Huawei постепенно строит умную, зеленую и устойчивую глобальную систему электронной коммерции. В будущем Huawei продолжит следовать принципу «технологического лидерства + экосистемной инклюзивности», продолжая быть лидером в отраслевых преобразованиях и инновационном развитии, и вносить значительный вклад в процветание глобальной электронной коммерции.

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НАРУШЕНИЕ ИННЕРВАЦИИ И МУТАЦИОННЫЙ ПРОЦЕСС В ТКАНИ

Резюме: Данная статья описывает изучение мутационного процесса в клетках костного мозга домашней кошки в условиях целостного организма. Материал от экспериментальных животных забирался в следующие сроки после операции: 3 дня, 1, 2 и 3 недели, 1, 2, 3 и 6 месяцев. В денервированном костном мозге может увеличиваться количество естественных химических мутагенов. Указанные изменения количества клеток с хромосомными aberrациями в условиях смешанной денервации костного мозга являются цитологическим свидетельством изменений метаболизма в денервированном участке.

Ключевые слова: кошки, денервирования, костном мозг, мутация, аутоантимутагены, биохимический анализ.

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INNERVATION DISORDER AND MUTATIONAL PROCESS IN TISSUE

Abstract: This article describes the study of the mutational process in bone marrow cells of a domestic cat under conditions of a whole organism. Material from experimental animals was collected at the following times after surgery: 3 days, 1, 2 and 3 weeks, 1, 2, 3 and 6 months. In denervated bone marrow, the number of natural chemical mutagens can increase. The indicated changes in the number of cells with chromosomal aberrations under conditions of mixed denervation of the bone marrow are cytological evidence of changes in metabolism in the denervated area.

Keywords: cats, denervation, bone marrow, mutation, autoantimutagens, biochemical analysis.

Введение. Задачей настоящего исследования явилось изучение мутационного процесса в клетках костного мозга домашней кошки в условиях целостного организма, а также изучение влияния на него условий лишения костного мозга нормальных иннервационных отношений[4]. Мутация -

изменение генетической конструкции данного вида - представляется сегодня единственным известным фактором, который может быть ответственен за эволюцию. Но явление мутаций в клетках, не подвергаемых действию известных мутагенных факторов (ионизирующие излучения, ультрафиолетовые лучи, химические мутагены) носит название спонтанного или естественного мутационного процесса. Спонтанный мутационный процесс является механизмом, в результате действия которого появляется исходный материал для клеточной и популяционной селекции.

В последние годы в связи с развитием цитогенетических методов, в частности метода получения и анализа метафазных хромосом, а также благодаря разработке теоретических представлений о механизмах образования структурных перестроек хромосом, спонтанный мутационный процесс в его хромосомно-абerrационном выражении подвергается интенсивному изучению[1]. При этом необходимо иметь ввиду, что изучение естественного мутирования на хромосомном уровне создает некоторое представление и о частоте генных мутаций, так как видимая в микроскоп организация хромосомы хотя и не является организацией собственно генетических структур, тем не менее она имеет первостепенное для осуществления функции генов, пространственное расположение которых в определенном порядке в хромосоме чрезвычайно важно. Ставя вопрос о влиянии нормальных иннервационных отношений на процесс естественного мутирования в костном мозге, мы исходим из следующих предпосылок. В настоящее время есть все основания утверждать, что природа спонтанного мутационного процесса комплексна. Он является следствием воздействия на организм ряда факторов, как эндогенных, так и экзогенных. После того как открыли мутагенное действие радиации, генетики были склонны думать, что именно фон радиации является причиной спонтанной мутабельности. По мнению большинства исследователей, основной причиной спонтанных мутаций являются внутренние, эндогенные факторы внутри организменного и внутриклеточного происхождения[2]. Существует, таким образом, большой фактический материал, позволяющий утверждать, что мутации генов и хромосом могут быть вызваны изменением биохимических и физиологических условий в результате нарушения нормального метаболизма в организме[3]. Вышеприведенные факторы делают правомочным постановку вопроса о связи нормальных иннервационных отношений в ткани с поддержанием в ней нормального темпа спонтанного мутирования, решению которого и посвящено это исследование.

Цель исследования. Исследовать хромосомной изменчивости в клетках костного мозга домашней кошки при спонтанном мутировании.

Материалы и методы исследования. В качестве экспериментального животного использовались самцы домашней кошки. Денервацию костного мозга производили в асептических условиях путем перерезки по возможности всех нервных стволов плечевого сплетения. Материал от экспериментальных

животных забирались в следующие сроки после операции: 3 дня, 1, 2 и 3 недели, 1, 2, 3 и 6 месяцев.

Результаты исследования. Все наблюдавшиеся нами перестройки хромосом были абберациями хроматидного типа, то есть, разрывы хромосом при спонтанном мутировании в клетках костного мозга кошки возникают на стадии двух нитей. Данные анафазного анализа показывают также, что в спектре спонтанных мутаций у кошки преобладают процессы разрывов хромосом над процессами слияния образовавшихся фрагментов, о чем можно судить по преобладанию фрагментов над мостами. Наличие очень небольшого числа парных Фрагментов свидетельствует о том, что образование хроматид-ных мостов при спонтанном мутировании у кошки идет не по типу изолюкусной петли, а по типу образования хроматидных дицентриков. Причиной явного преобладания аббераций при анализе метафаз является то, что в периоде анафазы возможно отхождение к одному полюсу межхромосомных хроматидных мостов, а также попадание части фрагментов к тому или иному полюсу в результате цитоплазматических токов или механического оттаскивания фрагментов расходящимися хромосомами. В целом метафазный метод анализа подтверждает данные анафазного. Основными типами абберации, которые мы наблюдали в метафазах, были одиночные делеции и хроматидные транслокации. На метафазных препаратах подсчитывалась также частота анеуплоидных клеток. При этом учитывались лишь те метафазные пластинки, которые отвечали определенным требованиям. Процент анеуплоидных клеток составил 3,80,7%; причем класс гипоплоидны клеток значительно преобладал над классом гиперплоидных-3,0% и 0,8% соответственно. Митотический индекс, просчитанный в группе контрольных животных, составил 1,4 0,23%. В группе экспериментальных животных, начиная со срока три недели после операции перерезки нервных проводников, статистически достоверно увеличивается частота клеток с хромосомными абберациями. Митотическая активность костного мозга не может объяснить наблюдаемый выход абберации, так как митотический индекс денервированного костного мозга достоверно увеличен лишь в первую неделю после операции. На более поздних сроках начиная со 2-го месяца и позднее, нами наблюдалась явная тенденция к угнетению митотической активности.Спектр аббераций у экспериментальной группы животных по данным анафазного и метафазного анализа существенно не изменяется. Как и в спектре спонтанного мутирования, основным типом перестроек хромосом были одиночные делеции и хроматидные дицентрики, хотя несколько раз мы видели дицентрические хромосомы.

Подсчет анеуплоидных метафаз показал, что в денервированном костном мозге достоверно увеличивается число анеуплоидных клеток, в том числе и гиперплоидных.

Полученные экспериментальные данные можно рассматривать как результат воздействия на хромосомный аппарат клеток костного мозга метаболитов-мутагенов денервированного участка конечности. При этом

следует иметь ввиду, что наблюдавшийся эффект увеличения против нормы частоты аберрантных клеток может быть объяснен одним из трех возможных не взаимоисключающих механизмов: в денервированном костном мозге может увеличиваться количество естественных химических мутагенов; может иметь место угнетение биохимических систем, действие которых направлено на подавление естественного (аутоантимутагены) или индуцированного мутирования; в денервированном участке конечности могут, наконец, появляться новые химические мутагены, реализация действия которых на хромосомы клеток осуществляется в тот же период клеточного цикла, что и у естественных мутагенов. Результаты нашего эксперимента не позволяют с определенностью ответить на вопрос, какой из вышеназванных механизмов определяет эффект денервации. Для ответа на этот вопрос необходим детальный биохимический анализ изменений, происходящих в денервированной конечности, а также установление химической природы естественных мутагенов. Что же касается вопроса о связи нормальных иннервационных отношений в ткани с поддержанием в ней оптимального темпа спонтанного мутирования, то нам представляется вероятным, что нервная система, контролируя в ткани ключевые этапы ее метаболизма, в том числе и метаболизма

внутриклеточного, так как в целостном организме автономные механизмы внутриклеточного метаболизма подчинены влестиям, исходящим из нервной системы, может оказывать существенное влияние на темп спонтанного мутационного процесса.

Вывод. Таким образом, уровень хромосомной изменчивости в клетках костного мозга домашней кошки при спонтанном мутировании составляет 1,240,24% по данным анафазного анализа и 1,930,27% по данным метафазного анализа. Количество анеуплоидных клеток в костном мозге нормальной кошки составляет 3,80,5%. Преобладают гипоплоидные клетки.

В спектре структурных перестроек хромосом при естественном мутировании обнаруживаются только хроматидные абберрации, что говорит о реализации воздействия естественных мутагенов на хромосомный аппарат клеток в тот период, когда хромосомы находятся на стадии двух функциональных нитей. Количественное преобладание фрагментов над хроматидными дицентриками свидетельствует о преобладании процесса неслияния ацентрических и центрических фрагментов.

В результате смешанной денервации участка костного мозга в нем через три недели после денервации статистически достоверно увеличивается число клеток с хромосомными абберациями, что нельзя объяснить увеличением митотической активности. Повышенный уровень клеток со структурными перестройками хромосом сохраняется на протяжении всего срока эксперимента. При этом спектр аббераций не изменяется. В денервированном костном мозге достоверно увеличивается число анеуплоидных клеток.

Указанные изменения количества клеток с хромосомными aberrациями в условиях смешанной денервации костного мозга являются цитологическим свидетельством изменений метаболизма в денервированном участке.

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СОВЕРШЕНСТВОВАНИЕ УЧЕТА ПРИОБРЕТЕНИЯ ОСНОВНЫХ СРЕДСТВ ПО ИМПОРТУ И НАЛОГОВЫЕ ПОСЛЕДСТВИЯ В НЕФТЕГАЗОВОЙ ОТРАСЛИ

***Аннотация.** На современном этапе экономического развития роль основных средств важна. В последнее время они становятся все более значимыми объектами учета для множества хозяйствующих субъектов, а также для нефтеперерабатывающей отрасли республики Узбекистан. Практически ни одно современное предприятие не обходится без использования в своей деятельности разнообразных объектов основных средств, наличие которых является своего рода движущей силой в развитии хозяйствующего субъекта.*

***Ключевые слова:** налогообложение, налог на добавленную стоимость, основные средства, импорт, покупная стоимость, первоначальная стоимость, таможенные платежи, курсовая разница.*

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IMPROVING ACCOUNTING FOR THE ACQUISITION OF FIXED ASSETS BY IMPORT AND TAX CONSEQUENCES IN THE OIL AND GAS INDUSTRY

***Annotation.** At the present stage of economic development, the role of fixed assets is important. Recently, they have become increasingly important accounting objects for many business entities, as well as for the oil refining industry of the Republic of Uzbekistan. Almost no modern enterprise can do without using a variety of fixed assets in its activities, the presence of which is a kind of driving force in the development of an economic entity.*

Key words: *taxation, value added tax, fixed assets, imports, purchase price, initial cost, customs duties, exchange rate differences.*

Введение. Основные средства, которые поступают на предприятие по договорам импорта, должны быть оприходованы по стоимости, указанной в первичных учетных документах (товаросопроводительных документах или грузовой таможенной декларации), подтверждающих их приобретение, в пересчете по курсу ЦБ (Центрального банка) РУз (Республики Узбекистан) на дату принятия их к бухгалтерскому учету с учетом других расходов по их приобретению (пункт 16 НСБУ (Национальный стандарт бухгалтерского учета) №5 «Основные средства» в редакции Приказа министра финансов, зарегистрированного МЮ (Министерство Юстиции) 09.08.2024 года № 3546).

Методология исследования. В процессе проведения исследования были применены применялись общенаучные методы познания, приемы сравнительного анализа, систематизации и обобщения информации.

Анализ и обсуждение результатов. Первоначальная стоимость импортированных объектов основных средств, по которой они принимаются к бухгалтерскому учету предприятий в нефтегазовой отрасли, определяется по формуле:

$$C = Kc + T + Пр.,$$

где:

C - покупная стоимость импортированных основных средств;

Kc - контрактная стоимость объектов, определенная исходя из курса Центрального банка на дату принятия к бухгалтерскому учету;

T - таможенные платежи, за исключением НДС (Налог на добавленную стоимость), если предприятие имеет право на зачет НДС.

Пр. - прочие расходы, связанные с приобретением импортированных основных средств, предусмотренные пунктом 12 НСБУ №5 «Основные средства».

С 1 января 2020 года НДС, уплаченный по импортируемым основным средствам (включая оборудование к установке), предприятия - плательщики НДС принимают к зачету в полном объеме единовременно (часть третья статьи 266 нового НК (Налогового Кодекса), утвержденным Законом РУз от 30.12.2019 года № ЗРУ (Закон республики Узбекистан) - 599).

Не подлежит зачету НДС по следующим основным средствам:

- предназначенным для производства и (или) реализации товаров (оказания услуг), обороты по реализации, которых освобождены от НДС;

- легковых автомобилей, мотоциклов, вертолетов, моторных лодок, самолетов, а также иных видов моторных средств, если их приобретение не связано с осуществляемым видом деятельности (статья 267 нового НК).

Зачет НДС производится предприятиями нефтегазовой отрасли, поставленными на учет в налоговых органах в качестве плательщика НДС или имеющими действующее свидетельство о постановке на учет (с 23.12.2021 года - пункт 5 Положения «О порядке специального регистрационного учета

плательщиков налога на добавленную стоимость в налоговых органах», утвержденным Постановлением КМ (Кабинета Министров) РУз от 22.09.2021 года № 595, до 23.12.2021 года - пункт 2 Положения, рег. МЮ 02.05.2020 г. № 3232).

При приостановлении действия свидетельства суммы НДС, отнесенные в зачет по фактически полученным или ввезенным (импортированным) товарам (услугам) до вынесения налоговым органом решения о приостановлении, не подлежат корректировке.

Таможенные декларации или их копии, а также документы, подтверждающие оплату таможенных платежей при импорте должны храниться у предприятия-покупателя. На поступивший объект основных средств оформляется инвентарная карточка. Приобретенные основные средства подлежат амортизации.

Объекты основных средств, оборудование к установке, приобретенные за иностранную валюту, после принятия к учету переоценке не подлежат (пункт 16 НСБУ № 22 «Учет активов и обязательств, выраженных в иностранной валюте»).

Ежемесячно переоцениваются валютные статьи баланса на последнее число отчетного месяца и на дату совершения хозяйственных операций по курсу Центрального банка. В частности, при приобретении основных средств по импорту могут переоцениваться дебиторская и кредиторская задолженности по этим операциям, выраженные в иностранной валюте.

Курсовая разница списывается на результаты финансово-хозяйственной деятельности предприятия с 1 января 2019 года методом прямого отнесения (пункту 9 приложения к Приказу министра финансов РУз, рег. МЮ 20.08.2018 года № 1364-3).

Корреспонденцию счетов учета приобретения импортного основного средства в предприятиях нефтегазовой отрасли республики Узбекистан можно отразить по нижеприведенной таблице 1.

Таблица 1

Приобретение основных средств		
	Дебет	Кредит
Оприходование основных средств (контрактная стоимость на дату принятия к бухгалтерскому учету)	0720 «Оборудование к установке - импортное» 0820 «Приобретение основных средств»	6010 «Счета к оплате поставщикам и подрядчикам»;
Оплата поставщику	6010 «Счета к оплате поставщикам и подрядчикам»	5210 «Валютные счета внутри страны»
Отражение таможенных платежей и прочих расходов при импорте, включаемых в покупную стоимость ОС	0720 «Оборудование к установке - импортное» 0820 «Приобретение основных средств»	6410 «Задолженность по платежам в бюджет (по видам)», 6990 «Прочие обязательства»

с 1.01.2019 г. Сумма НДС по импортированным основным средствам плательщиками НДС, с 1.01.2019 г. до 1.01.2020 г. - за исключением применяющих упрощенный порядок НДС	4410 «Авансовые платежи по налогам и другим обязательным платежам в бюджет (по видам)»	6410 «Задолженность по платежам в бюджет (по видам)», 6990 «Прочие обязательства»
Зачет НДС (с 1.01.2020 г. - единовременно, с 1.01.2019 г. до 1.01.2020 г. - равными долями в течение 12 календарных месяцев)	6410 «Задолженность по платежам в бюджет (по видам)»	4410 «Авансовые платежи по налогам и другим обязательным платежам в бюджет (по видам)»

Оценка автомобиля, приобретенного за иностранную валюту (\$ США). Автомобиль завезен из РФ. Импорт оборудования. Производитель (продавец) берет на себя обязательства по монтажу оборудования после его ввоза на территорию Узбекистана.

Курсовая разница учитывается при расчете налога на прибыль и с 1 января 2020 года - налога с оборота. Налогом облагается сальдо между положительной и отрицательной курсовой разницей. Однако при исчислении налога с оборота сумма превышения отрицательной курсовой разницы над положительной налогооблагаемую базу не уменьшает. При расчете налоговой базы по налогу на прибыль, сумма превышения отрицательной курсовой разницы над положительной вычитается из совокупного дохода.

При этом в целях налогообложения с 01.01.2022 года не учитываются курсовые разницы от переоценки выданных (полученных) авансов (часть пятая статьи 320 НК, введена Законом РУз от 29.12.2021 г. № ЗРУ-741).

Корреспонденцию счетов учета отражения курсовой разницы методом прямого отнесения в предприятиях нефтегазовой отрасли республики Узбекистан можно отразить по нижеприведенной таблице 2.

Таблица 2

Отражение курсовой разницы методом прямого отнесения		
- отрицательная	9620 «Убытки от валютных курсовых разниц»	4320 «Авансы, выданные поставщикам и подрядчикам под долгосрочные активы», 6010 «Счета к оплате поставщикам и подрядчикам»
- положительная	4320 «Авансы, выданные поставщикам и подрядчикам под долгосрочные активы», 6010 «Счета к оплате поставщикам и подрядчикам»	9540 «Доходы от валютных курсовых разниц»
Передача в эксплуатацию импортированных основных средств	0100 Счета учета основных средств	0720 «Оборудование к установке - импортное» 0820 «Приобретение основных средств»

Следует отметить, что при импорте нового технологического оборудования законодательством предусмотрен ряд льгот по налогам.

Также следует отметить, что законодательством устанавливаются некоторые ограничения на импорт отдельных видов оборудования и транспортных средств:

с 1 сентября 2019 года запрещен ввоз на территорию Узбекистана бывшего в употреблении генерирующего оборудования, силовых понижающих трансформаторов, электродвигателей, а также энергопотребляющего оборудования категории энергоэффективности D (пункт 11 Постановления Президента РУз от 22.08.2019 г. № ПП-4422);

с 1 января 2022 года запрещается помещение под таможенный режим «временный ввоз» и «выпуск для свободного обращения (импорт)» в целях эксплуатации и реализации колесных транспортных средств категорий «М» и «№», оборудованных газовыми, бензиновыми и дизельными двигателями, уровень токсичности которых не соответствует требованиям экологического класса «Евро-4» (пункт 10 Постановления Президента РУз от 30.10.2019 г. № ПП-5863);

с 1 марта 2020 года запрещен ввоз бывших в употреблении индукционных печей и камер (код ТН ВЭД 8514 20 100 0), год выпуска которых превышает три года на момент таможенного оформления (пункты 1 и 2 Постановления КМ РУз от 14.12.2019 г. № 999).

Затраты на монтаж оборудования включаются в его первоначальную стоимость вне зависимости от того, кем осуществляется монтаж - самостоятельно или сторонней организацией. При этом у предприятий - плательщиков НДС монтажные работы, выполненные для собственных нужд своими силами, не облагаются налогом на добавленную стоимость (с 1 января 2020 года - пункт 4 части четвертой статьи 239 и пункт 20 статьи 317 нового НК, утвержденным Законом РУз от 30.12.2019 г. № ЗРУ-599, до 1.01.2020 года - пункт 3 части второй статьи 199 старого НК, утв. Законом № ЗРУ-136).

Если монтаж выполняется сторонней организацией, то с 1.01.2019 года НДС, выделенный в счет-фактуре, предприятия - плательщики НДС принимают к зачету. С 1 октября 2019 г. НДС уплачивается по ставке 15% (пункт 1 Указа Президента РУз от 26.09.2019 г. № УП-5837, с 1 января 2020 года - статья 258 нового НК).

Приобретение и установка оборудования. Транспортировка произведена сторонней организацией, а монтаж - собственными силами. Предприятие - плательщик НДС и налога на прибыль

При импорте оборудования, монтаж которого производитель (поставщик) обязуется осуществить после ввоза на территорию Узбекистана, таможенная стоимость для расчета таможенных платежей определяется за вычетом стоимости монтажных работ.

Если монтаж оборудования производится иностранной компанией-нерезидентом РУз, то:

- со стоимости работ удерживается налог на прибыль нерезидента по ставке 20%. Ответственность за удержание несет источник выплаты - налоговый агент и, соответственно, если налог удержан не будет, то предприятие должно уплатить его за счет собственных средств. При этом налоги, уплаченные за других лиц, не подлежат вычету при расчете налога на прибыль согласно пункту 11 статьи 317 нового НК (с 1.01.2020 г.).

Не удерживать налог можно, если это предусмотрено международным договором об избежании двойного налогообложения, подписанным между Узбекистаном и страной, резидентом которой является исполнитель работ. Основанием для неудержания налога является наличие у источника выплаты представленного нерезидентом документа, подтверждающего, что нерезидент - получатель дохода является резидентом государства, с которым Республикой Узбекистан заключен международный договор Республики Узбекистан. Если исполнитель не представит подтверждающий резидентство документ, то налог удерживается в общем порядке. Если в последующем данный документ будет оформлен, то сумма налога подлежит возврату в установленном порядке на основании части шестой статьи 357 нового Налогового кодекса (с 1 января 2020 года, до 1.01.2020 года - статьи 155 старого НК), только в случае, если она была удержана из дохода нерезидента. Если налог уплатило предприятие-заказчик работ, то данная сумма возврату не подлежит.

- стоимость монтажных работ, выполненных нерезидентом, является объектом обложения НДС, т.к. местом реализации работ в данном случае является Республика Узбекистан (пункт 1 части третьей статьи 241 нового НК, до 1.01.2020 года - пункт 2 части третьей статьи 202 старого НК). При этом с 1.01.2020 года плательщиком НДС является поставщик услуг - нерезидент, а предприятие-покупатель - налоговым агентом, который должен со стоимости монтажных работ, выполненных нерезидентом, исчислить, удержать и перечислить в бюджет соответствующую сумму НДС (часть вторая статьи 237 и статья 255 нового НК).

В случае, если в соответствии с условиями контрактов услуги предоставляются иностранными лицами без учета налога на добавленную стоимость, то по данным услугам налоговая база определяется налоговыми агентами исходя из стоимости оказанных услуг без учета НДС. В данном случае налоговый агент обязан самостоятельно исчислить и перечислить в бюджет соответствующую сумму налога (часть седьмая статьи 255 нового НК).

Предприятия, внедряющие в производство современные научно-технические достижения, приобретающие новое оборудование, расширяющие свое производство и т.д., могут применять ряд льгот.

С 1 января 2020 года согласно статье 308 нового Налогового кодекса налогоплательщики вправе применять инвестиционные вычеты по амортизируемым активам, подлежащим амортизации.

Инвестиционный вычет с 1 января 2022 года применяется исходя из первоначальной стоимости активов, определяемой по статье 306 Налогового кодекса редакции Закона РУз от 29.12.2021 г. № ЗРУ-741, в размере:

- 20% (с 01.01.2020 года до 01.01.2022 года - 10%) от стоимости нового технологического оборудования, расходов на модернизацию, техническое и (или) технологическое перевооружение производства;

- 10% (с 01.01.2020 года до 01.01.2022 года - 5%) от суммы средств, направляемых на расширение производства в форме нового строительства, реконструкцию зданий и сооружений, используемых для производственных нужд (часть первая и третья статьи 308 НК в редакции Закона РУз от 29.12.2021 г. № ЗРУ-741).

Вычет не предоставляется по расходам, не подлежащим вычету в соответствии с пунктом 17 статьи 317 НК.

Инвестиционный вычет применяется одновременно в том отчетном (налоговом) периоде, в котором:

- новое технологическое оборудование введено в эксплуатацию;
- произведены модернизация, техническое и (или) технологическое перевооружение собственного производства, расширение производства в форме нового строительства, реконструкция зданий и сооружений, используемых для производственных нужд (часть пятая статьи 308 НК).

Инвестиционный вычет признается расходом на амортизацию.

С 1 января 2022 года при реализации, безвозмездной передаче и ином выбытии актива в течение трех лет с даты применения вычета инвестиционный вычет аннулируется. Исключение составляют:

- случаи выбытия актива в связи с чрезвычайными обстоятельствами (стихийное бедствие, пожар, авария и другими подобными обстоятельствами);

- случаи, когда первоначальная стоимость актива полностью амортизирована по нормам, установленным статьей 306 НК, до даты его выбытия.

При аннулировании инвестиционный вычет уменьшает сумму накопленной амортизации в том отчетном (налоговом) периоде, в котором произошло выбытие актива (часть седьмая и восьмая статьи 308 НК, введены Законом РУз от 29.12.2021 г. № ЗРУ-741).

С 1 января 2020 года согласно новому Налоговому кодексу (пункт 6 статьи 246) НДС не уплачивается при импорте технологического оборудования, ввозимого на территорию Республики Узбекистан, аналоги которого не производятся в Республике Узбекистан, ввозимого на территорию Республики Узбекистан по утвержденному перечню.

Новым Налоговым кодексом не предусмотрено:

- распространение льготы на комплектующие изделия и запасные части, поставка которых предусмотрена условиями контракта на поставку технологического оборудования. При этом Постановлением КМ РУз от 27.11.2020 г. № 750 (пункт 4) установлено, что льготы на новое

технологическое оборудование, аналоги которого не производятся в Республике Узбекистан, распространяются на комплектующие изделия и запасные части при условии, что они поставляются в комплекте к новому технологическому оборудованию в соответствии с одним контрактом (договором), и являются неотъемлемой частью данного оборудования;

аннулирование действия льгот с восстановлением обязательств по уплате НДС в случае реализации или безвозмездной передачи импортируемого технологического оборудования на экспорт.

Таможенные пошлины не уплачиваются при импорте технологического оборудования, комплектующих изделий и запасных частей, поставка которых предусмотрена условиями контракта на поставку технологического оборудования согласно пункту 13 статьи 297 ТК (Трудовой Кодекс), утвержденного Законом РУз от 20.01.2016 г. № ЗРУ-400 (с 22.04.2016 года, до 22.04.2016 года - статья 33 Закона «О таможенном тарифе»).

В случае реализации или безвозмездной передачи импортируемого технологического оборудования на экспорт в течение трех лет с момента его ввоза действие льгот аннулируется с восстановлением обязательств по уплате таможенной пошлины.

С 4 июня 2021 года в целях применения льготы по таможенной пошлине и НДС применяется Перечень, утвержденным Постановлением КМ РУз от 04.06.2021 г. № 352 (ранее - Перечень, зарегистрированный МЮ 20.03.2013 г. № 2436). С 15 июля 2021 года в перечень № 352 внесены дополнения Постановлением КМ РУз от 14.07.2021 г. № 441.

При отсутствии необходимого оборудования в указанном Перечне предприятие может обратиться в ГУП «Центр комплексной экспертизы проектов и импортных контрактов при Министерстве экономического развития и сокращения бедности Республики Узбекистан» для проведения экспертизы на предмет наличия/отсутствия на территории Республики Узбекистан производства аналогов импортируемого технологического оборудования в порядке, определенном Положением «О порядке внесения изменений и дополнений в Перечень технологического оборудования, аналоги которого не производятся в Республике Узбекистан, освобождаемого при ввозе на территорию Республики Узбекистан от уплаты таможенной пошлины и налога на добавленную стоимость», утвержденным Постановлением КМ РУз от 27.11.2020 г. № 750.

Льгота в виде освобождения от уплаты таможенных платежей применяется только к новому технологическому оборудованию, т.е. к машинам, аппаратам, установкам, механизмам, непосредственно участвующим в процессе производства продукции, работ и услуг, со дня выпуска которых прошло не более 3-х лет (с 28.08.2017 года - пункт 2 Положения «О порядке применения льгот юридическими лицами, направляющими средства на инвестиции», рег. МЮ 25.08.2017 г. № 2918; до 28.08.2017 года - пункт 1 Положения, рег. МЮ 11.06.2007 г. № 1688). Для подтверждения года выпуска оборудования при таможенном оформлении в

таможенный режим «выпуск для свободного обращения» предоставляется технический паспорт завода-изготовителя, подтверждающий год выпуска оборудования. Взамен техпаспорта можно представить другой документ изготовителя, включающий в себя соответствующую информацию о выпущенном им оборудовании, в том числе год выпуска.

В случае реализации или безвозмездной передачи импортируемого технологического оборудования на экспорт в течение трех лет с момента его ввоза действие льгот аннулируется с восстановлением обязательств по уплате таможенной пошлины (до 1.04.2020 года также по уплате НДС) (пункт 13 статьи 297 ТК, до 22.04.2016 года - статья 33 Закона «О таможенном тарифе»). При этом обязательство по уплате причитающихся платежей возлагается на экспортера технологического оборудования (с 28.08.2017 года - пункт 19 Положения № 2918, до 28.08.2017 года - пункт 22 Положения. № 1688). Если оборудование реализуется внутри республики, то действие льгот не аннулируется.

Заключение. С 18 декабря 2019 года Постановлением КМ РУз от 17.12.2019 г. № 1008 утвержден Перечень технологического и лабораторного оборудования, комплектующих и запасных частей к ним, а также сырья и материалов, используемых для производства лекарственных средств, изделий медицинского назначения и упаковочных материалов, освобождаемых от уплаты таможенных платежей. С 21.08.2021 года Перечень № 1008 дополнен новыми позициями согласно Постановлению, КМ РУз от 20.08.2021 г. № 532.

Следует отметить, что с 1 октября 2019 года в соответствии с Указом Президента РУз от 27.06.2019 г. № УП-5755 (подпункт «в» пункта 2) отменены льготы по налогу на добавленную стоимость, в том числе при импорте, в отношении сельскохозяйственной техники, автотранспортных средств, комплектующих изделий, материалов и технологической оснастки, используемых в производстве автотранспортных средств.

С 1 января 2020 года пунктом 2 Постановления КМ РУз от 14.12.2019 г. №999 отменено действие льгот по таможенным платежам в отношении индукционных печей и камер, используемых для производства проката черных металлов.

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ЭФФЕКТИВНОЕ УПРАВЛЕНИЕ ФИНАНСАМИ

***Аннотация:** В статье рассматриваются теоретические и практические аспекты эффективного управления финансами как важного элемента устойчивого развития предприятий. Раскрываются ключевые принципы финансового планирования, бюджетирования, управления денежными потоками, инвестиционной деятельности и анализа финансовых рисков. Особое внимание уделено современным подходам к цифровизации финансовой функции и внедрению информационных технологий. Также анализируются основные проблемы, с которыми сталкиваются организации при реализации финансовой стратегии, и предлагаются пути их решения. Статья может быть полезна как для специалистов в области финансов, так и для студентов экономических специальностей.*

***Ключевые слова:** финансовый менеджмент, управление финансами, бюджетирование, денежные потоки, инвестиции, финансовый анализ, цифровизация, финансовая стратегия*

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INTERNATIONAL ASPECTS OF CORPORATE FINANCE

Abstract: *The article explores the key international aspects of corporate financial management in the context of globalization. It analyzes the specifics of financial systems of companies operating in foreign markets, the impact of cross-border regulation, currency risks, tax regimes, and international financial reporting standards. Special attention is paid to transfer pricing practices, attracting capital in international markets, and strategic management of financial flows in transnational corporations.*

Keywords: *corporate finance, international markets, currency risk, transnational corporations, transfer pricing, international standards, globalization, investment*

Введение

Эффективное управление финансами — это основа устойчивого развития любой организации. Современные экономические условия, характеризующиеся высокой волатильностью и неопределённостью, требуют от предприятий гибкости и умения оперативно реагировать на изменения внешней и внутренней среды. Финансовый менеджмент играет ключевую роль в достижении стратегических целей, обеспечении ликвидности, рентабельности и конкурентоспособности.

1. Теоретические основы финансового менеджмента

Финансовый менеджмент — это система управления финансовыми ресурсами предприятия, направленная на обеспечение его финансовой устойчивости и максимизацию рыночной стоимости. Он включает в себя следующие ключевые элементы:

- финансовое планирование и прогнозирование;
- бюджетирование;
- управление оборотным капиталом;
- инвестиционное планирование;
- управление рисками и финансовый контроль.

Эти компоненты находятся во взаимосвязи и требуют комплексного подхода к реализации.

2. Финансовое планирование и бюджетирование

Финансовое планирование позволяет определить приоритеты и направления использования ресурсов в кратко-, средне- и долгосрочной перспективе. Одним из его инструментов является бюджетирование, которое позволяет сопоставить доходы и расходы, контролировать выполнение финансовых целей и выявлять отклонения от плана.

Успешная реализация бюджетного процесса требует участия всех структурных подразделений, что способствует укреплению финансовой дисциплины и формированию корпоративной культуры.

3. Управление денежными потоками

Рациональное управление денежными потоками обеспечивает бесперебойную деятельность предприятия, своевременное выполнение обязательств перед контрагентами, государством и персоналом. Важными инструментами выступают:

- анализ движения денежных средств;
- контроль дебиторской и кредиторской задолженности;
- поддержание оптимального уровня ликвидности.

Эффективная система cash-flow позволяет предугадывать возможные кассовые разрывы и заранее принимать корректирующие меры.

4. Инвестиционное планирование

Инвестиции являются одним из основных факторов роста и модернизации. При принятии инвестиционных решений необходимо учитывать:

- оценку доходности и риска проектов (NPV, IRR, DPP);
- стратегическую значимость вложений;
- доступность источников финансирования.

Современные подходы к инвестиционному анализу включают сценарное моделирование и учет ESG-факторов.

5. Управление финансовыми рисками

Управление рисками предполагает:

- идентификацию потенциальных угроз;
- количественную и качественную оценку рисков;
- разработку стратегии минимизации негативных последствий.

Применяются методы страхования, хеджирования, диверсификации, а также построение моделей стресс-тестирования.

6. Цифровизация финансовой функции

Цифровизация управления финансами — важнейшее направление повышения эффективности. Информационные технологии позволяют:

- автоматизировать учет и отчетность;
- использовать аналитические платформы (BI-системы);
- применять алгоритмы искусственного интеллекта для прогнозирования и анализа данных.

Цифровая трансформация способствует снижению издержек, ускорению принятия решений и повышению прозрачности.

7. Проблемы и перспективы

Среди основных проблем эффективного управления финансами можно выделить:

- недостаточную квалификацию финансовых специалистов;
- слабую интеграцию стратегического и финансового управления;
- дефицит качественной финансовой информации.

Для решения этих проблем необходимы:

- развитие корпоративного управления;
- инвестиции в обучение и повышение квалификации;
- внедрение современных ИТ-решений.

Заключение

Эффективное управление финансами является важным условием устойчивого функционирования и развития предприятия. Современные вызовы требуют системного подхода к финансовому планированию, активного внедрения цифровых технологий и постоянного совершенствования профессиональных компетенций. Комплексное развитие финансовой функции способствует не только укреплению внутренней стабильности организации, но и её успешному позиционированию в конкурентной среде.

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ОСНОВНЫЕ СРЕДСТВА ПРЕДПРИЯТИЯ: ПОНЯТИЕ, РОЛЬ И ОСОБЕННОСТИ УЧЕТА

***Аннотация:** В статье рассмотрены понятие, сущность и виды основных средств предприятия. Охарактеризованы особенности учета основных средств в Российской Федерации. В работе показано, что эффективное использование основных фондов предприятия способствует улучшению таких показателей, как снижение издержек, а при неизменном объеме выручки и ее росте, соответственно увеличение прибыли, повышение фондоотдачи и росту производительности труда.*

***Ключевые слова:** основные средства, учет, основные фонды, фондоотдача.*

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ON THE NEED TO INVEST IN PRE-SCHOOL EDUCATIONAL INSTITUTIONS

***Abstract:** The article discusses the concept, essence and types of fixed assets of the enterprise. The features of accounting for fixed assets in the Russian Federation are described. The paper shows that the effective use of fixed assets of an enterprise contributes to the improvement of such indicators as cost reduction, and with a constant volume of revenue and its growth, respectively, an increase in profits, increased return on capital and increased labor productivity.*

***Keywords:** fixed assets, accounting, fixed assets, capital return.*

В современных экономических условиях хозяйствования ключевым вопросом теории и практики является обеспечение предприятий основными средствами, поскольку они являются существенной составляющей национального богатства. Эффективное использование основных средств оказывает существенное влияние на финансовое и имущественное положение организации. Таким образом, важно стремиться к повышению качества учетной информации, обеспечению оперативности ее получения и полноты предоставляемых данных для всех заинтересованных сторон.

Современные экономические реалии требуют от предприятий не только эффективной работы, но и грамотного управления основными средствами. Основные средства являются основой производственного процесса и значительной частью активов организации. Поэтому успешное функционирование предприятия невозможно без правильного подхода к их использованию.

Качество учетной информации непосредственно влияет на принятие управленческих решений, позволяя выявлять проблемные сферы и оптимизировать деятельность компании. Оперативное получение учетных данных позволяет своевременно реагировать на изменения во внутренней и внешней среде, что повышает конкурентоспособность и устойчивость предприятия. Полнота предоставляемых сведений об основных средствах позволяет организации строить достоверные отчеты и оценивать свое текущее положение предприятия на рынке.

Таким образом, данная тема является актуальной, так как в условиях рыночной экономики важное значение приобретает обеспечение грамотного учета и анализа основных средств.

По мнению Шнайдера О.В., основные средства представляют собой физический капитал предприятия, который включает в себя здания, оборудование, транспортные средства и другие материальные активы, необходимые для производства продукции или предоставления услуг. Они являются важной составляющей производственного процесса и средствами труда, без которых невозможно обеспечить нормальное функционирование предприятия. Основные средства обеспечивают необходимую инфраструктуру для производства и влияют на его эффективность [7].

Существует несколько видов основных средств:

1. Недвижимые, включающие здания, сооружения, инженерные коммуникации, различные передаточные сети, дороги.
2. Машины, в том числе силовое и энергетическое оборудование, технику, автомобили.
3. Инструмент и оборудование сотрудников, производственный инвентарь.
4. Сельскохозяйственные и племенные животные.
5. Многолетние деревья.

Одним из основных преимуществ использования основных средств является увеличение производительности труда. Современное оборудование и технологии позволяют выполнять задачи более быстро и качественно, что способствует повышению объемов производства и снижению затрат на единицу продукции. Благодаря этому предприятие может конкурировать на рынке, привлекая больше клиентов и увеличивая свою долю рынка.

Цель любого производственного предприятия заключается в обеспечении устойчивой прибыли. Для достижения этой цели необходимо учитывать множество факторов, включая использование передовых технологий, эффективную организацию производства и наличие

достаточного финансового капитала. Одним из ключевых аспектов успешной деятельности предприятия является наличие достаточного количества основных средств.

Основные средства представляют собой материальную базу, необходимую для функционирования и развития предприятия. Эти средства обеспечивают техническую оснащенность предприятия, повышают его надежность и автономию в принятии решений. Важно отметить, что основные средства играют ключевую роль в обеспечении стабильности и эффективности производственного процесса [5].

Поэтому важно осуществлять постоянный контроль и обновление основных средств, чтобы обеспечить современный уровень технической оснащенности предприятия и его конкурентоспособность на рынке. Кроме того, эффективное использование основных средств способствует оптимизации производственных процессов, увеличивает производительность труда и снижает издержки, что в итоге приводит к увеличению прибыли предприятия [4].

В настоящее время в научной литературе представлено большое количество работ, посвященных основным средствам.

Так, в статье Зверевой Е.В., Сабановой А.А. рассмотрено содержание амортизационной политики, анализ существующих трактовок данного понятия отечественными учеными. Основные требования к успешной реализации амортизационной политики включают четкость методов начисления, своевременность переоценок и учет инфляционных факторов. Формирование амортизационной политики должно быть связано с процессами воспроизводства и обновления основных средств. Авторами сделан вывод о том, что важно сопоставлять показатели технического состояния с показателями эффективности их использования, особенно в строительной отрасли, на уровне федеральных округов РФ. Это поможет выявить проблемные области и оптимизировать управление активами, что в свою очередь способствует более эффективному вложению ресурсов и продлению срока службы основных средств [2].

В работе Фурсовой Т.В., Фатеева К.В. рассматривается проблема износа основных фондов на предприятиях России, которая мешает реализации программы импортозамещения, принятой в 2014 г. Авторы также анализируют причины и последствия высокого уровня износа основных фондов в различных отраслях экономики, а также предлагают возможные пути решения проблемы с помощью инвестиций, инноваций и государственной поддержки [6].

Измайлов М.К. рассматривает проблемы эффективного использования основных средств промышленных предприятий в контексте цифровой экономики. Автором делается вывод о том, что процессы цифровизации экономики создают как новые возможности, так и вызовы для промышленных предприятий. Для эффективного функционирования в

условиях цифровой экономики требуется адаптация бизнес-моделей, бизнес-процессов, организационных структур и корпоративной культуры предприятий. Это, в свою очередь, предъявляет дополнительные требования к основным производственным фондам, что создает научный интерес для проведения исследований в этой области [3].

В бухгалтерском учете очень важно правильное документальное оформление движения основных средств.

Основные средства в бухгалтерском учете приходятся на 01 счет «Основные средства». Для начисления амортизационных отчислений применяется сч.02 «Амортизация».

ФСБУ 6/2020 «Основные средства» определяет критерии классификации активов как основных средств предприятия, включая их способность генерировать доходы и долгосрочное использование [1]. Связанный с ним ФСБУ 26/2020 «Капитальные вложения» регламентирует учет вложений в арендованные активы. Чаще всего право собственности на такие активы остается за арендодателем, но в некоторых случаях, например в лизинге, возможен выкуп арендуемого имущества арендатором по окончании аренды.

Таким образом, основные средства представляют собой важный ресурс для развития предприятия. Их правильное использование способствует улучшению экономических показателей и обеспечивает конкурентные преимущества на рынке.

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АКТУАЛЬНЫЕ ПРОБЛЕМЫ СОВЕРШЕНСТВОВАНИЯ КОНТРОЛЬНО-НАДЗОРНОЙ ДЕЯТЕЛЬНОСТИ ОРГАНОВ ПУБЛИЧНОЙ ВЛАСТИ

Аннотация. *Переосмысление механизмов государственного контроля и надзора в России становится центральной темой исследования. В статье исследуются проблемы и возможности совершенствования системы административного регулирования. Комплексные меры по обеспечению соблюдения нормативных требований подконтрольными организациями составляют суть контрольно-надзорной функции публично-властных структур. Административный характер этой деятельности проявляется в системном мониторинге исполнения законодательных норм со стороны подведомственных субъектов. Государственный контроль выступает фундаментальной функцией власти, что подтверждает научные исследования, включенные в обзор в статье. Эта функция охватывает оценку деятельности с различных позиций - юридических, научных, социально-политических, административных и технических аспектов, а также отслеживание соответствия закону и целевой направленности.*

Ключевые слова: *контроль, надзор, власть, государство, деятельность, проблема*

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CURRENT ISSUES IN IMPROVING THE CONTROL AND SUPERVISORY ACTIVITIES OF PUBLIC AUTHORITIES

Annotation. *Rethinking the mechanisms of state control and supervision in Russia is becoming the central topic of the study. The article examines the problems and possibilities of improving the system of administrative regulation. Comprehensive measures to ensure compliance with regulatory requirements by controlled organizations are the essence of the control and supervisory function of public authorities. The administrative nature of this activity is manifested in the systematic monitoring of the implementation of legislative norms by subordinate*

entities. State control is a fundamental function of government, which confirms the scientific research included in the review in the article. This function covers the assessment of activities from various perspectives - legal, scientific, socio-political, administrative and technical aspects, as well as monitoring compliance with the law and the target orientation.

Keywords: *control, supervision, authority, state, activity, problem*

Конституцией Российской Федерации установлено, что Российская Федерация (РФ) – социальное государство, политика которого направлена на создание условий, обеспечивающих достойную жизнь и свободное развитие человека. Публичная политика государства представляет собой фундаментальные директивы, которыми руководствуются властные структуры, особенно исполнительные органы, в своей деятельности по конкретным направлениям. Поскольку решения, принимаемые на государственном уровне, влияют на интересы всего населения страны и юридических лиц любых форм собственности, государственная политика по своей сути является общественной или публичной. Законы и общественные традиции выступают регуляторами правомерных активностей. В сфере государственного управления выделяют два основных вектора: взаимодействие внутри страны и международные отношения. Последние сосредоточены на формировании благоприятного климата между государствами, что способствует развитию экономического сотрудничества и созданию альянсов. Внутригосударственная же стратегия фокусируется на имплементации локальных нормативных актов и принятии управленческих решений, непосредственно влияющих на внутреннюю жизнь страны. Функциональная классификация позволяет дифференцировать государственную политику по конкретным областям. Законодательство РФ устанавливает фундаментальные основы обеспечения различных видов безопасности. В рамках этой сферы определяются не только ключевые принципы соответствующей деятельности, но и регламентируются полномочия исполнительных органов власти всех уровней.¹⁰³

Реализация контрольно-надзорных функций государства направлена на проверку исполнения законодательных требований, а также специфических регламентов различными субъектами – от органов власти до частных лиц в их профессиональной сфере. Контрольно-надзорная деятельность публичных структур включает несколько ключевых компонентов. Уполномоченные должностные лица принимают решения на основе проведенных мероприятий. В процессе государственного контроля анализируются не только результаты деятельности подконтрольных объектов в части соблюдения нормативных и

¹⁰³ Гордиенко, У. Н. Государственная политика в области контрольно-надзорной деятельности / У. Н. Гордиенко, В. М. Шеншин // Актуальные вопросы контроля и надзора в социально значимых сферах деятельности общества и государства : Материалы VII Всероссийской научно-практической конференции, посвященной 300-летию образования прокуратуры России, Нижний Новгород, 02 июня 2022 года. – Нижний Новгород: КТ "Буки-Веди", 2023. – С. 293

индивидуальных правовых актов, но и методы, применяемые для их реализации. Проверочные мероприятия затрагивают как фактическое исполнение законодательства, так и способы достижения требуемых показателей.

В нынешней фазе эволюции российской государственности надзорные механизмы приобретают исключительную важность во всех областях социума. Демократические преобразования и формирование правовой государственности существенно укрепляются благодаря эффективному надзорному функционированию. Государственно-управленческий надзор катализирует текущие трансформационные процессы в России. Применение стимулирующих мер при обнаружении положительных результатов деятельности или, наоборот, принудительное воздействие – неотъемлемые компоненты надзорной системы. Значимым аспектом контрольной функции также является возможность приостановления или аннулирования управленческих актов, не соответствующих закону или нецелесообразных в конкретных обстоятельствах.¹⁰⁴

Современная система государственного надзора сталкивается с серьезными препятствиями для эффективной работы. Разрозненность механизмов контроля создает значительные трудности в комплексном управлении рисками – отсутствие единого координационного центра не позволяет наладить системное взаимодействие между различными надзорными инстанциями. Непрозрачность процедур и слабая система подотчетности контролирующих структур формируют благоприятную среду для коррупционных практик и подрывают общественное доверие к институтам государственного контроля. Параллельно существующие контрольные механизмы с дублирующимися функциями создают избыточную административную нагрузку. Многочисленные проверяющие органы с перекрывающимися полномочиями генерируют бюрократические барьеры, что влечет временные и финансовые издержки для всех участников процесса. Вызовы современного регулирования: технологии, кадры, общество и право.

Контрольно-надзорная деятельность сталкивается с серьезными препятствиями из-за несовершенства законов, создающих регуляторные пробелы и усложняющих эффективный надзор. Параллельно с этим формируется негативный общественный имидж надзорных структур, что существенно затрудняет их взаимодействие с гражданами и организациями. Качество работы контролирующих органов страдает от острой нехватки высококвалифицированных специалистов. Одновременно революционные технологические инновации – искусственный интеллект, аналитика больших данных и блокчейн-технологии – формируют принципиально новую среду, бросающую беспрецедентные вызовы регуляторным институтам.

¹⁰⁴ Соколов А.Ю., Лакаев О.А. Правовая политика в сфере государственного контроля и надзора // Правовая политика и правовая жизнь. 2020. № 2. С. 24–35. 2 Основы правовой политики: учеб. пособие для магистрантов. 2-е изд. / А.В. Малько, А.Ю. Саломатин. М.: РИОР: ИНФРА-М, 2018. С. 5.

Превентивные подходы показывают большую результативность в сравнении с наказаниями, поэтому совершенствование профилактических механизмов становится приоритетным. Цифровизация сервисов, оптимизация организационных структур надзорных ведомств и формирование всеобъемлющей стратегии развития контрольных функций – лишь некоторые из многочисленных инициатив, предлагаемых для преодоления существующих вызовов в этой сфере.¹⁰⁵

Выполняя распоряжение главы государства, кабинет министров осуществляет трансформацию системы надзора и контроля. Ключевой инновацией становится методология, основанная на анализе рисков, позволяющая заблаговременно выявлять объекты, требующие мониторинга, и сосредотачивать внимание лишь на тех, где высока вероятность несоблюдения нормативных требований. Значимым элементом реформирования стало создание централизованной базы данных контрольно-надзорных активностей. Проверяющие инстанции утрачивают право на проведение инспекций без предварительной регистрации таких мероприятий в общенациональном информационном ресурсе. При необходимости они могут оспорить итоговые решения до обращения в суд, используя специальный сервис для направления жалоб. Расширенный в 2024 году функционал персональных аккаунтов теперь включает дополнительные сервисы, которые отображают типичные сценарии взаимодействия бизнеса с органами контроля и надзора. Также разработано мобильное приложение «Инспектор», которое позволяет с любых мобильных устройств и стационарных компьютеров дистанционно осуществлять оценку соблюдения обязательных требований, проводить профилактический визит и контрольное (надзорное) мероприятие. Предполагается, что подтверждение устранения нарушений будет осуществляться в том числе с использованием этого мобильного приложения. В части управления рисками концепцией предусмотрена доработка системы категорирования объектов контроля с учётом их индивидуальных характеристик. Она будет предусматривать возможность снижения категорий риска при соответствии критериям добросовестности. Категорирование объектов контроля будет осуществляться с использованием специального реестра. Это позволит сформировать единый профиль риска для контролируемых лиц и обеспечит всестороннюю оценку рисков [4].¹⁰⁶

Таким образом, в приоритете находится усовершенствование цифровых платформ, применяемых при осуществлении контроля. Важным аспектом также является внедрение риск-ориентированного подхода во время проверок. Такой метод обеспечивает возможность заблаговременно

¹⁰⁵ Уварова, Е. О. Актуальные проблемы контрольно-надзорной функции в системе государственного управления / Е. О. Уварова. — Текст : непосредственный // Молодой ученый. — 2024. — № 43 (542). — С. 95-96. — URL: <https://moluch.ru/archive/542/118571/> (дата обращения: 19.03.2025).

¹⁰⁶ Правительство утвердило Концепцию совершенствования контрольной (надзорной) деятельности до 2026 года // URL: <http://government.ru/docs/50506/> (дата обращения: 19.03.2025).

определять объекты, требующие особого внимания, и концентрироваться исключительно на тех, где существует значительный риск несоблюдения нормативных требований. Для улучшения контрольной системы предлагается модернизировать подход к категорированию объектов. Важно интегрировать персональные особенности контролируемых объектов и создать механизм понижения рисков категорий для добросовестных участников, соответствующих установленным критериям. Полезным инструментом станет интерактивный "Калькулятор рисков" - онлайн-сервис, позволяющий мгновенно идентифицировать степень риска определенного объекта и анализирующий факторы, способные изменить эту классификацию.

Формирование условий для добросовестной деятельности органов публичной власти и предупреждение правонарушений значительно превосходит по эффективности карательные методы. Именно поэтому совершенствование профилактической системы должно стать приоритетным направлением. Для трансформации контрольно-надзорной сферы необходим комплексный подход, включающий множество взаимосвязанных элементов: структурную реорганизацию надзорных органов, внедрение единой координационной системы, обеспечение открытости всех процессов.

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ПРЕДМЕТ И ПРЕДЕЛЫ ПРОКУРОРСКОГО НАДЗОРА ЗА ЗАКОННОСТЬЮ ОСУЩЕСТВЛЕНИЯ КОНТРОЛЬНО-НАДЗОРНОЙ ДЕЯТЕЛЬНОСТИ

***Аннотация.** Сфера контрольно-надзорной деятельности отличается значительной комплексностью, равно как и значительным количеством субъектов ее осуществлявших. Так, на сегодняшний день почти каждый государственный орган исполнительной власти имеет определенные полномочия в сфере контрольно-надзорной деятельности. Обеспечение законности реализации обозначенных полномочий в свою очередь осуществляется в том числе путем реализации одного из направлений прокурорского надзора.*

***Ключевые слова:** контроль и надзор, надзорная деятельность, прокурорский надзор, предмет надзора, пределы надзора*

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SUBJECT AND BOUNDARIES OF PROSECUTORIAL OVERSIGHT OF THE LEGALITY OF CONTROL AND SUPERVISORY ACTIVITIES

***Annotation.** The sphere of regulatory and oversight activities is characterized by significant complexity, as well as the considerable number of entities involved. As of today, almost every state executive body has specific powers in the field of regulatory oversight activities. Ensuring the legality of the exercise of these powers is, in turn, facilitated by one of the areas of prosecutor's supervision.*

***Keywords:** control and oversight, supervisory activity, prosecutor's supervision, subject of oversight, limits of oversight*

Первоначально следует отметить, что основные задачи прокурорского надзора определяются действующим законодательством РФ. Данные задачи в дальнейшем реализуются посредством осуществления отдельных направлений прокурорского надзора.

Ст. 1 Федеральном законе от 17.01.1992 г. № 2202-1¹⁰⁷ (далее – ФЗ № 2202-1) определено, что прокуратура осуществляет надзор за исполнением законов органами исполнительной власти (Схема 1).

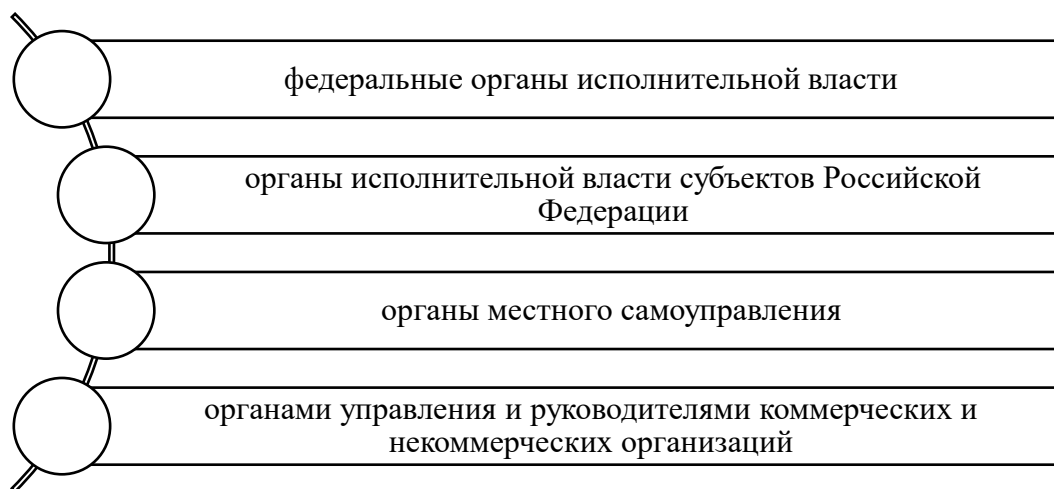


Схема 1. Перечень объектов прокурорского надзора

Следует отметить, что именно специфика и разносторонний характер полномочий обозначенных органов и их должностных лиц обуславливает необходимость осуществления должного уровня контроля и надзора за осуществлением ими своих полномочий, одним из которых является осуществление контрольно-надзорной деятельности согласно Федеральному закону от 31.07.2020 № 248-ФЗ (далее – ФЗ № 248)¹⁰⁸.

С целью определения предмета прокурорского надзора за законностью осуществления контрольно-надзорной деятельности следует в первую очередь определить перечень субъектов, обладающих правом ее осуществления. Так, ст. 26 обозначенного выше ФЗ № 248 определяет конкретный перечень контрольных надзорных органов (Схема 2).

¹⁰⁷ Федеральный закон от 17.01.1992 г. № 2202-1 «О прокуратуре» (ред. от 08.08.2024) // Собрание законодательства Российской Федерации. 1992. № 18. Ст. 2548.

¹⁰⁸ Федеральный закон от 31.07.2020 N 248-ФЗ (ред. от 08.08.2024) «О государственном контроле (надзоре) и муниципальном контроле в Российской Федерации» (с изм. и доп., вступ. в силу с 01.09.2024) // Собрание законодательства Российской Федерации. 2020. № 48. Ст. 1345.

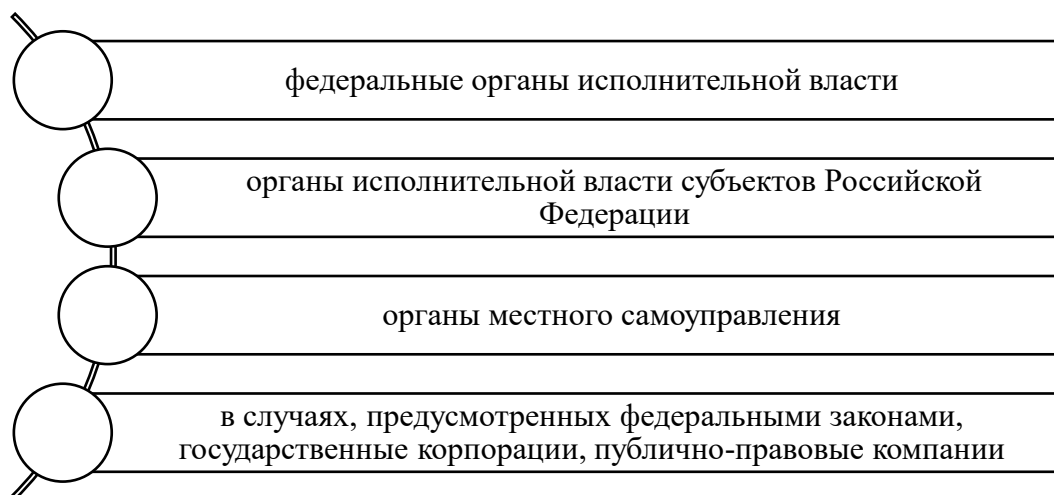


Схема 2. Контрольные (надзорные) органы согласно ФЗ № 248

Исходя из анализа двух обозначенных перечней можно сделать вывод, что прокурорский надзор за законностью осуществления контрольно-надзорной деятельности является составной частью такого направления как надзор за законностью исполнением законов, предметом которого является соблюдение основного закона нашего государства и исполнение действующих законов РФ со стороны государственных органов, их должностных лиц и иных юридических лиц, обозначенных на Схеме 1.

Исходя из рассмотренного можно сделать вывод относительно совокупности элементов, входящих в предмет прокурорского надзора в рассматриваемой области:

- законность действий обозначенных органов исполнительной власти и их должностных лиц;
- законность издаваемых правовых и иных актов обозначенных органов исполнительной власти в сфере контрольно-надзорной деятельности¹⁰⁹.

Обозначив предмет прокурорского надзора в рассматриваемой области следует проанализировать пределы его осуществления. Так, под пределами надзорной деятельности прокурора следует понимать законодательное ограничение его полномочий¹¹⁰.

При определении рассматриваемого понятия авторы правовой доктрины исходят из трех его составляющих, а именно:

- законодательства, регулирующего прокурорскую надзорную деятельность;

¹⁰⁹ Казарина А.Х. Теоретические и прикладные проблемы прокурорского надзора за исполнением законов экономической направленности: автореф. дис. докт. юрид. наук. М., 2019. С.36 - 37.

¹¹⁰ Какителашвили М.М. Прокуратура в системе органов государственной власти в странах СНГ // Российский журнал правовых исследований. 2019. № 3. С. 131-137.

- предмет прокурорского надзора;
- конкретные полномочия прокурора по реализации своих функций.

ФЗ №2202-1 в ст. ст. 21, 26 определяет ряд пределов прокурорского надзора, а именно:

- недопущение вмешательства в хозяйственную деятельность юридических лиц;
- осуществление проверок исключительно на основании полученного сигнала об имевших место нарушениях;
- недопущение дублирования в рамках осуществления надзорной деятельности функций иных госорганов.

Обращаясь к вопросу рассмотрения пределов прокурорского надзора, в том числе за такой областью как контрольно-надзорная деятельность, нельзя не отметить определенных проблем при его осуществлении, среди которых можно особо подчеркнуть такие как:

- отсутствие должного анализа результатов проведенных проверок;
- осуществление проверок на постоянной основе несмотря на прямой законодательный запрет;
- отсутствие должным образом разработанных методических рекомендаций;
- отсутствие должной работы с общественностью и информированием граждан;
- ненадлежащее использование правовых инструментов, предоставленных прокурорам, отсутствие контроля за исполнением мер прокурорского реагирования;

Обозначенные проблемы негативным образом сказываются на всей системе прокурорского надзора, и, в частности, за осуществлением контрольно-надзорной деятельности, осуществление которой отличается комплексным характером.

С целью устранения обозначенных проблем возможно предложить ряд направлений совершенствования прокурорского надзора в рассматриваемой отрасли в краткосрочной перспективе:

- обеспечение методической поддержки надзорной деятельности в рассматриваемой области;
- обеспечение качественного анализа осуществляемых проверок на постоянной основе, это позволит выявить наиболее часто встречающиеся недостатки в работе исполнительных органов государственной власти при осуществлении контрольно-надзорной деятельности и позволит прокурорским работникам при осуществлении надзора в указанной сфере обращать внимание именно на указанные недостатки;
- улучшение профессиональной подготовки и квалификации: обеспечение доступа к качественному образованию и тренингам в связи с вносимыми изменениями в действующее законодательство РФ по осуществлению контрольно-надзорной деятельности;

- обеспечение доступ к современным технологиям и ресурсам: оснащение необходимыми инструментами и информацией для эффективного исполнения своих задач, включая доступ к информационным системам, базам данных и другим средствам автоматизации.

Таким образом на основании рассмотренного в данной статье можно сделать вывод относительно того, что прокурорский надзор за законностью осуществления контрольно-надзорной деятельности является составной частью такого направления как надзор за законностью исполнением законов. В качестве основных проблем данного направления можно выделить: отсутствие должного анализа результатов проведенных проверок; осуществление проверок на постоянной основе несмотря на прямой законодательный запрет и отсутствие должным образом разработанных методических рекомендаций. Обозначенные в статье направления совершенствования прокурорского надзора в рассматриваемой отрасли могут положительно отразиться на эффективности осуществления работниками прокуратуры даже в краткосрочной перспективе.

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ВЛИЯНИЕ СЕМЕЙНЫХ ОТНОШЕНИЙ НА ЭФФЕКТИВНОСТЬ ОБРАЗОВАНИЯ И ВОСПИТАНИЯ

***Аннотация:** В данной статье рассматриваются влияние семейных отношений на эффективность воспитания и обучения, межличностные отношения в семье, взаимоотношения, понимание ребенком себя как личности в семье, а также то, что дети дают разную оценку происходящим событиям, аналитически описываются вопросы личного оценивания, взаимоотношений с членами семьи, не умение ребенком воспринимать, к чему он испытывает сильные чувства.*

***Ключевые слова:** семейные отношения, "Я", образ семьи, отношение к родителям, межличностные отношения, психологический портрет, образование, воспитание.*

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THE INFLUENCE OF FAMILY RELATIONS ON THE EFFECTIVENESS OF EDUCATION AND UPBRINGING

***Abstract:** This article examines the influence of family relationships on the effectiveness of upbringing and education, interpersonal relationships within the family, interactions, a child's understanding of themselves as an individual within the family, and the fact that children give different assessments of events occurring. It analytically describes issues of personal evaluation, relationships with family members, a child's inability to perceive, and what they experience strong feelings towards.*

***Keywords:** Family relationships, "Self," family image, attitude towards parents, interpersonal relationships, psychological portrait, education, upbringing.*

Актуальность темы: Для получения ребенком качественного образования, безусловно, важны созданные условия. В частности, здоровая духовно-психологическая атмосфера в семейной среде, в которой живет ребенок, положительно влияет на его образование и воспитание. Ответственность семьи за учебу ребенка закреплена в статье 51 Закона «Об образовании»: «Родители и иные законные представители несовершеннолетних обучающихся несут ответственность за учебу, воспитание, физическое, духовное и интеллектуальное развитие ребенка... воспитывают своих детей в духе гуманизма, патриотизма, трудолюбия,

уважения к духовным, национальным и общечеловеческим ценностям; создают условия для интеллектуального, духовного и физического развития своих детей» [1].

В Узбекистане находят свое отражение позитивные работы по укреплению семей, их социальной защите, воспитанию гармонично развитой личности, духовно зрелого, физически здорового поколения. В этой связи, в соответствии с Постановлением Президента Республики Узбекистан № ПП–4307 от 3 мая 2019 года «О дополнительных мерах по повышению эффективности духовно-просветительской работы», в целях гарантированной подготовки молодежи к самостоятельной жизни, разработки и внедрения в жизнь методики воспитания, основанной на преемственности и непрерывности, начинающейся с периода беременности и продолжающейся до 18 лет, направления молодежи к саморазвитию как личности, воспитания их широко мыслящими, активными гражданами, была утверждена «Концепция непрерывного духовного воспитания»[3]. Семейное воспитание оказывает более глубокое воздействие на психический мир, чувства и переживания детей, чем общественное воспитание. В нынешних условиях в семьях утверждаются духовно-нравственные отношения, основанные на общечеловеческих и национальных ценностях, отражающие восточные моральные особенности, и в семьях совершенствуются правовые, моральные и духовные основы. Если в доме не укоренится здоровая нравственная атмосфера, культура взаимного общения, нравственные принципы, то в семье неизбежно воцарится пустота и негативные явления.

Методика. В настоящее время существует множество психодиагностических инструментов, тестов, методик, опросников, которые широко используются при изучении семейных отношений личности учащегося. Одним из таких диагностических инструментов является проективный тест, широко известный под названием «Рисунок семьи». Знаменитый тест «Рисунок семьи», разработанный эстонским психологом Г. Хоменткаукас [10], является инструментом, помогающим взрослым увидеть мир глазами ребенка. Этот тест дает представление о личной оценке, которую ребенок дает своей семье, о его отношениях с членами семьи, о том, что ребенок не может воспринимать, что он чувствует с сильным волнением. То, что бессознательно беспокоит ребенка, выражается в рисунках детей. Рисунок семьи - это психологический портрет личности ребенка. Этот тест можно применять у детей от 3 до 10 лет. Психологи используют этот тест для изучения «Я» ребенка в семье. Проведение этого теста удобно и популярно в педагогической и психологической практике. Этот тест могут проводить учителя, школьные психологи и даже родители.

Для проведения исследования потребуется лист белой бумаги размером 21 x 29 см, ластик. Ребенку говорят: «Пожалуйста, нарисуй свою семью». Но не объясняют, что такое «семья», так как этого требует задача теста. Если ребенку дать объяснение, цель проведения исследования изменится. Время рисования не ограничено. Во время выполнения задания необходимо

обращать внимание на следующее: последовательность рисования элементов, стирание элементов, эмоциональность ребенка, его комментарии и т.д.

После выполнения задания ребенку задаются следующие вопросы и проводится беседа:

- 1) Скажи, кого ты нарисовал на этой картинке?
- 2) Где они?
- 3) Что они делают?
- 4) Они счастливы или им что-то наскучило?
- 5) Кто из них счастлив? Почему?
- 6) Кто из них очень несчастлив? Почему?

При анализе результатов методики «Рисунок семьи» целесообразно знать возраст ребенка, количество членов семьи, а также возраст братьев, сестер.

Вывод. Методика кинетического рисунка семьи отражает не только настоящее и прошлое, но и направлена на будущее, поскольку при рисовании ребенок стремится понять ситуацию, по-своему интерпретирует межличностные отношения в семье, изображенные на рисунке, проявляет свое представление о семье. В каждом рисунке отражаются социальные роли "родителей" в представлении ребенка, видна психология семейных отношений. Согласно результатам эксперимента, 71,4% испытуемых нарисовали отца и мать очень большими, следовательно, можно сделать вывод, что отношения в семье основаны на равенстве, ребенок чувствует себя в семье как взрослый. Разумеется, радует наличие в таких семьях среды, положительно влияющей на формирование личности ребенка. Однако дети, которые вместо семьи нарисовали животных и птиц, составили 19%, было установлено, что таким детям не хватает внимания и эмоциональной мягкости в семье, что вызывает сожаление. У ребенка, растущего в такой среде, наблюдаются такие состояния, как низкая уверенность в себе, отчужденность, трудности в общении, неспособность самостоятельно мыслить.

По мнению исследователей, отношения между родителями и ребенком являются ведущим фактором в формировании личности ребенка. Изучение представлений о семье у детей дошкольного и младшего школьного возраста, информация о семейной среде каждого ребенка и отношении родителей к ребенку служат важным источником для воспитателей-педагогов в сотрудничестве с семьей. Это обеспечивает качество и эффективность образовательного процесса, проводимого в образовательных организациях.

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ОБУЧЕНИЕ ДЕТЕЙ ДОШКОЛЬНОГО ВОЗРАСТА ИЗОБРАЗИТЕЛЬНОМУ ИСКУССТВУ

Аннотация. В статье рассматриваются вопросы важности обучения детей дошкольного возраста изобразительному искусству, роль изобразительного искусства в жизни ребенка, методы и приемы обучения изобразительному искусству, практические методы, устные методы, разговорные методы обучения, а также развитие эстетического восприятия у детей.

Ключевые слова. Методы обучения, методы демонстрации и методы обучения, использование натуры, использование картинок, анализ детских работ, устные методы и методы обучения, разговорный метод обучения, практические методы, художественная литература.

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PRESCHOOL CHILDREN FINE ARTS

Annotation. This article discusses the importance of teaching preschool children to visual activities, the role of visual activities in a child's life, methods and techniques of teaching visual activities, practical methods, oral methods, conversational teaching methods, and the development of aesthetic perception in children.

Keywords. Teaching methods, demonstration methods and teaching methods, use of nature, use of pictures, analysis of children's work, oral methods and teaching methods, conversational teaching method, practical methods, fiction

Изобразительная деятельность является основным средством эстетического воспитания детей. Различение размера, формы, цвета и пространственного расположения каждого объекта является частью этого эстетического восприятия. Развитие эстетического восприятия у детей связано с более глубоким восприятием цвета, ритма и пропорций. Когда дети воспринимают или отражают многообразие цветов, форм и текстур, они будут наслаждаться и ценить многообразие цветовых сочетаний.

Методы обучения определяются как единственно возможный способ решения данной проблемы, согласно определению, принятому в педагогике.

Это метод обучения всей деятельности ребенка и воспитателя на уроке — отдельное вспомогательное средство, которое не определяет характера деятельности на уроке, имеет узкое значение в образовании. Некоторые методы не определяют общее направление учебной работы, а скорее выступают в качестве метода. Например, в начале урока стихотворение (рассказ) читается для того, чтобы вызвать у детей интерес к решаемой задаче, в то время как на других уроках стихотворение выполняет функцию воспитателя, то есть используется для организации начала урока.

Основной группой методов, характерных для дошкольного образования, являются игры, причем эти игры могут использоваться различными способами.

Метод наблюдения. Описательный. Он составляет общую основу системы обучения деятельности. Потому что это служит важным фактором в изучении, познании и размышлении об окружающей среде. Чем больше дети развивают способность наблюдать, взаимодействовать с окружающим миром и различать общее и уникальное, тем больше будут развиваться их творческие способности.

Однако наблюдение само по себе не позволяет в полной мере описать увиденное. Необходимо обучать детей важным приемам рисования и способам использования различных материалов для рисования.

Демонстрационные методы и приемы обучения включают использование натуры, репродукций картин, моделей и других наглядных пособий, рассматривание отдельных объектов, демонстрацию педагогом приемов иллюстрирования, показ и оценку выполненных детьми работ в конце урока.

Использование природы. Описательный. Использование природы в деятельности означает описание объекта или события посредством наблюдения за природой. При работе с натуры облик предмета изображается с определенной перспективы, с учетом положения натуры по отношению к глазу рисующего. Эта особенность рисования с натуры помогает развить уникальное восприятие в процессе обучения.

Использование природы в занятиях в первую очередь способствует развитию памяти у детей; ребенок может анализировать и описывать природу, не глядя на объект. В упражнениях следует выбирать предмет простой формы, на котором четко видны его части и рисунки. Знакомя детей с природой, педагог должен последовательно анализировать ее части, расставляя слова на свои места. Например: если детям в большой группе нужно описать ветку дерева, они должны описать пространственное положение (вертикаль) ветки, растут ли ее ветви влево или вправо, много ли у нее листьев или мало листьев, темно-зеленая она или светло-зеленая.

Природа облегчает работу памяти, поскольку процесс изображения сочетается с восприятием, помогая правильно понять и передать форму, структуру и цвет объекта. Независимо от способностей дошкольников 4–5 лет, существует определенная разница в способах анализа изображенного

объекта и работы с натурой у детей по сравнению с работой с натурой школьника или художника.

Для детей дошкольного возраста он должен быть простой формы и с понятными рисунками. Например: дети рисуют машину сбоку, а куклу спереди, но им не удастся передать ее размеры. Если в группе много детей, то размещают 2–3 одинаковых предмета так, чтобы все казались равными.

Воспитатель исследует природу вместе с детьми, облегчая процесс анализа и направляя его своими словами и действиями. Этот процесс требует определенной культуры восприятия и развитого аналитического мышления.

Повторение предметов в классе. В малых и средних группах отдельные предметы часто изучаются в начале урока. Чтобы сосредоточить внимание детей на задании и стимулировать их воображение, детям показывают мяч, ленту, лопатку и т. д. В течение оставшейся части урока дети рисуют, опираясь на свое воображение. Они не могут сравнивать свои рисунки с объектами, которые видят, и не ссылаются на свое восприятие объектов.

Будет возможность изучать предметы даже в большой группе. Например: прежде чем нарисовать или изготовить предмет по мотивам сказки «Три медведя», педагог предлагает детям рассмотреть игрушечного медведя, выделить основные черты формы предмета и пропорции его отдельных частей, а затем понаблюдать за изменениями этих отдельных частей при вращении предмета. Какой бы эпизод сказки ни выбрали дети для рисования, они изображают его в позе, соответствующей данному эпизоду.

Используя образец. Использование модели — это скорее метод обучения. Для развития общего эстетического вкуса детей следует знакомить их с красивыми предметами. Например: ковры, вазы, вышивка и т. д.

На занятиях по декоративному рисованию дети не только отражают увиденные ими предметы и перерисовывают на них узоры, но и учатся самостоятельно отображать узоры и рисовать, сопоставляя яркие цвета и формы. Поэтому на начальном этапе дети рисуют элементы узора по образцу, а в дальнейшем меняют положение и цвет элементов.

Использование изображений. Иллюстрации служат в основном для определения восприятия детьми окружающей среды и объяснения методов и инструментов.

Исследования педагогов и психологов показывают, что двухлетние дети воспринимают картинку как изображение предмета. Но понимание связи между персонажами на картинке, то есть действиями, происходит позже, в возрасте 4–5 лет. Например: двухлетний ребенок говорит, что животные на картинке «стоят», а 4–5-летний ребенок говорит, что они «разговаривают», «ходят», «идут» и т. д.

Иногда во время занятий некоторые дети испытывают затруднения с описанием чего-либо. Для этого педагог может показать ребенку изображение уже нарисованного предмета. После того, как ребенок с помощью педагога определил некоторые детали, педагог должен медленно, незаметно убирать

картинку, потому что, как мы уже упоминали выше, ребенок перейдет к копированию.

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ТЕОРЕТИЧЕСКИЕ АСПЕКТЫ УЧЕТА И ВНУТРЕННЕГО АУДИТА ОПЕРАЦИЙ С ПОКУПАТЕЛЯМИ И ЗАКАЗЧИКАМИ

Аннотация: В современных условиях учет и внутренний аудит операций с покупателями и заказчиками занимает важное место в работе каждого экономического субъекта. В статье раскрыты бухгалтерские счета, применяемые при учете расчетов с покупателями и заказчиками. Обоснована необходимость проверки данных расчетов, уточнены задачи внутреннего аудита операций с покупателями и заказчиками.

Ключевые слова: учет, внутренний аудит, операции с покупателями и заказчиками

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THEORETICAL ASPECTS OF ACCOUNTING AND INTERNAL AUDIT OF OPERATIONS WITH BUYERS AND CUSTOMERS

Abstract: In modern conditions, accounting and internal audit of transactions with customers and clients occupies an important place in the work of each economic entity. The article discloses the accounting accounts used in accounting for settlements with customers and clients. The need to check these settlements is substantiated, the tasks of internal audit of transactions with customers and clients are clarified.

Keywords: accounting, internal audit, transactions with customers and clients

Расчеты с покупателями и заказчиками возникают в каждой организации при реализации предпринимательской деятельности. Данные расчеты возникают после заключения договоров. Согласно ст. 420 ГК РФ «договором признается соглашение двух или нескольких лиц об установлении, изменении или прекращении гражданских прав и обязанностей» [2]. Как правило, при продаже товаров между покупателем и продавцом заключается договор купли-продажи.

Важную роль в деятельности организаций играет правильное ведение учета операций с покупателями и заказчиками. Информация по данным расчетам отражается на счете 62 «Расчеты с покупателями и заказчиками».

«Аналитический учет по счету 62 «Расчеты с покупателями и заказчиками» ведется по каждому предъявленному покупателям (заказчикам)

счета, а при расчетах плановыми платежами - по каждому покупателю и заказчику» [5].

Аналитический учет должен «обеспечивать возможность получения необходимых данных по: покупателям и заказчикам по расчетным документам, срок оплаты которых не наступил; покупателям и заказчикам по не оплаченным в срок расчетным документам; авансам полученным; векселям, срок поступления денежных средств по которым не наступил; векселям, дисконтированным (учтенным) в банках; векселям, по которым денежные средства не поступили в срок» [5].

Внутренний аудит расчетов с покупателями и заказчиками необходим для проверки достоверности их отражения на счетах бухгалтерского учета и бухгалтерской отчетности. В процессе его проведения выявляется их соответствие требованиям действующего законодательства, оценивается качество дебиторской задолженности.

Задачи внутреннего аудита операций с покупателями и заказчиками представлены на рисунке 1.

В процессе проведения внутреннего аудита операций с покупателями и заказчиками необходимо учитывать особенности деятельности организации, чтобы снизить аудиторский риск.

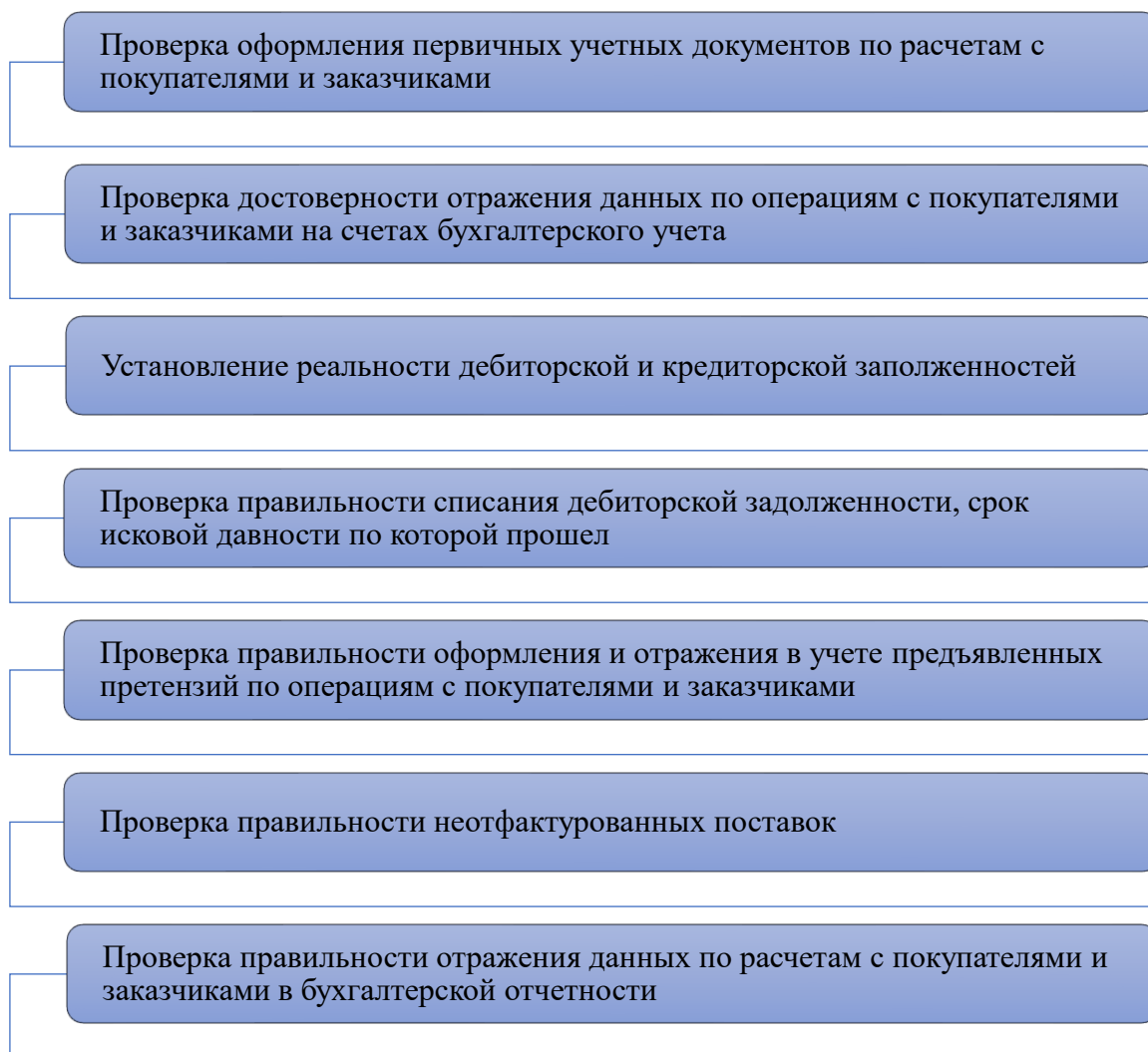


Рисунок 1 – Задачи внутреннего аудита операций с покупателями и заказчиками

В настоящее время многие организации сталкиваются с проблемой, связанной с просроченной дебиторской задолженностью. В этой связи необходимо особое внимание уделять составу и качеству дебиторской задолженности, правильности формированию резерва по сомнительным долгам [3].

Основные источники информации для проведения внутреннего аудита операций с покупателями и заказчиками представлены на рисунке 2.

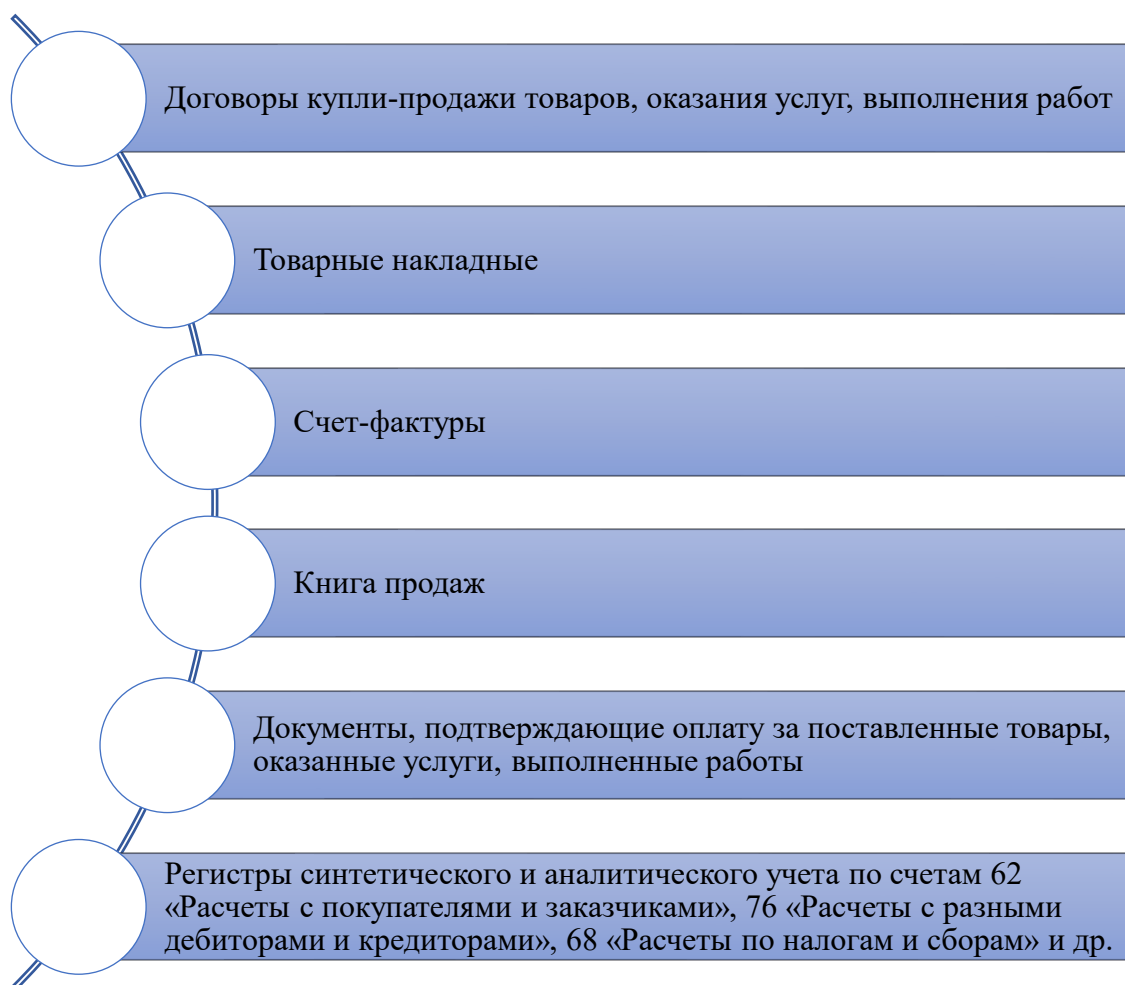


Рисунок 2 – Основные источники информации для проведения внутреннего аудита операций с покупателями и заказчиками

Внутренний аудит расчетов с покупателями и заказчиками позволяет своевременно выявить ошибки и недочеты в их учете. Именно внутренний аудит способствует своевременной разработке рекомендаций по устранению выявленных нарушений.

Таким образом, достоверный бухгалтерский учет и систематический внутренний аудит операций с покупателями и заказчиками позволяет повысить эффективность деятельности организации, снизить риски возникновения сомнительной дебиторской задолженности.

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БАЗИСНЫЕ АСПЕКТЫ НАЦИОНАЛЬНОЙ ЭКОНОМИЧЕСКОЙ БЕЗОПАСНОСТИ

***Аннотация.** Национальная экономическая безопасность – основа устойчивого развития, защищающая финансовые, промышленные и технологические ресурсы страны. Целью статьи является проектный анализ базисных аспектов национальной экономической безопасности. При написании статьи изучены труды отечественных учёных по экономической безопасности и использован логический метод исследования. В статье анализируются основные аспекты экономической безопасности, её угрозы и проектные механизмы защиты. Рассматриваются цели, этапы и участники проекта, направленного на снижение внешних рисков, поддержку бизнеса и улучшение инвестиционного климата.*

***Ключевые слова:** национальная безопасность, экономика, проект, управление проектами, глобализация, цифровизация, риски.*

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BASIC ASPECTS OF NATIONAL ECONOMIC SECURITY

***Annotation.** National economic security is the basis of sustainable development, protecting the financial, industrial and technological resources of the country. The purpose of the article is a project analysis of the basic aspects of national economic security. When writing the article, the works of Russian scientists on economic security were studied and a logical research method was used. The article analyzes the main aspects of economic security, its threats and design*

protection mechanisms. The objectives, stages and participants of the project aimed at reducing external risks, supporting business and improving the investment climate are considered.

Keywords: *national security, economy, project, project management, globalization, digitalization, risks.*

Национальная экономическая безопасность представляет собой состояние защищенности экономической системы страны от внутренних и внешних угроз, способных нанести ущерб её устойчивому развитию. Более того, согласно мнению учёного Г.В. Рябовой «в XXI веке, в эпоху информатизации, наукоемких технологий и техногенеза, влияние глобализации на безопасность государств возрастает быстрыми темпами [1]». Основные угрозы включают зависимость от иностранных инвестиций, утечку капитала, санкционное давление, а также недостаточную цифровую безопасность. Управление этими рисками требует комплексного подхода и разработки целевых программ.

В последние годы на фоне мировых экономических кризисов и геополитической нестабильности усиливается необходимость принятия мер по защите национальной экономики. Особенно важно создать систему, способную оперативно реагировать на угрозы, а также вырабатывать стратегии, направленные на долгосрочную устойчивость и независимость ключевых отраслей экономики. Важным фактором становится сотрудничество между государственными институтами, бизнесом и научными учреждениями.

Целью настоящей статьи является проектный анализ базисных аспектов национальной экономической безопасности. В процессе написания данной статьи автором были проанализированы научные труды отечественных учёных и применен логический метод исследования. Национальная экономическая безопасность включает множество аспектов, таких как защита стратегических отраслей, контроль за внешнеэкономической деятельностью, укрепление финансовой системы и развитие внутреннего производства. Одним из наиболее значимых направлений является снижение зависимости от импортных поставок и создание условий для развития отечественного производства. В условиях экономической глобализации страны, не обладающие устойчивой экономической системой, становятся уязвимыми перед внешними воздействиями, включая политические санкции, кризисы и рыночные колебания.

Важным элементом обеспечения экономической безопасности является финансовая стабильность, включающая в себя контроль над инфляцией, поддержание стабильности национальной валюты и эффективное управление государственным долгом. Также необходимо учитывать технологический фактор, так как цифровая экономика и информационные технологии становятся неотъемлемой частью хозяйственной деятельности. В современном мире киберугрозы и экономический шпионаж могут

представлять серьезную угрозу для национальной безопасности, что требует разработки соответствующих защитных механизмов.

Кроме того, национальная экономическая безопасность включает вопросы социальной стабильности и занятости населения. Высокий уровень безработицы и социальное неравенство могут приводить к росту социальной напряженности, что в свою очередь ослабляет экономическую систему страны. Государственные меры, направленные на поддержку малого и среднего бизнеса, инвестиции в образование и инновационные технологии, способствуют укреплению национальной экономики и снижению зависимости от внешних факторов.

Обладая пониманием, что в современных реалиях возникают и развиваются новые угрозы, которые приводят к снижению уровня экономической безопасности [2], предлагается взглянуть на данную проблематику с точки зрения превентивного подхода с помощью основ управления проектами.

Далее будут представлены цели и задачи сформированного проекта, нацеленного на реализацию национальной экономической безопасности государства.

Цель проекта состоит в разработке комплексной системы мониторинга и защиты экономической стабильности государства.

Задачами проекта являются следующие составляющие:

- проведение анализа актуальных угроз экономической безопасности государства;
- разработка нормативных и правовых механизмов защиты государства;
- создание платформы для мониторинга ключевых национальных экономических показателей;
- внедрение системы прогнозирования и управления рисками в государстве;
- разработка стратегий импортозамещения и укрепление отечественного производства;
- разработка антикризисных мер и стратегий в случае экономических шоков государства;
- формирование устойчивой финансовой системы государства, минимизация влияния валютных колебаний.
- внедрение инноваций и создание благоприятных условий для национального инновационного развития.

Далее в таблице 1 в табличной форме представлены важные этапы, участники и ресурсы для реализации проекта, нацеленного на национальную экономическую безопасность.

Таблица 1 - Этапы, участники и ресурсы проекта

	Этапы	Участники	Ресурсы
1	Анализ экономических угроз	Минэкономразвития, Центробанк, аналитики	Статистические данные, исследования
2	Разработка нормативных и правовых механизмов защиты	Госдума, Минфин, юристы	Законодательная база, финансирование
3	Создание мониторинговой платформы экономических показателей	ИТ-компании, ФСБ, Росстат	Программное обеспечение, базы данных
4	Внедрение системы прогнозирования и управления рисками	Государственные корпорации, Минпромторг	Техническое оборудование, финансирование
5	Разработка стратегий импортозамещения и укрепление отечественного производства	Бизнес-ассоциации, ВУЗы, НИИ	Научные разработки, инвестиции
6	Разработка антикризисных мер	Минфин, экспертные группы	Экономические модели, кризисное управление
7	Формирование устойчивой финансовой системы	Минфин, Центробанк	Законодательная база, финансирование
8	Внедрение инноваций в экономику государства	ВУЗы, бизнес-инкубаторы, научные лаборатории	Инвестиции, исследовательская база

В результате реализации проекта:

- создаётся система анализа и прогнозирования экономических рисков;
- повышается уровень защиты критически важных отраслей;
- снижается зависимость экономики от внешнего влияния;
- укрепляется национальная финансовая система;
- разрабатываются механизмы поддержки отечественных предприятий;
- улучшается инвестиционный климат и увеличивается доля внутренних инвестиций;
- стабилизируется система раннего предупреждения кризисных явлений.
- повышается инновационный потенциал экономики;

Данный проект позволит создать систему, способную адаптироваться к изменяющимся условиям мировой экономики и быстро реагировать на вызовы. Одним из наиболее значимых направлений является снижение зависимости от импортных поставок и создание условий для развития отечественного производства. В условиях экономической глобализации страны, не обладающие устойчивой экономической системой, становятся уязвимыми перед внешними воздействиями, включая политические санкции,

кризисы и рыночные колебания. Важным итогом станет повышение конкурентоспособности отечественных предприятий, способствующих импортозамещению и усиление финансовой устойчивости - независимости страны.

Обеспечение национальной экономической безопасности требует комплексного подхода, включающего как внутренние, так и внешние меры. Более того учёный И. В. Каравина в своём труде говорит: важно учитывать то, что состав и природа вызовов и угроз национальной экономической безопасности постоянно изменяются под влиянием экономических и социальных факторов как внутри страны, так и за её пределами [3]. Разработка стратегии в данной области должна основываться на глубоком анализе существующих угроз, внедрении механизмов защиты, повышении конкурентоспособности экономики и укреплении финансовой стабильности. Успешное решение этих задач позволит минимизировать возможные экономические риски и создать устойчивую платформу для дальнейшего развития государства.

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ПАТОМОРФОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ В НЕРВНЫХ ЭЛЕМЕНТАХ ЖЕЛЧНОГО ПУЗЫРЯ ПРИ ХОЛЕЦИСТИТАХ

Резюме: В статье изучены нервные элементы желчного пузыря у 17 больных, оперированных по поводу холециститов, из которых: острые флегмонозные холециститы-2, острые гангренозные холециститы-2, хронические рецидивирующие калькулезные холециститы-13. При хронических рецидивирующих калькулезных холециститах имеют место более грубые дистрофические изменения в нервных элементах желчного пузыря, достигающие до некроза нервных клеток и появления полей опустошения.

Ключевые слова: желчный пузырь, холециститы, воспаление, морфологические изменения, волокна, нервные клетки.

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PATHOMORPHOLOGICAL CHANGES IN THE NERVOUS ELEMENTS OF THE GALLBLADDER IN CHOLECYSTITIS

Abstract: The article examines the nerve elements of the gallbladder in 17 patients operated on for cholecystitis, including: acute phlegmonous cholecystitis-2, acute gangrenous cholecystitis-2, chronic recurrent calculous cholecystitis-13. In chronic recurrent calculous cholecystitis, there are more severe dystrophic changes in the nerve elements of the gallbladder, reaching necrosis of nerve cells and the appearance of devastation fields.

Key words: gallbladder, cholecystitis, inflammation, morphological changes, fibers, nerve cells.

Введение: Изменения в интрамуральной нервной системе этого органа может вести к нарушению его моторной функции [3,4,5], способствуя застою желчи, поддержанию хронического воспалительного процесса, возникновению обострения и прогрессированию желчнокаменной болезни [1,2]. Учитывая это, нами и предпринято настоящее исследование.

Цель исследования. В данной работе мы поставили перед собой цель изучить функциональные и дистрофические изменения терминальных рецепторных волокон и их окончаний.

Материалы и методы исследования. Возраст больных: от 26 до 40 лет - 4; от 40 до 50 лет - 6; от 50 до 60 лет - 3; старше 60 лет - 4. Гистологически исследовались различные отделы желчного пузыря: шейка, тела, дно. Применялись как обычные методики окраски гематоксилин-эозином, по Ванизону, так и специальные нейrogистологические - по Бильшовскому-Грос в модификации Лаврентьева и дионином Эрлиха по Нисслию. При обобщении материала мы разделили случаи на 2 основные группы.

Результаты исследования. В первую группу вошло 4 случая острых холециститов, во 2-ю вошло 13 случаев хронических рецидивирующих калькулезных холециститов. Исследования показали, что при холециститах возникают разнообразные морфологические изменения в нервных элементах желчного пузыря различались функциональные, дистрофические и регенераторно-компенсаторные. При острых холециститах морфологические изменения характеризовались лишь функциональными и обратимыми дистрофическими изменениями. Прежде всего обращают внимание функциональные и дистрофические изменения терминальных рецепторных волокон и их окончаний. Дистрофические изменения в терминалах характеризовались набуханием, повышенной аргирофилией и появлением по их ходу веретенообразных утолщений. В толстых чувствительных волокнах, проходящих в нервных стволиках, выявлялись более грубые изменения, характеризующиеся появлением более массивных варикозностей и даже вакуолизации. В нервных клетках ганглиев преобладали дистрофические изменения типа сморщивания. Они характеризовались уменьшением клеток в размерах, интенсивной диффузной импрегнацией серебром по Бильшовскому-Грос. Набухание, повышенная аргентофилия и появление варикозностей по ходу терминального волокна рецептора в подслизистом слое желчного пузыря при хроническом рецидивирующем калькулезном холецистите. По Нисслию в сморщенных клетках отмечалось склеивание нислевских зерен, базофилия ядер или же диффузное интенсивное закрашивание клеток дионином. Наряду с этим встречались клетки с вокализированной протоплазмой.

При хронических калькулезных рецидивирующих холециститах, в отличие от острых форм, привлекает внимание значительно больший полиморфизм изменений нервных элементов желчного пузыря. Кроме дистрофических изменений, в разбираемой группе наблюдений часто выявлялись регенераторные изменения нервных волокон и атрофия нервных клеток, которую можно расценивать как выражение хронического, длительно текущего процесса.

Морфологические изменения в рецепторах существенно не отличались от изменений, наблюдаемых при острых холециститах, поэтому можно думать, что они обусловлены обострением воспалительного процесса в стенке

желчного пузыря. Названные изменения характеризовались набуханием, повышенной аргентофилией и появлением варикозностей по ходу терминале и концевых разветвлений, имеющих вид кустика. В толстых чувствительных нервных волокнах, кроме изменений, свойственных острому холециститу, иногда выявлялась фрагментация, а также регенераторные изменения, характеризующиеся появлением колб роста и невром подобных клубков, состоящих из разросшихся, переплетающихся между собой нервных волокон. В нервных клетках привлекали внимание два основных вида морфологических изменений: дистрофические изменения ретроградного типа и атрофия нервных клеток. Дистрофические изменения клеток ретроградного типа характеризовались набуханием клеток, эктопией ядер, центральным и тотальным хроматолизом, достигающим до кориолиса и карио цитолиза. Атрофические изменения характеризовались уменьшением нервных клеток в размерах при сохранении их внутренней структуры. При этом привлекал внимание тот факт, что наряду с резко атрофированными клетками в ганглиях выявлялись единичные крупные нервные клетки, появление которых мы склонны рассматривать как выражение компенсаторной гипертрофии. В атрофированных клетках часто наблюдается картина, свойственная ретроградным изменениям.

Вывод. При острых холециститах выявляются функциональные и слабовыраженные дистрофические изменения терминальных рецепторных нервных волокон, нервных проводников и клеток.

При хронических рецидивирующих калькулезных холециститах имеют место более грубые дистрофические изменения в нервных элементах желчного пузыря, достигающие до некроза нервных клеток и появления полей опустошения. Наряду с этим часто встречается атрофия нервных клеток и регенерация нервных волокон. Атрофия и некроз нервных клеток желчного пузыря приводят к нарушению его моторной и секреторной функции, способствуя застою содержимого, поддержанию хронического воспалительного процесса, возникновению обострения и прогрессированию желчнокаменной болезни.

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ПАТОМОРФОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ В ПЕЧЕНИ СОБАК ПОСЛЕ ПЕРЕВЯЗКИ ГРУДНОГО ПРОТОКА НА ШЕЕ

Резюме: В статье изучены патоморфологическая картина внутриорганной лимфатической системы печени у собак. Имеются попутные морфологические описания при выявлении пространств Диссе после перевязки протока при изучении влияния нарушения лимфообращения в печени после комбинированной перевязки грудного лимфатического и желчного протоков занимался изучением патоморфологических изменений в печени после перевязки грудного протока и правого лимфатического ствола.

Ключевые слова: собака, лимфатический сосуд, печень, патоморфологическое изменение, грудной поток.

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PATHOMORPHOLOGICAL CHANGES IN THE LIVER OF DOGS AFTER LIGATION OF THE THORACIC DUCT ON THE NECK

Abstract: The article examines the pathomorphological picture of the intraorgan lymphatic system of the liver in dogs. There are related morphological descriptions when identifying Disse spaces after duct ligation, when studying the effects of impaired lymph circulation in the liver after combined ligation of the thoracic lymphatic and bile ducts, he studied pathomorphological changes in the liver after ligation of the thoracic duct and the right lymphatic trunk.

Key words: dog, lymphatic vessel, liver, pathomorphological change, thoracic flow.

Введение: Функциональная морфология лимфатических сосудов печени к настоящему времени изучена достаточно полно во всех ее деталях. Внутриорганная лимфатическая система ее играет важную роль в транспортировке в кровеносное русло фибриногена, белка, значительного количества жидкости и т. д. Достаточно, например, 1,5-часового застоя лимфы в печени, чтобы вызвать гистологическую картину серозного воспаления [4]. Считают, что основное количество лимфы от печени оттекает через грудной проток. Последний же часто перевязывается в клинических условиях после

его повреждения во время операций [3,5]. Следовательно, это вмешательство может вести к временному нарушению лимфообращения в печени. Количество специальных работ, посвященных изучению влияния перевязки грудного протока на состояние внутриорганной лимфатической системы печени, весьма незначительное [1]. Имеются попутные морфологические описания при выявлении пространств Диссе после перевязки протока при изучении влияния нарушения лимфообращения в печени после комбинированной перевязки грудного лимфатического и желчного протоков занимался изучением патоморфологических изменений в печени после перевязки грудного протока и правого лимфатического ствола [2].

Цель исследования. Мы поставили перед собой задачу изучить патоморфологическую картину внутриорганной лимфатической системы печени у собак.

Материалы и методы исследования. Опыты были поставлены на 20 животных. Грудной проток перевязывался на шее. Животные забивались через 2-3 дня, 6-7 дней, 2-4 недели после лигирования протока. Гистологические препараты окрашивались гематоксилин-эозином, пикрофуксином по Ван-Гизону, на аргигрофильные волокна по Футу и эластические волокна по Вейгерту.

Результаты исследования. Через 2 дня после операции мы наблюдали значительное расширение внутриорганной лимфатической сети. Расширенные лимфатические сосуды, проходящие меж дольковой и пери васкулярной соединительной ткани, заполнены лимфой, окрашенной в розовый цвет. Лимфатические капилляры, залегающие в соединительной ткани и расположенные вокруг печеночных вен, также увеличены в диаметре. Вся меж дольковая - соединительная ткань, окружающая лимфатические и кровеносные сосуды, а также желчные протоки, значительно отечна.

Через 3 дня после лигирования грудного протока лимфатические сосуды еще более расширены. Среди капилляров меж дольковой и пери васкулярной лимфатической сети встречаются лимфатические сосуды, в просвете которых имеются единичные эритроциты. Отмечается выраженный (тек меж дольковой соединительной ткани. Через 6-7 дней после операции явления отека меж дольковой соединительной ткани и расширения лимфатических сосудов остаются без изменения.

К концу 2 недели после оперативного вмешательства наряду с расширением лимфатических сосудов печени и что мы наблюдали в своих опытах изменения менее выраженными.

Вывод. Эти изменения обычно наступали не непосредственно после операции, а развивались постепенно и были наиболее выраженными на 3-6 день после операции в виде расширения лимфатических сосудов и отека соединительной ткани. Бесспорно, все эти изменения являются отражением функциональных сдвигов лимфатической системы органа.

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ФИНАНСОВАЯ УСТОЙЧИВОСТЬ В ОСНОВЕ СТРАТЕГИЧЕСКОГО УПРАВЛЕНИЯ ПРЕДПРИЯТИЕМ

***Аннотация.** В статье исследованы процессы управление балансовой структурой отечественных предприятий в условиях трансформационных изменений и существующие подходы к повышению их финансовой стоимости, обоснованы ключевые ориентиры в системе стратегического управления предприятием, а также обоснована необходимость формирования корпоративной финансовой стратегии, обеспечивающей финансовую устойчивость предприятия.*

***Ключевые слова:** финансовая устойчивость, финансовые ресурсы, заемный капитал, собственный капитал, структура капитала, финансовая стратегия, финансовая модель, финансовый леверидж*

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FINANCIAL STABILITY IS AT THE HEART OF STRATEGIC ENTERPRISE MANAGEMENT

***Annotation.** The article examines the processes of managing the balance sheet structure of domestic enterprises in the context of transformational changes and existing approaches to increasing their financial value, substantiates key guidelines in the strategic management system of the enterprise, and substantiates the need to form a corporate financial strategy that ensures the financial stability of the enterprise.*

***Keywords:** financial stability, financial resources, borrowed capital, equity, capital structure, financial strategy, financial model, financial leverage*

Деятельность предприятий в условиях макроэкономической нестабильности постоянно находится под влиянием разнообразных факторов, обусловленных ростом конкуренции на рынке и изменчивостью социально-экономической ситуации в стране. Трансформационные процессы в системе

экономических отношений требуют принципиально новых подходов к управлению деятельностью предприятиями в разрезе стратегического подхода к улучшению финансовых показателей, поиску оптимальных решений финансирования и внедрению качественно новых инструментов.

В настоящее время финансовая устойчивость как экономическая концепция не имеет единого определения. Некоторые ученые ограничивают это понятие обеспечением развития хозяйствующего субъекта преимущественно за счет собственных средств при сохранении платежеспособности и кредитоспособности, оптимизацией долгового портфеля, другие делают упор на эффективном формировании, размещении и качественном использовании финансовых ресурсов для обеспечения финансовой стабильности. Кроме того, рассматривается способность предприятия развиваться, сохраняя равновесие баланса, гарантируя его стабильную платежеспособность и инвестиционную привлекательность в условиях допустимого уровня риска [1].

Конечной целью обеспечения финансовой устойчивости в широком понимании выступает повышение капитализации предприятия, поскольку именно она определяет потенциал и его будущую стоимость. Капитализация предприятия является внешней оценкой, которая придается рынком и определяет его привлекательность для инвесторов [2].

При определении потенциала предприятия первоочередное значение имеют финансовые индикаторы, такие как доходность, рентабельность, рискованность для вкладчиков.

В свою очередь, инвестор, выбирая предприятие для вложения средств, руководствуется правилом, в котором отдача от капитала больше стоимости привлеченного. Именно этим объясняется первоочередная ориентация на анализ путей финансирования деятельности предприятия: структуру заемного капитала, риски платежеспособности, обеспечение достижения максимального долгосрочного значения маржи «отдача от капитала - стоимость капитала».

Объектом исследования инвесторов и рынка является финансовый леверидж, поскольку показывает долю внешнего финансирования и содержит в себе информацию относительно того, за счет чего функционирует предприятие, и помогает оценить риски, связанные с его будущей деятельностью.

Среди других факторов, влияющих на решения потенциальных инвесторов, также анализ того, как распределяется полученный доход, поскольку разные вкладчики имеют разный интерес в отношении отдачи вложенных средств: стабильный рост, быстрый доход, низкая рискованность и т. п. В этом случае большую роль играет анализ модели корпоративного управления, в частности, распределение прав и обязанностей между инвесторами, владельцами и менеджерами. Бизнес-среда, в котором существует предприятие, также является предметом исследования инвестора,

поскольку так же определяет потенциал компании на основе потенциала рынка продукта [5].

Основной задачей финансовой устойчивости в широком смысле является создание на рынке положительного имиджа предприятия, который будет базироваться на реальных результатах.

Удовлетворительные финансовые показатели в совокупности с возможностью предприятия развиваться в заданном направлении повышают вероятность создавать прибыль в будущем, что, соответственно, повышает ее текущую стоимость на рынке и облегчает поиск потенциальных кредиторов, торговых партнеров (поставщиков, покупателей), привлекает внимание инвесторов. Как следствие, предприятие повышает собственную конкурентоспособность в отрасли [3].

Целесообразно выделять основные особенности финансовой устойчивости в широком понимании: комплексность (охватывает стратегический, финансовый, операционный менеджмент); ориентированность на долгосрочный результат (повышение капитализации предприятия); привязка к структуре капитала предприятия.

Важно, что такой подход в совокупности обеспечивает рост заинтересованности отечественных предприятий в сфере финансовой устойчивости не только в краткосрочном периоде, но и в долгосрочном. Среди других условий, почему финансовый менеджмент предприятия должен ориентироваться на долгосрочное моделирование финансовых и операционных процессов, является тот факт, что сам процесс формирования финансовой устойчивости обеспечивает улучшение имиджа предприятия и способствует привлечению дополнительного капитала [4].

Следует отметить, что внедренная долгосрочная стратегическая модель должна подлежать корректировке в будущем в соответствии с внутренними возможностями предприятия и внешних рисков.

Проведение комплексной оценки финансовой устойчивости предприятия включает детальный ретроспективный анализ операционной, инвестиционной и финансовой деятельности предприятия, который предоставляет видение того, на каком из этапов функционирования находится сейчас предприятие (становление бизнеса, развитие или закрытие), определяет внешние и / или внутренние факторы, вызвавшие проблему, а также позволяет спрогнозировать реальные будущие возможности предприятия.

Для принятия управленческих решений относительно деятельности предприятия финансовому менеджеру необходимо использовать аналитический инструментарий, который воплощается в финансовом анализе и базируется на анализе отчетности. Следовательно, основным источником анализа является финансовая отчетность предприятия, в частности баланс, который предоставляет видение, как устроен бизнес (активная сторона), и указывает, за счет чего это предприятие финансируется (пассивная сторона). Этот анализ, во-первых, определяет текущее состояние компании по

основным показателям, во-вторых, указывает на проблемные места, раскрывает узкие места в управлении, таким образом, ориентируя финансовых менеджеров в направлении необходимых изменений, и должен охватить комплекс показателей для удовлетворения требований всех заинтересованных сторон.

После получения окончательных результатов по текущему состоянию финансовый менеджер должен сформулировать стратегию, направленную на создание и приумножение капитализированной стоимости предприятия. Поскольку деятельность предприятия фактически отражена в активной части баланса, а пассивная часть показывает пути ее финансирования, то анализ миссии, целей и путей их достижения должны базироваться на анализе активов хозяйствующего субъекта.

На первом этапе формирования стратегии финансовый менеджер должен проанализировать имеющийся продуктовый портфель по долгосрочному вкладу каждого продукта к стоимости общего портфеля. При этом приоритетным показателем, который влияет на прирост стоимости компании, является рентабельность продаж по каждому продукту.

После изменения портфеля продуктов финансовый менеджер должен сосредоточиться на увеличении стоимости этих активов путем увеличения отдачи от инвестирования в каждую бизнес-единицу, что становится возможным за счет увеличения операционной прибыли при одновременном снижении стоимости капитала.

Основными причинами для проведения реструктуризации собственного капитала являются:

- коррекция избыточной капитализации, воплощаемая в чрезмерной переоценке акций и не отражающая реальный потенциал предприятия, тем самым может создать значительный спад стоимости предприятия в будущем;
- увеличение веса менеджмента в акционерном капитале предприятия;
- создание надежного продуманного механизма вывода акционерного капитала с предприятия в периоды высокой волатильности рынков;
- реорганизация капитала с целью повышения эффективности его использования;
- переоценка активов улучшение платежеспособности предприятия.

С целью наращивания финансовой устойчивости при проведении реструктуризации пассивной части баланса финансовый менеджер должен руководствоваться следующими приоритетами: формирование оптимального на уровне рынка коэффициента финансового левериджа и подбор структуры путем достижения длительной минимизации стоимости заемного капитала.

Следует обратить внимание, что статическое формирование активной и пассивной части баланса не может эффективно работать в долгосрочном периоде в условиях, когда нет четкой стратегии в отношении путей развития предприятия, распределения прибыли, реинвестирования, распределения обязательств между стейкхолдерами и т. п.

Корпоративное управление охватывает вопросы контроля над основными процессами, касающимися основной деятельности, как правило, производства, инвестиционной деятельности, распределения прибыли и определением прав и обязанностей между инвесторами, владельцами и менеджерами. В узком смысле это понятие определяют как способ, которым те, кто вкладывает в фирмы деньги, обеспечивают себя окупаемость своих инвестиций. Всемирный банк определяет корпоративное управление как механизм, который влияет на ожидания в отношении корпоративного контроля над ресурсами. При этом по принципу контроля различают аутсайдерскую (англо-американскую) и инсайдерскую (европейскую и японскую) модели корпоративного управления.

В отечественной практике более популярной является инсайдерская модель, по которой менеджерами осуществляется реальный контроль за деятельностью субъекта. В рамках этой модели возможно перекрестное владение акциями (грубый менеджерский подход), наличие представителей контрольного пакета акций в менеджменте предприятия (цивилизованный менеджерский подход), представление владельцев контрольного пакета в Совете директоров (собственнический инсайд).

Для отечественных предприятий характерны последние два вида, поскольку определяют тесную связь между менеджментом предприятия и ее владельцами.

Недостатком по сравнению с аутсайдерской моделью, является более сложное привлечение средств, значительная доля которых поступает из банковского сектора: поскольку сейчас отечественная банковская система находится в значительной зависимости, как от политического курса страны, так и от внешних финансовых колебаний, кредитование финансовыми институтами является ненадежным, непостоянным процессом, требующим от компаний идеальной репутации и кредитной истории.

Таким образом, механизмы наращивания финансовой устойчивости являются индивидуальными для каждого предприятия, поскольку они решают проблемы локально на уровне хозяйствующего субъекта. Тем не менее, говоря об особенностях наращивания финансовой устойчивости на отечественных предприятиях, следует обратить внимание именно на своевременность действий, а также их комплексный характер. Разработка механизмов проведения укрепления и наращивания финансовой устойчивости на основе стратегии предприятия так же является важным элементом процесса.

Следует отметить, что поддержка финансовой устойчивости в отечественной экономике часто сталкивается с негативными внешними проблемами, в частности, бюрократическими, правовыми и политическими, являясь негативным фактором для развития направления корпоративных финансов.

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МЕТОДИКИ РАЗВИТИЯ НАВЫКОВ ПРОГНОЗИРОВАНИЯ НА УРОКАХ ПЕДАГОГИЧЕСКИХ ДИСЦИПЛИН

Аннотация: Формирование навыков прогнозирования у студентов педагогических вузов становится одной из важнейших задач современного образования. Прогнозирование как умение предвидеть возможные результаты и последствия учебной или профессиональной деятельности позволяет студентам более эффективно строить учебные стратегии и принимать обоснованные решения в педагогической практике. В статье рассматриваются особенности развития прогнозирования на уроках педагогических дисциплин, анализируются основные методики и приёмы, направленные на формирование данной компетенции. Освещаются роль преподавателя, специфика построения заданий, требующих прогностической активности, а также педагогические условия, способствующие успешному развитию этих навыков у будущих педагогов.

Ключевые слова: навыки прогнозирования, педагогические дисциплины, методики развития, профессиональная подготовка, педагогический вуз.

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METHODS OF DEVELOPING FORECASTING SKILLS IN PEDAGOGICAL DISCIPLINE LESSONS

Abstract: The formation of forecasting skills among students of pedagogical universities is becoming one of the key tasks of modern education. Forecasting, as the ability to anticipate possible results and consequences of educational or professional activities, enables students to build more effective learning strategies and make informed decisions in pedagogical practice. This article discusses the features of developing forecasting skills in pedagogical disciplines, analyzes key methods and techniques aimed at fostering this competence. It highlights the role of teachers, the specifics of designing tasks that require predictive activity, and the pedagogical conditions that promote the successful development of these skills in future educators.

Keywords: forecasting skills, pedagogical disciplines, development methods, professional training, pedagogical university

Введение. Современное образование требует от будущих педагогов не только усвоения теоретических знаний, но и развития таких личностно-профессиональных качеств, которые обеспечивают успешную деятельность в быстро меняющихся условиях. Одним из таких качеств является способность к прогнозированию, то есть умение заранее предвидеть возможные изменения в образовательной ситуации, учитывать перспективы развития учеников и прогнозировать результаты собственных педагогических решений. Особенно актуально формирование навыков прогнозирования в процессе обучения педагогическим дисциплинам, поскольку они закладывают основу профессионального мышления и поведения будущего учителя.

Прогнозирование в педагогике рассматривается как активный процесс выдвижения гипотез о развитии образовательных явлений и построения предположений о возможных результатах педагогических действий. Оно включает анализ текущей ситуации, выявление тенденций развития, формулирование вероятных сценариев будущего и выбор оптимальной стратегии воздействия. Формирование данных умений невозможно без специально организованной педагогической работы, включающей методики и задания, стимулирующие активное мышление, рефлексию и анализ.

Педагогические дисциплины, такие как педагогика, психология, теория обучения и воспитания, предоставляют широкие возможности для развития прогностических навыков, если процесс обучения строится на основе проблемных заданий, моделирования ситуаций, проектной деятельности и других активных методов. На уроках педагогических дисциплин можно последовательно формировать у студентов умение строить прогнозы в учебной, воспитательной и методической деятельности, что будет способствовать формированию у них профессиональной компетентности, готовности к самостоятельному решению педагогических задач.

В условиях реформирования образования в Узбекистане, повышения требований к качеству подготовки педагогов и необходимости внедрения компетентного подхода формирование навыков прогнозирования приобретает особую значимость. Это требует научного осмысления методик, направленных на развитие данных умений, и создания эффективных педагогических условий их реализации в процессе обучения будущих учителей.

Основная часть. Развитие навыков прогнозирования у студентов педагогических вузов требует применения специально разработанных методик, которые активизируют мыслительную деятельность, формируют способность видеть перспективу и анализировать возможные последствия педагогических решений. Одним из эффективных методов является использование проблемных ситуаций, когда студентам предлагается рассмотреть педагогическую задачу и спрогнозировать возможные результаты различных вариантов её решения. Этот метод способствует развитию аналитического мышления и учит видеть взаимосвязь между действиями и их последствиями.



Рисунок 1. Индивидуальная работа преподавателя со студенткой в процессе развития навыков прогнозирования.

Другим распространённым методом является проектная деятельность, в рамках которой студенты разрабатывают собственные образовательные проекты, учитывая прогноз возможных трудностей и путей их преодоления. В процессе проектирования они учатся предугадывать развитие образовательного процесса, планировать этапы работы и оценивать вероятность достижения

поставленных целей. Проектная деятельность способствует формированию умений не только строить прогнозы, но и реализовывать их на практике.

Эффективным приёмом является моделирование педагогических ситуаций, когда студенты разыгрывают реальные или вымышленные ситуации из школьной практики. На этом этапе они учатся прогнозировать поведение учеников, возможные реакции на педагогические воздействия, а также оценивать риски и потенциальные трудности. Подобное моделирование позволяет будущим учителям формировать гибкость мышления и готовность к принятию решений в неопределённых условиях.

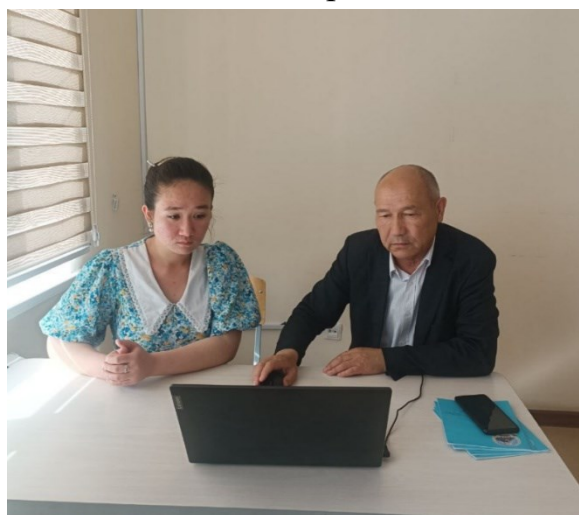


Рисунок 2. Индивидуальная работа преподавателя со студенткой в процессе развития навыков прогнозирования.

Использование кейс-метода также способствует развитию прогнозирования. Работа с кейсами требует от студентов всестороннего анализа ситуации, поиска альтернативных решений и прогноза их последствий. Обсуждение разных точек зрения в группе усиливает прогностические способности, так как студенты учатся учитывать различные факторы и аргументы при формулировании своих прогнозов.

Важным условием успешного формирования навыков прогнозирования является систематическая рефлексия. После выполнения прогностических заданий студенты анализируют правильность своих предположений, рассматривают, какие факторы были учтены или упущены, и делают выводы для будущей работы. Постоянная рефлексия развивает у них осознанное отношение к планированию педагогической деятельности и способность к самооценке своих действий и решений.

Заключение: Формирование навыков прогнозирования у студентов педагогических вузов представляет собой одну из важнейших задач

профессиональной подготовки современного педагога. Способность к прогнозированию позволяет будущим учителям не только эффективно планировать свою педагогическую деятельность, но и своевременно адаптироваться к изменениям образовательной среды, предвидеть возможные трудности и находить пути их преодоления. Это качество особенно ценно в условиях обновления системы образования в Узбекистане, где на первый план выходит развитие умений самостоятельного принятия решений и ответственности за результаты педагогической деятельности.

Рассмотренные методики, такие как использование проблемных ситуаций, проектная деятельность, моделирование педагогических ситуаций и кейс-метод, демонстрируют высокую эффективность в процессе развития прогностических способностей у студентов. Эти методы способствуют формированию аналитического мышления, системного видения педагогических процессов, рефлексивных умений и готовности к принятию обоснованных решений в сложных образовательных ситуациях.

Важным аспектом успешного формирования навыков прогнозирования является создание соответствующей педагогической среды, где студенты имеют возможность не только теоретически изучать принципы прогнозирования, но и активно применять их на практике. Регулярное включение заданий, требующих прогностической деятельности, развитие рефлексии и анализ собственных действий являются необходимыми условиями этого процесса.

Таким образом, развитие навыков прогнозирования на уроках педагогических дисциплин должно стать неотъемлемой частью подготовки будущих педагогов. Комплексное применение разнообразных методик, системная организация учебного процесса и ориентированность на развитие самостоятельного и ответственного мышления студентов обеспечат формирование у них необходимых профессиональных компетенций, востребованных в современном образовательном пространстве.

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НЕГАТИВНОЕ ВЛИЯНИЕ СУЛЬФАТВОССТАНАВЛИВАЮЩИХ БАКТЕРИЙ НА ПРОЦЕСС ДОБЫЧИ НЕФТИ

Аннотация : Настоящая статья посвящена изучению негативного влияния сульфатвосстанавливающих бактерий (СВБ) на процесс добычи нефти. Эти анаэробные микроорганизмы восстанавливают сульфаты до сульфидов, что приводит к коррозии оборудования нефтяных скважин, снижению качества нефти и уменьшению эффективности добычи. В рамках исследования применялись биологические, химические, коррозионные и статистические методы анализа, направленные на выявление активности СВБ в нефтяных пластах и их экономических последствий. Результаты показали, что СВБ увеличивают вероятность засорения скважин, снижают пластовое давление и ускоряют разрушение металлических трубопроводов. Для контроля над СВБ и уменьшения их негативного воздействия рекомендуется применение биоцидов, снижение концентрации сульфатов, электрохимическая защита и микробиологический мониторинг. Данное исследование имеет важное значение для нефтяной промышленности, так как позволяет повысить эффективность добычи и минимизировать экономические потери.

Ключевые слова: сульфатвосстанавливающие бактерии, нефтедобыча, коррозия, сульфид-ионы, биоциды.

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NEGATIVE IMPACT OF SULFATE-REDUCING BACTERIA ON THE OIL EXTRACTION PROCESS

Annotation: This article examines the negative impact of sulfate-reducing bacteria (SRB) on the oil extraction process. These anaerobic microorganisms reduce sulfates to sulfides, leading to corrosion of oil well equipment, deterioration of oil quality, and decreased extraction efficiency. The study employs biological, chemical, corrosion, and statistical analysis methods to identify SRB activity in oil reservoirs and assess their economic impact. The results indicate that SRB increase the likelihood of well clogging, reduce reservoir pressure, and accelerate the degradation of metal pipelines. To control SRB and mitigate their adverse effects, the use of biocides, sulfate concentration reduction, electrochemical protection, and

microbiological monitoring is recommended. This research is crucial for the oil industry, as it enhances extraction efficiency and reduces economic losses.

Keywords: *sulfate-reducing bacteria, oil extraction, corrosion, sulfide ions, biocides.*

Введение (Introduction)

Процесс добычи нефти зависит от множества геологических, физико-химических и биологических факторов, каждый из которых влияет на эффективность добычи и качество нефтяных залежей. Одной из наиболее актуальных проблем являются сульфатвосстанавливающие бактерии (СВБ), которые представляют собой анаэробные микроорганизмы, восстанавливающие сульфатные ионы до сульфидов. Эти бактерии не только негативно воздействуют на нефтяные пласты, но и приводят к разрушению оборудования скважин. СВБ активно развиваются в нефтяных пластах, вызывая засорение добывающих систем, снижение пластового давления, ухудшение качества нефти и коррозию металлических трубопроводов. Кроме того, они продуцируют сероводород (H_2S) – токсичный газ, ухудшающий качество нефти. Контроль за деятельностью СВБ является важной стратегической задачей нефтяной промышленности. Данное исследование направлено на изучение влияния СВБ на нефтяные пласты, анализ их воздействия на процесс добычи нефти и рассмотрение возможных методов контроля. Результаты исследования будут полезны для повышения эффективности нефтедобычи и разработки стратегий предотвращения негативных последствий деятельности СВБ.

Методы (Methods)

В ходе исследования влияние СВБ на нефтяные пласты изучалось с помощью лабораторных и полевых испытаний. Были использованы биологические, химические, коррозионные и статистические методы анализа. В биологическом анализе присутствие СВБ определялось путем культивирования образцов, взятых из нефтяных пластов, в специальных питательных средах и их идентификации с помощью ДНК-секвенирования и микроскопических методов. Химический анализ включал определение концентрации сульфид-ионов в пластовой воде с использованием спектрофотометрии, а также измерение уровня сероводорода в нефтяных образцах. В коррозионных тестах изучалось воздействие СВБ на металлические образцы трубопроводов в лабораторных условиях с различными температурами и влажностью. Полевые исследования проводились на нефтяных месторождениях, где анализировались изменения пластового давления, снижение дебита скважин и степень коррозии труб. Полученные данные подвергались статистическому анализу для оценки влияния СВБ на эффективность нефтедобычи с использованием корреляционного и регрессионного анализа.

Результаты (Results)

Результаты исследования показали, что активность СВБ оказывает значительное негативное влияние на процесс добычи нефти. В районах с высокой активностью СВБ вероятность засорения нефтяных скважин увеличивается на 30-40%, что объясняется образованием сероводорода и бактериальных отложений. Повышенная концентрация сульфид-ионов ухудшает качество нефти, увеличивая затраты на её переработку. В частности, увеличение содержания сероводорода делает нефть более коррозионной и токсичной. Металлические трубопроводы, подвергающиеся воздействию СВБ, демонстрируют ускоренное разрушение – их срок службы сокращается на 40%. Высокая концентрация СВБ приводит к снижению пластового давления и уменьшает эффективность добычи на 25%. В результате нефтяные компании несут значительные экономические потери, связанные с преждевременным выходом из строя скважин, увеличением затрат на переработку и необходимостью замены поврежденных трубопроводов.

Заключение (Conclusion)

Исследование показало, что сульфатовосстанавливающие бактерии оказывают значительное отрицательное воздействие на процесс нефтедобычи, вызывая коррозию оборудования, снижение пластового давления и ухудшение качества нефти. Контроль активности СВБ является важной задачей для повышения эффективности нефтедобычи. Для предотвращения негативных последствий рекомендуется использование биоцидов, снижение концентрации сульфатов, применение электрохимической защиты трубопроводов и регулярный микробиологический мониторинг. Внедрение передовых технологий и дальнейшие исследования в этой области позволят снизить экономические потери и повысить стабильность работы нефтяных месторождений.

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РАСЧЁТ МЕТАЛЛИЧЕСКИХ КОНСТРУКЦИЙ С ИСПОЛЬЗОВАНИЕМ СОВРЕМЕННЫХ ТЕХНОЛОГИЙ РАСЧЁТА

Аннотация: статье рассматриваются современные методы расчёта металлических конструкций, основанные на использовании новейших технологий, таких как компьютерное моделирование, методы конечных элементов (МКЭ) и специализированные программные комплексы. Эти технологии позволяют значительно повысить точность и эффективность проектирования, снизить затраты на материальные ресурсы и улучшить безопасность конструкций. Особое внимание уделено применению программных решений для моделирования и анализа напряженно-деформированного состояния конструкций, а также особенностям расчёта элементов металлических зданий и сооружений.

Ключевые слова: Металлические конструкции, расчёт, методы конечных элементов, компьютерное моделирование, программное обеспечение, напряженно-деформированное состояние, проектирование.

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CALCULATION OF METAL STRUCTURES USING MODERN CALCULATION TECHNOLOGIES

Abstract: The article discusses modern methods for calculating metal structures based on the use of the latest technologies, such as computer modeling,

finite element methods (FEM) and specialized software packages. These technologies can significantly improve the accuracy and efficiency of design, reduce the cost of material resources and improve the safety of structures. Special attention is paid to the application of software solutions for modeling and analyzing the stress-strain state of structures, as well as the calculation features of metal buildings and structures.

Keywords: *Metal structures, calculation, finite element methods, computer modeling, software, stress-strain state, design.*

С развитием строительной отрасли и технологии проектирования металлических конструкций возникают новые вызовы и требования к их безопасности, долговечности и эффективности. Металлические конструкции, благодаря высокой прочности, лёгкости и пластичности, широко используются в различных областях, от гражданского строительства до промышленности и транспортных сооружений. Для обеспечения их безопасности и надёжности, а также для сокращения затрат на материалы и рабочую силу, критически важным становится использование современных технологий расчёта.

1. Методы конечных элементов (МКЭ)

Метод конечных элементов (МКЭ) представляет собой численный метод для решения задач механики материалов и теории упругости. Этот метод используется для анализа напряженно-деформированного состояния (НДС) конструкций, позволяет учитывать геометрическую и материальную нелинейность, а также сложные нагрузки, что делает его незаменимым инструментом в расчёте металлических конструкций.

Метод конечных элементов позволяет разбить сложную геометрию конструкции на множество элементов, что позволяет более точно моделировать поведение конструкции в различных условиях. Современные программные комплексы, такие как ANSYS, Abaqus, и COMSOL, реализуют этот метод с высокой точностью, что значительно снижает необходимость в экспериментальных испытаниях.

2. Компьютерное моделирование и 3D-анализ

Одним из существенных достижений в области проектирования является использование 3D-моделирования для визуализации и анализа поведения конструкций. В программных пакетах, таких как AutoCAD, Revit, Tekla Structures, возможно создание детализированных моделей металлических конструкций, что помогает в более точной оценке их работы в реальных условиях.

Использование 3D-моделей позволяет не только анализировать конструктивные особенности, но и прогнозировать поведение конструкции при различных внешних воздействиях, таких как землетрясения, сильные ветры или динамические нагрузки. Ниже приведена таблица с несколькими примерами.

Программное обеспечение	Основные возможности	Применение в проектировании металлических конструкций	Преимущества
AutoCAD	2D и 3D моделирование, создание чертежей, визуализация	Используется для разработки чертежей металлических конструкций, а также для 3D-моделирования отдельных элементов и узлов.	Удобство в создании технических чертежей, интеграция с другими CAD-системами, доступность.
Revit	3D моделирование, BIM, создание и управление строительной информацией	Применяется для создания интегрированных 3D-моделей, учета всех конструктивных элементов и взаимодействий. Часто используется для проектирования металлических зданий с учетом всех инженерных систем.	Интеграция всех этапов проектирования, совместная работа с другими участниками проекта (архитекторами, инженерами и т.д.).
Tekla Structures	Детализированное 3D-моделирование, управление строительной информацией, анализ и планирование	Специализированное ПО для проектирования, детализации и изготовления металлических конструкций. Особо эффективно при проектировании и изготовлении стальных каркасов и фасадных систем.	Высокая точность в детализовке, интеграция с машинами для автоматического изготовления элементов, поддержка всех этапов строительства.
SolidWorks	3D-моделирование, анализ напряжений, динамическое моделирование	Используется для создания моделей металлических конструкций с возможностью проведения статического и динамического анализа (например, анализ на прочность, усталость).	Простота в использовании, возможность проводить полный цикл моделирования и анализа.
ANSYS	Моделирование, анализ напряженно-деформированного состояния (НДС), термический и динамический анализ	Применяется для проведения углубленного анализа металлических конструкций, включая изучение влияния различных факторов (температурных изменений, нагрузок, вибраций и т.д.) на их поведение.	Поддержка сложных анализов, высокая точность результатов, возможности для мультифизического моделирования.
Abaqus	Метод конечных элементов, термопластический анализ, анализ устойчивости	Широко используется для сложных расчётов, таких как анализ конструкций при динамических нагрузках, расчет на усталость и устойчивость, а также в случае сложных геометрий.	Высокая точность в сложных инженерных задачах, возможность моделировать нестандартные материалы и условия эксплуатации.

Таблица-1: Таблица с несколькими примерами использования компьютерного моделирования и 3D-анализа в проектировании металлических конструкций.

3. Интеграция с BIM-технологиями

С развитием BIM (Building Information Modeling) технологий появилась возможность интеграции всех этапов проектирования и строительства в единую цифровую среду. В данном контексте расчёт металлических конструкций с использованием BIM позволяет осуществлять более точную синхронизацию проектных решений с расчётами, повышая общую эффективность работы и снижая вероятность ошибок.

BIM-технологии позволяют не только проводить расчёты, но и отслеживать изменения в проекте в реальном времени, что даёт возможность оперативно вносить коррективы и обеспечивать более высокое качество и скорость реализации проектов.

Использование данных технологий на разных этапах проектирования и строительства помогает не только повысить безопасность и эксплуатационные характеристики конструкций, но и оптимизировать затраты на материалы, время и рабочую силу.

Развитие и внедрение этих технологий в проектировании металлических конструкций способствует улучшению качества строительства и увеличению долговечности объектов, что имеет важное значение для устойчивого развития строительной отрасли.

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ПРЕИМУЩЕСТВА МЕТАЛЛИЧЕСКИХ КОНСТРУКЦИЙ В СТРОИТЕЛЬСТВЕ СОВРЕМЕННЫХ ЗДАНИЙ

Аннотация: В статье рассматриваются преимущества металлических конструкций, которые делают их незаменимыми в строительстве современных зданий. Особое внимание уделено таким характеристикам, как высокая прочность, лёгкость, долговечность и устойчивость к внешним воздействиям, что позволяет эффективно использовать металл в самых различных типах строительных объектов. Металлические конструкции также способствуют сокращению сроков строительства, улучшению энергетической эффективности зданий и обеспечению высокой степени безопасности. В статье анализируются научные исследования и примеры применения металлических конструкций в строительстве современных объектов.

Ключевые слова: Металлические конструкции, строительство, прочность, долговечность, энергоэффективность, устойчивость, безопасность, инновации в строительстве.

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ADVANTAGES OF METAL STRUCTURES IN CONSTRUCTION OF MODERN BUILDINGS

Abstract: *The article discusses the advantages of metal structures that make them indispensable in the construction of modern buildings. Special attention is paid to such characteristics as high strength, lightness, durability and resistance to external influences, which makes it possible to effectively use metal in a wide variety of types of construction sites. Metal structures also contribute to reducing construction time, improving the energy efficiency of buildings and ensuring a high degree of safety. The article analyzes scientific research and examples of the use of metal structures in the construction of modern facilities.*

Keywords: *Metal structures, construction, strength, durability, energy efficiency, sustainability, safety, innovation in construction.*

Металлические конструкции занимают одну из ведущих позиций в современном строительстве благодаря своей универсальности, прочности и долговечности. Они находят применение как в возведении промышленных объектов, так и в жилом и гражданском строительстве. Современные строительные технологии и инновационные материалы делают использование металла не только экономически выгодным, но и экологически безопасным. В статье рассмотрены основные преимущества металлических конструкций, а также их роль в обеспечении устойчивости и безопасности зданий в условиях динамично меняющегося внешнего окружения.

Металлические конструкции позволяют создавать здания с большими пролётами, лёгкой и быстрой сборкой, что открывает возможности для проектирования зданий сложной геометрии. Преимущества металла как строительного материала играют ключевую роль в обеспечении долговечности, функциональности и эффективности современных зданий.

1. Прочность и надёжность металлических конструкций

Исследования показывают, что металл обладает высокой прочностью на растяжение и сжатие, что позволяет использовать его в самых различных конструктивных элементах зданий, от каркасов до элементов фасадов и кровли. По сравнению с бетонными и кирпичными конструкциями, металлические конструкции демонстрируют лучшие результаты по показателям прочности на изгиб и сдвиг, что способствует увеличению срока эксплуатации и минимизации риска разрушений.

Согласно исследованиям, проведённым в 2020 году в лабораториях Института строительных технологий (ИСТ), металл способен выдерживать более высокие нагрузки при меньшем использовании материала. Это также снижает общий вес конструкции и позволяет уменьшить затраты на фундамент.

2. Энергоэффективность и экологичность

Использование металлических конструкций в строительстве позволяет значительно повысить энергоэффективность зданий. Исследования показывают, что металлы, такие как сталь и алюминий, имеют низкие теплопроводные свойства, что способствует лучшему теплоизоляционному эффекту в зданиях. Современные технологии обработки металла позволяют

создавать легкие и высокопрочные конструкции с возможностью применения в системах пассивного домостроения.

Металлические конструкции также способствуют снижению негативного воздействия на окружающую среду, поскольку металл является вторичным материалом, который поддается переработке. Это особенно важно в контексте устойчивого строительства, направленного на минимизацию углеродного следа.

3. Устойчивость к внешним воздействиям

Одним из важных аспектов, на который обращают внимание исследователи, является высокая стойкость металлических конструкций к внешним воздействиям. Сталь и другие металлы не подвержены гниению, в отличие от древесины, и имеют высокую устойчивость к воздействию влаги, агрессивных химических веществ и биологических факторов. Также металлы обладают высокой огнестойкостью, что увеличивает безопасность эксплуатации зданий.

Для зданий, расположенных в районах с неблагоприятными климатическими условиями (например, в регионах с частыми землетрясениями или сильными ветрами), металлические конструкции обеспечивают высокий уровень сейсмостойкости и устойчивости к динамическим нагрузкам.

Анализ использования металлических конструкций в строительстве показал, что они обладают рядом преимуществ, которые делают их предпочтительными для многих типов объектов. Например, в строительстве небоскрёбов, промышленных объектов и спортивных сооружений металлические конструкции обеспечивают более быстрый монтаж и демонтаж, а также позволяют сэкономить на фундаментах за счёт меньшего веса и высокой прочности материала.

Примером успешного применения металлических конструкций является проект строительства комплекса небоскрёбов в Дубае (Бурдж-Халифа). Благодаря использованию металла удалось существенно уменьшить массу здания и улучшить его сейсмостойкость, что играло ключевую роль в проектировании столь высокого объекта.

С другой стороны, металлические конструкции идеально подходят для строительства крупных торговых и развлекательных комплексов, где важна скорость монтажа и возможность изменения внутренней планировки без значительных затрат.

1. Преимущества металлических конструкций очевидны: это высокая прочность, долговечность, лёгкость, огнестойкость и устойчивость к внешним воздействиям. Они позволяют проектировать здания с уникальной архитектурой и обеспечивают долгосрочную эксплуатацию.

2. Экономия на строительных материалах и времени — использование металла позволяет снизить затраты на строительство и ускорить процессы возведения зданий, что делает металлические конструкции предпочтительным выбором для крупных и сложных объектов.

3. Экологическая устойчивость и энергоэффективность — металлические конструкции способствуют созданию экологически чистых и энергоэффективных зданий, что особенно актуально в свете растущих требований к устойчивому строительству.

Таким образом, металлические конструкции продолжают оставаться основным выбором в современных строительных проектах благодаря их многочисленным преимуществам, которые делают строительство более быстрым, экономичным и безопасным.

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ВОПРОСЫ И ПРОБЛЕМЫ ПЕДАГОГИЧЕСКОГО ОПЫТА В ПРЕПОДАВАНИИ ТЕХНИЧЕСКИХ ДИСЦИПЛИН

Аннотация: В статье рассматриваются актуальные вопросы и проблемы педагогического опыта в преподавании технических дисциплин, а также их влияние на эффективность образовательного процесса. Акцент сделан на важности формирования у преподавателей навыков, позволяющих адаптировать методы обучения с учетом современных технологий и образовательных реалий. Особое внимание уделяется внедрению инновационных методов преподавания, развитию критического мышления студентов, а также сложности интеграции теоретических знаний с практическими навыками. В статье выдвигаются предложения по улучшению педагогического опыта, включая повышение квалификации преподавателей, использование современных образовательных технологий и усиление практической подготовки студентов. Обсуждаются вызовы, с которыми сталкиваются преподаватели технических дисциплин, и предложены пути решения этих проблем.

Ключевые слова: педагогический опыт, преподавание технических дисциплин, инновационные методы обучения, критическое мышление, теоретическая и практическая подготовка, дистанционное образование, междисциплинарность, мотивация студентов, образовательные технологии.

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QUESTIONS AND PROBLEMS OF PEDAGOGICAL EXPERIENCE IN TEACHING TECHNICAL DISCIPLINES

Abstract: *The article discusses current issues and problems of pedagogical experience in teaching technical disciplines, as well as their impact on the effectiveness of the educational process. The emphasis is placed on the importance of developing teachers' skills to adapt teaching methods to modern technologies and educational realities. Special attention is paid to the introduction of innovative teaching methods, the development of students' critical thinking, as well as the complexity of integrating theoretical knowledge with practical skills. The article puts forward proposals to improve the teaching experience, including advanced training of teachers, the use of modern educational technologies and strengthening the practical training of students. The challenges faced by teachers of technical disciplines are discussed and ways to solve these problems are proposed.*

Keywords: *pedagogical experience, teaching technical disciplines, innovative teaching methods, critical thinking, theoretical and practical training, distance education, interdisciplinarity, student motivation, educational technologies.*

Современное образование в технических областях сталкивается с рядом вызовов, требующих тщательного подхода к процессу обучения. Одним из центральных аспектов является педагогический опыт преподавателей, который оказывает непосредственное влияние на эффективность обучения и развитие студентов. Преподавание технических дисциплин требует не только знания специфики предмета, но и умения адаптировать педагогические методы с учетом новых технологических и образовательных реалий. В данной статье рассматриваются ключевые вопросы и проблемы педагогического опыта в преподавании технических дисциплин, а также выдвигаются предложения по улучшению этого процесса.

Педагогический опыт является основой профессиональной компетенции преподавателя и важнейшим компонентом образовательного процесса. На основе исследований педагогов и ученых в области образования выделяются несколько важных направлений для анализа педагогического опыта.

Методы преподавания и инновационные технологии. В последние десятилетия в образовательный процесс активно внедряются инновационные методы преподавания, включая проектное обучение, моделирование, использование мультимедийных технологий, а также технологий дистанционного образования. Исследования, проведенные Л. М. Митиной (2020) и А. В. Кузнецовым (2018), подчеркивают необходимость постоянного обновления методик преподавания технических дисциплин в условиях стремительно развивающихся технологий.

Развитие критического мышления студентов. Важным аспектом преподавания технических дисциплин является формирование у студентов

критического мышления и способности к решению нестандартных задач. Педагогический опыт, направленный на развитие этих качеств, был предметом исследования В. Н. Чередниченко (2021). Она указывает, что преподаватели должны включать в курс обучения задачи, требующие анализа и самостоятельного поиска решений, что способствует формированию навыков самостоятельной работы.

Преподавание в условиях междисциплинарности. Современные проблемы требуют комплексного подхода, поэтому междисциплинарное преподавание становится все более актуальным. Исследования В. В. Тихонова (2019) показывают, что педагогический опыт, включающий элементы различных дисциплин (например, сочетание инженерии и экономики), способствует лучшему восприятию материала и формированию у студентов более широкого взгляда на решение проблем.

В ходе анализа педагогического опыта преподавателей технических дисциплин были выявлены несколько ключевых проблем и направлений для улучшения обучения:

Нехватка подготовки преподавателей в области новых технологий. Несмотря на широкое распространение новых образовательных технологий, многие преподаватели не имеют достаточной подготовки в их использовании. Это приводит к неэффективному применению инновационных методов в обучении.

Противоречие между теоретической и практической подготовкой. Одной из основных проблем является недостаток практических навыков у студентов, несмотря на теоретическую подготовку. Необходимо усилить внимание к практическому применению знаний в процессе обучения.

Низкая мотивация студентов. В силу быстрого развития технологий и изменений в социальной и экономической сфере студенты часто утрачивают интерес к традиционному обучению. Важно внедрять методы, которые способствуют повышению мотивации и интереса к изучению технических дисциплин.

Недостаточная обратная связь и индивидуальный подход. Преподавание технических дисциплин зачастую имеет массовый характер, что затрудняет индивидуальный подход к каждому студенту и снижает эффективность обучения.

Педагогический опыт в преподавании технических дисциплин требует постоянного совершенствования и адаптации к меняющимся условиям образовательной среды. Важно внедрять инновационные методы обучения, развивать междисциплинарные связи и внимание к индивидуальным потребностям студентов. Для успешного преподавания в области технических дисциплин необходимо обеспечить постоянное обновление знаний и компетенций преподавателей, а также улучшить практическую подготовку студентов.

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РОЛЬ И ПЕРСПЕКТИВЫ ЦИФРОВИЗАЦИИ В ПРЕПОДАВАНИИ СТРОИТЕЛЬНЫХ ДИСЦИПЛИН

***Аннотация:** Статья посвящена рассмотрению роли и перспектив цифровизации в преподавании строительных дисциплин. В последние годы цифровые технологии значительно влияют на развитие образовательного процесса, в том числе в сфере строительства. Проанализируем современные тренды и инновационные подходы, такие как использование виртуальных лабораторий, строительных симуляторов, моделирования и дистанционного обучения, которые открывают новые возможности для студентов и преподавателей. Рассматриваются проблемы и вызовы, с которыми сталкиваются образовательные учреждения в условиях цифровизации, а также преимущества и риски внедрения цифровых технологий в строительное образование. В статье подчеркивается важность адаптации преподавателей к новым технологиям и необходимость создания платформ для эффективного внедрения цифровых образовательных инструментов.*

***Ключевые слова:** цифровизация, преподавание строительных дисциплин, строительные технологии, дистанционное обучение, виртуальные лаборатории, моделирование, инновационные методы обучения, образовательные технологии.*

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THE ROLE AND PROSPECTS OF DIGITALIZATION IN TEACHING CONSTRUCTION DISCIPLINES

Abstract: *The article is devoted to the role and prospects of digitalization in teaching construction disciplines. In recent years, digital technologies have significantly influenced the development of the educational process, including in the construction sector. Let's analyze current trends and innovative approaches, such as the use of virtual laboratories, construction simulators, simulation and distance learning, which open up new opportunities for students and teachers. The problems and challenges faced by educational institutions in the context of digitalization, as well as the advantages and risks of introducing digital technologies into construction education, are considered. The article highlights the importance of teachers' adaptation to new technologies and the need to create platforms for the effective implementation of digital educational tools.*

Keywords: *digitalization, teaching of construction disciplines, construction technologies, distance learning, virtual laboratories, modeling, innovative teaching methods, educational technologies.*

Цифровизация является неотъемлемой частью современного образования, и её влияние затрагивает все сферы знаний, включая такие сложные и многогранные дисциплины, как строительство. В условиях глобализации, быстрых технологических изменений и роста требований к образовательным учреждениям, использование цифровых технологий в обучении строительным дисциплинам становится необходимостью.

С развитием технологий, таких как виртуальная реальность, моделирование и автоматизация, образовательные учреждения получают новые инструменты для подготовки специалистов. Эти технологии способствуют улучшению понимания студентами строительных процессов и позволяют симулировать реальные условия строительства. Однако внедрение цифровых технологий в учебный процесс связано с рядом вызовов, таких как необходимость переподготовки преподавателей, наличие технической инфраструктуры и вопросы взаимодействия с отраслью.

Цифровизация в сфере образования — это многогранный процесс, включающий использование различных технологий и подходов для улучшения качества обучения. Научные исследования, посвященные применению цифровых технологий в строительном образовании, подчеркивают несколько ключевых направлений.

Виртуальные лаборатории и симуляторы. В последние годы активно развиваются виртуальные лаборатории, которые позволяют студентам моделировать строительные процессы, используя специализированное программное обеспечение. Например, использование BIM (Building Information Modeling) в учебном процессе дает студентам возможность изучать проектирование и строительство зданий в интерактивном формате,

где каждый элемент проектируемого объекта может быть смоделирован и проанализирован.

Интеграция с реальными проектами. Некоторые исследования отмечают важность внедрения в учебный процесс технологий, которые позволяют студентам работать над реальными строительными проектами, например, через платформы для совместной работы с заказчиками, проектировщиками и подрядчиками. Это способствует лучшему пониманию процессов и взаимодействию студентов с реальной строительной отраслью.

Внедрение цифровых технологий в преподавание строительных дисциплин приносит определенные результаты. Во-первых, студенты получают более глубокое и практическое понимание строительных процессов, так как могут визуализировать проектируемые объекты и анализировать различные этапы их создания. Виртуальные лаборатории и симуляторы создают условия для обучения в условиях, максимально приближенных к реальной практике.

Во-вторых, цифровизация позволяет преподавателям значительно повысить эффективность образовательного процесса. Использование специализированных программ и технологий помогает автоматизировать часть преподавательской работы, а также облегчает управление учебным процессом. Например, с помощью программных комплексов для моделирования строительных объектов можно проводить занятия по проектированию и инженерным расчетам.

В-третьих, дистанционное обучение значительно повышает доступность образования для студентов, особенно в отдаленных регионах. Это дает возможность большему количеству людей получать образование в сфере строительства, не покидая своего места проживания.

Однако внедрение цифровых технологий также выявило ряд проблем. Одной из них является необходимость в значительных инвестициях в создание и поддержание технической инфраструктуры, а также в подготовку преподавателей, не всегда обладающих необходимыми знаниями для эффективного использования цифровых технологий.

Для дальнейшего развития цифровизации в строительном образовании необходимо:

1. Развивать и внедрять новые образовательные технологии, такие как виртуальные лаборатории, симуляторы, платформы для совместной работы.
2. Создавать программы повышения квалификации для преподавателей, чтобы они могли эффективно использовать новые инструменты.
3. Разрабатывать и внедрять гибкие модели обучения, которые могут сочетать традиционные и цифровые формы.
4. Стимулировать сотрудничество образовательных учреждений с отраслью для создания реальных учебных проектов и практических задач.

Цифровизация строительного образования представляет собой важный шаг в подготовке квалифицированных специалистов, соответствующих требованиям современного строительного рынка.

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РОЛЬ И ПЕРСПЕКТИВЫ ЦИФРОВИЗАЦИИ В ПРЕПОДАВАНИИ АРХИТЕКТУРЫ ГРАЖДАНСКИХ ЗДАНИЙ В ВЫСШЕМ УЧЕБНОМ ЗАВЕДЕНИИ

Аннотация: Статья посвящена исследованию роли и перспектив цифровизации в преподавании архитектуры гражданских зданий в высшем учебном заведении. Цифровизация образовательного процесса в архитектурных дисциплинах открывает новые возможности для повышения качества обучения и подготовки специалистов. Статья подчеркивает необходимость комплексного подхода к обучению, сочетающего традиционные методы и современные технологии.

Ключевые слова: цифровизация, архитектура гражданских зданий, высшее образование, BIM, виртуальная реальность, дополненная реальность, моделирование, образовательные технологии, проектирование.

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THE ROLE AND PROSPECTS OF DIGITALIZATION IN TEACHING CIVIL BUILDING ARCHITECTURE IN HIGHER EDUCATION INSTITUTIONS

Abstract: The article is devoted to the study of the role and prospects of digitalization in teaching architecture of civil buildings in higher education institutions. Digitalization of the educational process in architectural disciplines

opens up new opportunities for improving the quality of education and training of specialists. The article highlights the need for an integrated approach to learning that combines traditional methods and modern technologies.

Keywords: *digitalization, architecture of civil buildings, higher education, BIM, virtual reality, augmented reality, modeling, educational technologies, design.*

Цифровизация образовательного процесса в архитектуре открывает новые горизонты для студентов, предоставляя им возможность не только лучше понять принципы проектирования, но и получить практические навыки, которые можно применить в реальных строительных проектах. В этой статье рассмотрены ключевые аспекты цифровизации в обучении архитектуре гражданских зданий, а также перспективы и вызовы, связанные с внедрением новых технологий в образовательный процесс.

Цифровизация образования в области архитектуры и строительства исследуется в рамках различных научных дисциплин. Особое внимание уделяется внедрению технологий BIM (Building Information Modeling), которые позволяют интегрировать все этапы проектирования, строительства и эксплуатации здания в единую цифровую модель. Это не только повышает эффективность обучения, но и помогает студентам научиться работать с современными инструментами, которые широко используются в реальной практике.

BIM и его роль в архитектурном образовании. Системы BIM позволяют студентам не только проектировать здания в 3D, но и работать с их функциональными и конструктивными особенностями, изучать различные инженерные системы и их взаимодействие. Исследования, проведенные А. Кузнецовой (2020), показывают, что внедрение BIM в учебный процесс способствует лучшему пониманию архитектурных решений и повышает компетенции студентов в области проектирования.

3D моделирование и симуляторы. Использование специализированных программ для 3D-моделирования, таких как AutoCAD, ArchiCAD, SketchUp, помогает студентам развивать навыки пространственного восприятия и создания сложных архитектурных форм. Технологии симуляции, в свою очередь, позволяют моделировать различные инженерные системы зданий и тестировать проектные решения еще на стадии учебного проекта.

Дистанционное и смешанное обучение. В последние годы значительно расширились возможности дистанционного и смешанного обучения. Это особенно актуально для студентов, которые не могут посещать занятия на кампусе, или для тех, кто обучается в странах с ограниченным доступом к традиционным образовательным учреждениям. Как отмечает Н. Васильева (2021), использование онлайн-курсов, видеолекций и виртуальных лабораторий значительно повышает доступность образования в области архитектуры.

Цифровизация в преподавании архитектуры гражданских зданий приносит несколько ключевых результатов:

Улучшение качества обучения. Использование BIM и 3D-моделирования позволяет студентам создавать точные и функциональные модели зданий, что способствует лучшему пониманию архитектурных принципов и проектных решений. Применение виртуальной реальности даёт возможность студентам "погружаться" в проектируемые здания, улучшая их пространственное восприятие.

Увеличение практических навыков. Внедрение новых технологий дает студентам возможность работать с реальными проектами и программами, которые используются в профессиональной практике. Это позволяет выпускникам быть более конкурентоспособными на рынке труда, так как они уже имеют опыт работы с современными инструментами проектирования и строительства.

Гибкость образовательного процесса. Дистанционное обучение и использование онлайн-платформ позволяют организовать гибкие формы обучения, которые могут сочетать традиционные и цифровые методы. Это значительно расширяет возможности для студентов с различными потребностями и географическим расположением.

Повышение вовлеченности студентов. Виртуальная реальность и дополненная реальность значительно повышают вовлеченность студентов в процесс обучения, позволяя им работать с интерактивными моделями и тестировать различные проектные решения.

Цифровизация в преподавании архитектуры гражданских зданий представляет собой важный этап в развитии образования в данной области. Использование таких технологий, как BIM, виртуальная и дополненная реальность, а также 3D-моделирование, способствует значительному улучшению качества обучения и подготовке специалистов, готовых работать с современными инструментами проектирования и строительства.

Основными выводами из проведенного исследования являются следующие:

Необходимость внедрения новых образовательных технологий. Для эффективного обучения архитектуре гражданских зданий необходимо активно использовать современные технологии, такие как BIM, VR и AR, которые позволяют студентам работать с реальными проектами и моделями.

Преимущества дистанционного и смешанного обучения. Онлайн-платформы и дистанционные курсы дают возможность студентам получить доступ к образовательным материалам независимо от их местоположения, что делает образование более доступным.

Подготовка преподавателей. Важным аспектом успешной цифровизации является подготовка преподавателей к использованию новых технологий в учебном процессе. Преподаватели должны быть готовы обучать студентов не только традиционным методам проектирования, но и

современным инструментам, что требует постоянного повышения их квалификации.

Развитие образовательной инфраструктуры. Для успешной цифровизации необходимы соответствующие инвестиции в создание и поддержание цифровых образовательных платформ и лабораторий, а также развитие онлайн-курсов и симуляторов, которые будут использоваться в процессе обучения.

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ПРЕОБРАЗОВАТЕЛИ ТОКА В НАПРЯЖЕНИЕ С РАСШИРЕННЫМИ ФУНКЦИОНАЛЬНЫМИ ВОЗМОЖНОСТЯМИ ДЛЯ СИСТЕМ УПРАВЛЕНИЯ И КОНТРОЛЯ

***Аннотация:** Большие погрешности преобразования и измерения электрической энергии, мощности, тока и напряжения приводят к нерациональному использованию мощности трансформаторов и линий электропередачи, запасов энергии на электростанциях, затрудняют управление режимами работы сетей и приводят к финансовым потерям. производители и поставщики, а также потребители электроэнергии*

***Ключевые слова:** Соединения в электричестве, токе и мощности*

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CURRENT TO VOLTAGE CONVERTERS WITH EXTENDED FUNCTIONALITIES FOR CONTROL AND MONITORING SYSTEMS

***Abstract:** Large errors in the conversion and measurement of electrical energy, power, current and voltage lead to irrational use of the capacity of transformers and power transmission lines, energy reserves at power plants, complicate the management of network operating modes and lead to financial losses. . producers and suppliers, as well as consumers of electricity*

***Key words:** Connections in electricity, current and power*

Существующие комплексы преобразования и измерения тока и напряжения не обеспечивают требуемой в условиях рыночных отношений точности. Большие погрешности преобразования и измерений электроэнергии, мощности, тока и напряжения приводят к нерациональному использованию пропускной способности трансформаторов и линий электропередачи, резервов мощности на электростанциях, затрудняют контроль режимов работы сетей и приводят к финансовым потерям как производителей и поставщиков, так и потребителей электроэнергии. Низкая точность измерений обусловлена рядом недостатков существующих систем преобразования электроэнергии, поскольку измерительные комплексы создавались ранее, а также создаются и в настоящее время по типовым

проектам, разработанным еще в 70 – 80-х годах XX века, в которых не предусматривались решения для обеспечения высокой точности преобразовательных элементов системы защиты, автоматики и учета [1-2].

Задачей данной работы является анализ и построение принципов преобразования тока в напряжения на основе упрощение конструкции и расширение функциональных возможностей за счет одновременного преобразования токов одной, двух или трех фаз в электрических сетях [1].

Напряжение на выходе вторичной плоской измерительной катушки $U_{\text{ЭВЫХ}}$ преобразователя определяется выражением:

$$U_{\text{ЭВЫХ}} = (4.44 \times f \times w_{\text{ПНО}}) \times \Phi_{\mu} = K_{\mu\text{Э}} \times \Phi_{\mu}$$

где : $K_{\mu\text{Э}} = 4.44 \times f \times w_{\text{ПНО}}$ – коэффициент преобразования магнитного потока в электрическое напряжение,

f – частота электрической сети питания, ($f_{\text{н}} = 50$ Гц),

$w_{\text{ПНО}}$ – числа витков плоской измерительной катушки,

Согласно структурной схемы преобразования входного напряжения $U_{\text{ЭВХ}}$ или тока $I_{\text{ЭВХ}}$ (рис.1) определяем выходной ток $I_{\text{ЭВЫХ}}$

$$I_{\text{ЭВЫХ}} = K_{\mu\text{Э}} \times \Phi_{\mu} / \Pi_{\text{ЭВХ}} = K_{\mu\text{Э}} \times F_{\mu} / (\Pi_{\text{ЭВХ}} \times \Pi_{\mu}),$$

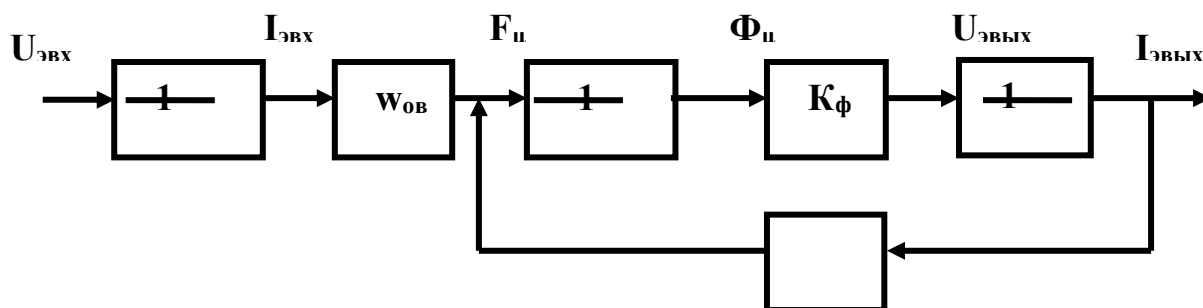


Рис.1 Структурная схема преобразования электрических и магнитных величин в преобразователе тока в напряжение

Согласно конструкции преобразователя тока в напряжение и плоской измерительной катушки (рис.2,3), на основе равенства м.д.с. F_{μ} создаваемые обмотками в магнитной системе, определяется уравнение, связывающие величины и параметры электрической энергии, и показывающие принципы преобразования тока в напряжение.

Преобразователь одно, двух или трехфазного тока электрической сети в напряжение с расширенными функциональными возможностями и упрощенным принципом построения, повышенной точностью преобразования содержит (рис.2) магнитопровод с общим основанием 1 с четырьмя параллельными стержнями 2, 3, 4 и 5; первичные обмотки 6 (фаза

А), 7 (фаза В), и 8 (фаза С) в виде одно, двух и трех проводов электрической сети, расположенных в выемках параллельных стержней; плоские измерительные катушки 9, 10 и 11 расположены между дополнительными сердечниками 12, 13, 14 и 15 на изоляционных пластинках 16, 17 и 18 (рис.3) [1].

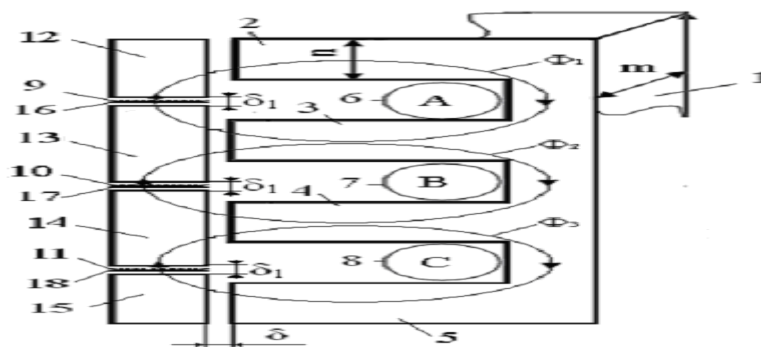


Рис.2 Конструкция преобразователя тока в напряжение

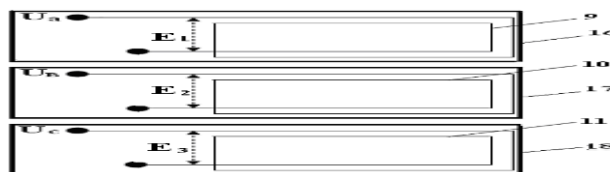


Рис.3. Плоские измерительные катушки

Выполнение магнитопровода с одним общим основанием и с параллельными стержнями, на выемках которых расположены первичные обмотки возбуждения, а также расположения плоских измерительных катушек между дополнительными сердечниками позволяет уменьшить количество измерительных катушек и привести их количество в соответствие с количеством первичных обмоток, что существенно упрощает конструкцию преобразователя и обеспечивает возможность преобразования токов одной, двух и трех фаз электрической сети и повышает тем самым функциональные возможности преобразователя тока в напряжение.

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ВЛИЯНИЕ КАЧЕСТВА ЭЛЕКТРОЭНЕРГИИ НА РАБОТУ ЭЛЕКТРООБОРУДОВАНИЯ

Аннотация: *Большие погрешности преобразования и измерения электрической энергии, мощности, тока и напряжения приводят к нерациональному использованию мощности трансформаторов и линий электропередачи, запасов энергии на электростанциях, затрудняют управление режимами работы сетей и приводят к финансовым потерям.*

Ключевые слова: *Соединения в электричестве, токе и мощности*

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THE IMPACT OF POWER QUALITY ON THE OPERATION OF ELECTRICAL EQUIPMENT

Abstract: *Large errors in the conversion and measurement of electrical energy, power, current and voltage lead to irrational use of the power of transformers and power lines, energy reserves at power plants, complicate the management of network operating modes and lead to financial losses.*

Keywords: *Connections in electricity, current and power*

Качество электрической энергии – важный фактор, определяющий эксплуатационную надежность и эксплуатационные характеристики электрооборудования [11], [12]. Показатели качества нормируются в соответствии с ГОСТ 32144–2013. При этом указываются допустимые и предельно допустимые значения параметров. Рассмотрим влияние некоторых показателей качества электроэнергии на работу типовых электроприемников. Отклонения напряжения оказывают большое влияние на работу асинхронных двигателей. При изменении напряжения питающей сети изменяется механическая характеристика, представляющая собой зависимость момента электродвигателя от частоты вращения или скольжения (s). На рис.1 эта характеристика показана при снижении напряжения [11].

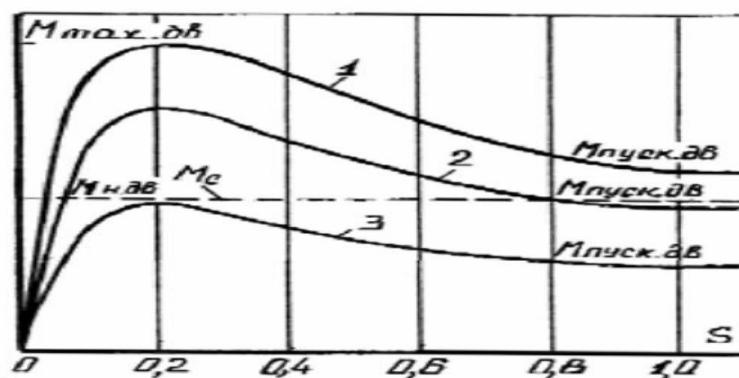


Рис.1. Влияние изменений напряжения на механическую характеристику асинхронного электродвигателя: 1 – при номинальном напряжении U_n ; 2 – при напряжении, равном $0,9U_n$; 3 – при напряжении, равном $0,7 U_n$

Вращающий момент асинхронного электродвигателя примерно пропорционален квадрату напряжения. Это значит, что при снижении напряжения на 10 % ($0,9$) U_n момент уменьшается на 19 % ($0,81$) M_n , а при снижении на 30 % уменьшение момента достигает 51 %. На рис.1 штрихами показан также момент сопротивления механизма, приводимого во вращение электродвигателем. Хотя в общем случае снижение частоты вращения двигателя зависит не только от снижения напряжения, но и от закона изменения момента сопротивления механизма, M_c на рис. .1 для упрощения он принят постоянным, не зависящим от частоты вращения двигателя. Очевидно, что если на зажимах электродвигателя, работающего с полной нагрузкой, произойдет значительное снижение напряжения, то момент сопротивления механизма может оказаться больше максимального вращающего момента электродвигателя. $M_{\max \text{ дв}}$ В этом случае произойдет «опрокидывание» двигателя. Во избежание сгорания электродвигателя он должен быть отключен от сети.

Снижение напряжения ухудшает условия пуска двигателя, так как снижается пусковой момент. Это следует учитывать при эксплуатации, поскольку многие сельскохозяйственные машины имеют большие моменты инерции и момент сопротивления при пусках. Отклонения напряжения оказывают влияние и на другие характеристики асинхронных двигателей. При снижении напряжения и постоянном моменте сопротивления механизма увеличивается потребляемый электродвигателем ток, что приводит к увеличению потерь на нагрев обмоток. При повышении напряжения также увеличивается потребляемый электродвигателем ток из-за насыщения железа за счет его реактивной составляющей. Это, в свою очередь, увеличивает потери на нагрев обмоток и железа. Кроме того, резко снижается коэффициент мощности электродвигателя $\cos\varphi$. К изменению напряжения особенно чувствительны осветительные приборы. На рис.2 показано влияние

отклонений напряжения на основные показатели ламп накаливания: срок службы T , световой поток F , световую отдачу H и потребляемую мощность P [11]. Зависимости изображены в относительных единицах: $/$; $P^* = P / P_n$; $F^* = F / F_n$; $H^* = H / H_n$. $T^* = T / T_n$ Индексы «н» относятся к номинальным значениям соответствующих величин.

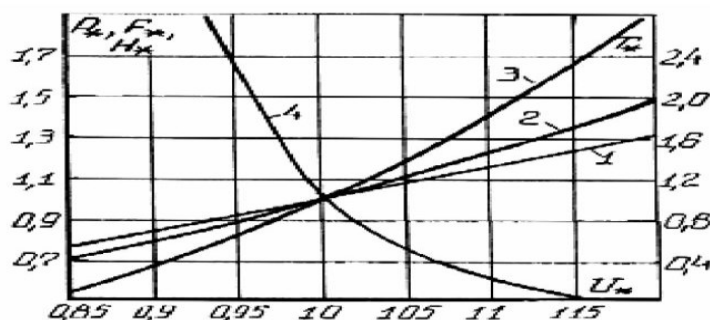


Рис.2. Влияние изменений напряжений на характеристики ламп накаливания: 1 – потребляемая мощность; 2 – световая отдача; 3 – световой поток; 4 – срок службы

На рис.2 видно, что при снижении напряжения заметно падает световой поток, что отрицательно сказывается на освещенности рабочих мест, а это, в свою очередь, влияет на производительность труда, утомляемость работников и ухудшение условий безопасности при выполнении технологических операций. Для создания нормальной освещенности при пониженном напряжении требуется увеличение числа ламп накаливания или их мощности, что приводит к перерасходу электроэнергии. При повышении напряжения сверх номинального резко сокращается срок службы ламп накаливания. При этом имеет место перерасход электрической энергии. Люминесцентные лампы менее резко реагируют на изменение напряжения, но при его снижении до 93–94 % от номинального могут не загореться. При повышении напряжения на 6–7 % перегревается вспомогательная аппаратура. С увеличением подводимого напряжения возрастает потребление люминесцентными лампами реактивной мощности, что приводит к дополнительным потерям энергии и ухудшению $\cos\phi$. Следует также отметить, что в отличие от ламп накаливания срок службы люминесцентных ламп сокращается не только при повышении напряжения, но и при его снижении. При отклонениях напряжения в пределах ± 10 % срок службы люминесцентных ламп в среднем снижается на 20–25 %. При ультрафиолетовом облучении животных и птицы, а также при обеззараживании воздуха и продуктов в сельском хозяйстве отклонения напряжения оказывают не только большое влияние на срок службы, на светотехнические и электрические показатели ламп, но и нарушаются режимы облучения животных и растений. Электронагревательные установки

(электродные и элементные водонагреватели, калориферы, пастеризаторы, кормозапарники, инфракрасные обогреватели и т. п.), применяемые в сельском хозяйстве, также очень чувствительны к отклонениям напряжения [11]. Общим для всех электронагревательных установок является то, что потребляемая ими мощность (активная) зависит от квадрата приложенного напряжения. При снижении напряжения производительность электронагревательных установок снижается пропорционально квадрату напряжения, что требует увеличения времени работы установки и сопровождается увеличением расхода энергии на единицу продукции. При повышении напряжения происходит увеличение потребляемой мощности электронагревательной установкой, резко сокращается срок службы нагревательных элементов.

Бытовые электроприемники. Работа разнообразных бытовых электроприемников, в том числе телевизоров, компьютеров, автоматических стиральных машин, также зависит от качества напряжения [12]. Отрицательные отклонения напряжения ухудшают изображение телевизора, а положительные сокращают срок службы его деталей. Особенно вредны отклонения напряжения для кинескопов. Отрицательное влияние отклонений напряжения на качество работы и срок службы телевизоров, а также существующие отклонения напряжения в сельских сетях приводят к тому, что потребители приобретают индивидуальные стабилизаторы напряжения, которые применяют даже в случаях, когда отклонения напряжения не выходят за рамки нормируемых. Применение местных стабилизаторов напряжения приводит к ухудшению коэффициента мощности и дополнительным денежным затратам. Причины несимметрии напряжений: неравномерное распределение нагрузки по фазам, создаваемое однофазной нагрузкой; неодновременное включение и выключение однофазных потребителей по фазам; перегорание предохранителей в одной из фаз (потеря фазы) и др. [11].

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ПРИМЕНЕНИЕ ВНЕДРЕНИЯ КАБЕЛЬНОЙ СЕЛЕКЦИИ В СИСТЕМЕ ЭЛЕКТРОСНАБЖЕНИЯ

***Аннотация:** Подбор энергосберегающих кабелей в электроснабжении, а также монтаж медных и алюминиевых кабелей.*

***Ключевые слова:** Электрический ток, удельное сопротивление, электропроводность, электрическая емкость, алюминиевый, медный проводник.*

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APPLICATION OF THE INTRODUCTION OF CABLE SELECTION IN THE POWER SUPPLY SYSTEM

***Abstract:** Selection of energy-saving cables in power supply, as well as installation of copper and aluminum cables*

***Key words:** Electric current, resistivity, electrical conductivity, electrical capacitance, aluminum, copper conductor.*

Самое уязвимое место в сфере обеспечения квартиры или дома электрической энергией – это электропроводка. В любом из этих случаев необходимо сначала сделать **расчет сечения кабеля**, иначе можно столкнуться с серьезными и даже трагичными последствиями.

В вопросе выбора сечения проводов нельзя следовать принципу «на глаз». Протекая по проводам, ток нагревает их. Чем выше сила тока, тем сильнее происходит нагрев. Эту взаимосвязь легко доказать парой формул. Первая из них определяет активную силу тока:

$$I = \frac{U}{R} \quad (1),$$

где I – сила тока, U – напряжение, R – сопротивление.

Из формулы видно: чем больше сопротивление, тем больше будет выделяться тепла, т. е. тем сильнее проводник будет нагреваться. Сопротивление определяют по формуле: $R = \rho \cdot L/S \quad (2),$

где ρ – удельное сопротивление, L – длина проводника, S – площадь его поперечного сечения.

Чем меньше площадь поперечного сечения проводника, тем выше его сопротивление, а значит выше и активная мощность, которая говорит о более

сильном нагреве. Исходя из этого, расчет сечения необходим для обеспечения безопасности и надежности проводки, а также грамотного распределения финансов.

Без расчета сечения проводника можно столкнуться с одной из двух ситуаций: Слишком сильный перегрев проводки. Возникает при недостаточном диаметре проводника. Создает благоприятные условия для самовозгорания и коротких замыканий.

- Неоправданные затраты на проводку. Такое происходит в ситуациях, когда были выбраны проводники избыточного диаметра. Конечно, опасности здесь нет, но кабель большего сечения стоит дороже и не столь удобен в работе.

Из формулы (2) видно, что сопротивление проводника зависит не только от площади поперечного сечения. В связи с этим на его нагрев будут влиять:

- Материал. Пример – у алюминия удельное сопротивление больше, чем у меди, поэтому при одинаковом сечении проводов медь будет нагреваться меньше.

- Длина. Слишком длинный проводник приводит к большим потерям напряжения, что вызывает дополнительный нагрев. При превышении потерь уровня 5% приходится увеличивать сечение.

Кабель [АВББШв 4х16](#) четырехжильный, включает токопроводящие жилы из алюминия. Предназначен для прокладки в земле. Защита с помощью оцинкованных стальных лент обеспечивает кабелю срок службы до 30 лет. В компании «Бонком» вы можете приобрести кабельные изделия оптом и в розницу по приемлемой цене. На большом складе всегда есть в наличии вся продукция, что позволяет комплектовать заказы любого ассортимента.

В общем виде **расчет сечения кабеля по мощности** происходит в 2 этапа. Для этого потребуются следующие данные:

- Суммарная мощность всех приборов.
- Тип напряжения сети: 220 В – однофазная, 380 В – трехфазная.
- ПУЭ 7. Правила устройства электроустановок. Издание 7.
- Материал проводника: медь или алюминий.
- Тип проводки: открытая или закрытая.

Шаг 1. Потребляемую мощность электроприборов можно найти в их инструкции или же взять средние характеристики. Формула для расчета общей мощности:

$$\Sigma P = (P_1 + P_2 + \dots + P_n) \cdot K_c \cdot K_z,$$

где P_1, P_2 и т. д. – мощность подключаемых приборов, K_c – коэффициент спроса, который учитывает вероятность включения всех приборов одновременно, K_z – коэффициент запаса на случай добавления новых приборов в доме. K_c определяется так:

- для двух одновременно включенных приборов – 1;
- для 3-4 – 0,8;
- для 5-6 – 0,75;

- для большего количества – 0,7.

K_3 в расчете **кабеля по нагрузке** имеет смысл принять как 1,15-1,2. Для примера можно взять общую мощность в 5 кВт.

Шаг 2. На втором этапе остается по суммарной мощности определить сечение проводника. Для этого используется **таблица расчета сечения кабеля** из ПУЭ. В ней дана информация и для медных, и для алюминиевых проводников. При мощности 5 кВт и закрытой однофазной электросети подойдет медный кабель сечением 4 мм².

Расчет сечения кабеля по длине предполагает, что владелец заранее определил, какое количество метров проводника потребуется для электропроводки. Таким методом пользуются, как правило, в бытовых условиях. Для расчета потребуются такие данные:

- L – длина проводника, м. Для примера взято значение 40 м.
- ρ – удельное сопротивление материала (медь или алюминий), Ом/мм²·м: 0,0175 для меди и 0,0281 для алюминия.
- I – номинальная сила тока, А.

Шаг 1. Определить номинальную силу тока по формуле:

$I = (P \cdot K_c) / (U \cdot \cos \phi) = 8000/220 = 36 \text{ А}$, где P – мощность в ваттах (суммарная всех приборов в доме, для примера взято значение 8 кВт), U – 220 В, K_c – коэффициент одновременного включения (0,75), $\cos \phi$ – 1 для бытовых приборов. В примере получилось значение 36 А.

Шаг 2. Определить сечение проводника. Для этого нужно воспользоваться формулой (2): $R = \rho \cdot L/S$.

Потеря напряжения по длине проводника должна быть не более 5%:

$$dU = 0,05 \cdot 220 \text{ В} = 11 \text{ В}.$$

Потери напряжения $dU = I \cdot R$, отсюда $R = dU/I = 11/36 = 0,31$ Ом. Тогда сечение проводника должно быть не меньше:

$$S = \rho \cdot L/R = 0,0175 \cdot 40/0,31 = 2,25 \text{ мм}^2.$$

В случае с трехжильным кабелем площадь поперечного сечения одной жилы должна составить 0,75 мм². Отсюда диаметр одной жилы должен быть не менее $(\sqrt{S/\pi}) \cdot 2 = 0,98$ мм. **Кабель ВВГнг 3х1,5** удовлетворяет этому условию.

Расчет сечения кабеля по току осуществляется также на основании ПУЭ, в частности, с использованием таблиц 1.3.6. и 1.3.7. Зная суммарную мощность электроприборов, можно по формуле определить номинальную силу тока:

$$I = (P \cdot K_c) / (U \cdot \cos \phi).$$

Для трехфазной сети используется другая формула:

$$I = P / (U \sqrt{3} \cos \phi),$$

где U будет равно уже 380 В.

Если к трехфазному кабелю подключают и однофазных, и трехфазных потребителей, то расчет ведется по наиболее нагруженной жиле. Для примера с общей мощностью приборов, равной 5 кВт, и однофазной закрытой сети получается:

$I = (P \cdot K_c) / (U \cdot \cos \phi) = (5000 \cdot 0,75) / (220 \cdot 1) = 17,05 \text{ A}$, при округлении 18 А.

ВВГнг 3х1,5 – медный трехжильный кабель. По таблице 1.3.6. для силы тока 18 А ближайшее значение – 19 А (при прокладке в воздухе). При номинальной силе тока 19 А сечение его токопроводящей жилы должно составлять не менее 1,5 мм². У кабеля ВВГнг 3х1,5 одна жила имеет сечение $S = \pi \cdot r^2 = 3,14 \cdot (1,5/2)^2 = 1,8 \text{ мм}^2$, что полностью соответствует указанному требованию.

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ИССЛЕДОВАНИЕ ЖЕСТКОСТИ ОРГАНИЗАЦИОННОЙ СТРУКТУРЫ ПРЕДПРИЯТИЯ И КОРРЕКТИРОВКА СТРАТЕГИИ ПРЕДПРИЯТИЯ

Аннотация: Для содействия устойчивому развитию предприятия необходимо поддерживать динамичный механизм координации между жесткостью организационной структуры предприятия и его развитием. Проанализированы связанные с этим вопросы жесткости организационной структуры предприятия и корректировки стратегии предприятия, и получена взаимосвязь взаимного влияния между ними.

Ключевые слова: Корпоративная организационная структура; стратегия

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THE STUDY OF THE RIGIDITY OF THE ORGANIZATIONAL STRUCTURE OF THE ENTERPRISE AND THE ADJUSTMENT OF THE ENTERPRISE STRATEGY

Summary: In order to promote the sustainable development of the enterprise, it is necessary to maintain a dynamic coordination mechanism between the rigidity of the organizational structure of the enterprise and its development. The related issues of the rigidity of the organizational structure of the enterprise and the adjustment of the enterprise strategy are analyzed, and the relationship of mutual influence between them is obtained.

Keywords: Corporate organizational structure; strategy

1. жесткость организационной структуры предприятия и эффективность работы предприятия

Взаимосвязь между жесткостью организационной структуры предприятия и его эффективностью сложна. Когда организационной структуре предприятия не хватает жесткости, необходимо институционализировать и переработать организационную структуру предприятия, чтобы поддерживать умеренную жесткость; а когда

организационная структура предприятия слишком жесткая, особенно когда предприятие находится в среде с высокой степенью неопределенности, это неизбежно повлияет на работу предприятия. корректировка стратегии предприятия¹¹¹.

1.1 Существует положительная корреляция между жесткостью организационной структуры предприятия и результатами его деятельности.

Компания Hannan & Freeman, сторонник этой точки зрения на жесткость корпоративной организационной структуры, является ее представителем. Эта точка зрения гласит, что жесткость организационной структуры предприятия оказывает положительное и значительное влияние на результаты деятельности предприятия. В модели Ханнана и Фримена корпоративная эффективность представлена показателем выживаемости организации через определенный промежуток времени. Чем жестче организационная структура предприятия, тем ниже уровень смертности на предприятии.

1.2 Существует отрицательная корреляция между жесткостью организационной структуры предприятия и результатами его деятельности.

В настоящее время ученые, придерживающиеся этой точки зрения, составляют большинство. Ученые, придерживающиеся этой точки зрения, считают, что когда корпоративная эффективность выражается корпоративными финансовыми показателями или показателями функционального уровня, то чем жестче организационная структура предприятия, тем хуже результаты деятельности предприятия. Перспектива изучения жесткости организационной структуры предприятия в основном исходит из двух точек зрения: во-первых, жесткость организационной структуры предприятия определяется как "состояние, при котором продукты, методы ведения бизнеса и стратегии функционирования на рынке организации предприятия не могут своевременно адаптироваться к окружающей среде". образом" (Хедберг, Нистром и Старбурк, 1976; Хедберг, 1977) или как "организация предприятия своевременно приспосабливается к внешнему миру. Общее сопротивление и гистерезисный эффект корпоративной эволюции.

2 Теоретические исследования по корпоративной стратегической корректировке

Корректировка корпоративной стратегии является важным вопросом корпоративного стратегического управления. Согласно определению Ван де Вена и Пула¹¹², стратегическая корректировка означает адаптацию организации предприятия к изменениям во внешней среде. Формы, качество и состояние этой корректировки сильно отличаются от предыдущих. Эта корректировка является базовой моделью распределения корпоративных ресурсов внутри предприятия, и эта модель показывает, как предприятие может достичь своих целей.

¹¹¹ Лю Донг, Новая теория микроэкономики, Нанкин: Издательство Нанкинского университета, 2000.

¹¹² Лю Донг, Новая теория микроэкономики, Нанкин: Издательство Нанкинского университета, 2000.

Корректировка корпоративной стратегии включает в себя два аспекта: во-первых, изменение корпоративного стратегического содержания (content). Например, масштаб и направленность деятельности предприятия, распределение внутренних ресурсов предприятия, позиционирование конкурентных преимуществ и координация стратегий. В связи с этим основное внимание уделяется факторам, влияющим на корпоративную стратегическую корректировку, и эффективности корпоративной стратегической корректировки.

3 Три уровня исследования корпоративной стратегической корректировки

Хотя изучение корректировки корпоративной стратегии и стратегии предприятия - это разные вопросы, они неотделимы друг от друга. Стратегическая корректировка в основном относится к изменениям в стратегическом содержании предприятия. Поэтому крайне важно классифицировать текущую корпоративную стратегию. Во многих современных отечественных исследованиях часто упоминаются типы стратегий, предложенные многими учеными, такие как три типа стратегий Портера, стратегии диверсификации и специализации. В 1962 году корпоративный историк Чандлер также предложил стратегии специализации, стратегии горизонтальной диверсификации, стратегии вертикальной интеграции, стратегии диверсификации, стратегии многонациональных компаний, и многие ученые предлагали различные типы стратегий, такие как стратегии управления персоналом и маркетинговые стратегии, но с какой точки зрения классифицируются эти стратегии? Существует ли единая система для интеграции этих классификаций? Есть ли какие-либо пересечения в классификации этих стратегий? Какую стратегию лучше классифицировать? На Западе решением этой проблемы является многослойная стратегия¹¹³.

3.1 Уровень компании.

Корректировка корпоративной стратегии на уровне компании в основном включает в себя две категории: выбирает ли компания специализированную или диверсифицированную стратегию, сохраняет ли компания существующие активы или продает их, осуществляет ли компания слияния или поглощения и т.д. Это категории стратегических корректировок, рассматриваемых с точки зрения компании в целом.

3.2 Бизнес-уровень.

Румельт считает, что уровень бизнеса определяет стратегическую корректировку как определенные стратегические решения в рамках конкретного рынка. Включая определение цен на продукцию, вопросы качества продукции и т.д. Но Румельт по-прежнему не давал четкого объяснения стратегии на бизнес-уровне. В последнее время сложилось

¹¹³ Маленький Альфред. d. Чандлер, "Видимая рука: революция в управлении американскими компаниями", Пекин: The Commercial Press, 1987.

мнение, что корректировка корпоративной стратегии на бизнес-уровне заключается в рассмотрении бизнес-стратегии данного подразделения с точки зрения сбу, и эта бизнес-стратегия в основном рассматривает проблему с точки зрения конкретных бизнес-операций. Если бизнес-стратегия, принятая этим подразделением, будет соответствующей, то эффективность работы этого подразделения будет высокой, доля рынка увеличится, а также увеличатся темпы роста продаж.

3.3 Функциональный уровень.

Некоторые ученые также называют стратегическую корректировку на операционном уровне стратегической корректировкой на функциональном уровне. Стратегическая корректировка на этом уровне относится к стратегической корректировке на уровне различных функциональных подразделений внутри бизнес-единицы. Все эти меры принимаются в рамках определенного функционального подразделения. Корректировки, которые происходят в этих функциональных подразделениях, называются стратегическими корректировками на функциональном или операционном уровне.

4 Исследование взаимосвязи между корпоративной организационной структурой и корпоративной стратегией

4.1 Влияние корпоративной стратегии на организационную структуру

Чандлер считает, что стратегия определяет структуру, а структура служит стратегии. Причина в том, что реализация корпоративных стратегий требует поддержки в разработке организационной структуры. Он разделил стратегии на пять типов: стратегия специализации, стратегия горизонтальной диверсификации, стратегия вертикальной интеграции, транснациональная стратегия и стратегия диверсификации, и объяснил, что именно благодаря этим стратегиям американские семейные предприятия в начале 1840-х годов добились экономии за счет масштаба. Расширение. Каждая стратегия требует своей организационной структуры :

4.2 Влияние корпоративной организационной структуры на стратегию

На самом деле разработка организационной структуры служит реализации стратегии. С точки зрения реализации стратегии, стратегия определяет организационную структуру. Однако корпоративная стратегия включает в себя не только реализацию стратегии, но и ее формулировку. При разработке стратегий взаимосвязь может быть прямо противоположной, и организационная структура предприятия определяет корпоративную стратегию.

4.3 Взаимодействие между организацией и стратегией: компромиссный взгляд.

Многие ученые считают, что в современном мире традиционная взаимосвязь между стратегией и организацией заключается не в том, кто решает, чьи отношения, а в том, что отношения между ними следует рассматривать на равноправной основе. В статье Фарджуна (2002), опубликованной в журнале Strategy Management Journal, объясняется, что в

динамичном мире стратегия и организационная структура влияют друг на друга. Следует обратить внимание на преодоление жесткости организационной структуры предприятия. Методы преодоления включают изменение роли сотрудников предприятия на предприятии, содействие обучению на предприятии и создание благоприятной среды для развития предприятия.

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ОРГАНИЗАЦИОННАЯ СТРУКТУРА И КУЛЬТУРА В КОРПОРАТИВНОМ СТРАТЕГИЧЕСКОМ УПРАВЛЕНИИ

Аннотация: В современной конкурентной бизнес-среде корпоративное стратегическое управление стало очень важной частью. В дополнение к четкой формулировке и реализации стратегии, организационная структура и культура также являются ключевыми факторами успешной реализации корпоративной стратегии. В этой статье мы рассмотрим взаимосвязь между организационной структурой и культурой в корпоративном стратегическом управлении и проанализируем, как они могут совместно способствовать развитию предприятий.

Ключевые слова: Корпоративное стратегическое управление; организационная структура и культура

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ORGANIZATIONAL STRUCTURE AND CULTURE IN CORPORATE STRATEGIC MANAGEMENT

Summary: In today's competitive business environment, corporate strategic management has become a very important part. In addition to clearly articulating and implementing a strategy, organizational structure and culture are also key factors in the successful implementation of a corporate strategy. In this article, we will look at the relationship between organizational structure and culture in corporate strategic management and analyze how they can jointly contribute to the development of enterprises.

Keywords: Corporate strategic management; organizational structure and culture

1. Роль организационной структуры

Организационная структура¹¹⁴ - это система взаимоотношений и взаимосвязей между различными подразделениями и должностями на предприятии. Хорошая организационная структура помогает обеспечить бесперебойную реализацию стратегических целей.

Во-первых, организационная структура может способствовать потоку информации. Разумная организационная структура позволяет создать эффективные каналы связи, позволяющие быстро передавать и совместно использовать информацию между различными подразделениями и должностями. Это позволяет избежать информационных барьеров и информационной асимметрии, а также повысить точность и своевременность принятия решений.

Во-вторых, организационная структура распределяет обязанности и полномочия. Устанавливая четкие обязанности и полномочия, организационная структура может гарантировать, что каждый сотрудник знает объем своих должностных обязанностей и полномочий, что позволит ему лучше выполнять свою работу. В то же время последовательное распределение обязанностей и полномочий также может избежать злоупотреблений и неразберихи в распределении полномочий и обеспечить прозрачность и беспристрастность деятельности предприятия.

Опять же, организационная структура помогает оптимизировать распределение ресурсов. Разумная организационная структура позволяет реализовать централизованное управление и оптимальное распределение ресурсов, а также повысить эффективность их использования. Благодаря разумному разделению отделов и функциональному планированию профессиональные способности сотрудников могут быть использованы в полной мере, что позволяет предприятиям получать наибольшие выгоды при ограниченных ресурсах.

2. Роль культуры

Корпоративная культура - это система ценностей, кодексов поведения и общих убеждений, которые разделяют и которым следуют сотрудники предприятия. Здоровая корпоративная культура помогает сформировать хорошую рабочую атмосферу и повышает сплоченность и центростремительную силу сотрудников.

Прежде всего, корпоративная культура может формировать общие ценности. Четкая корпоративная культура может помочь сотрудникам прояснить основные ценности компании и отождествить себя с ними. Сотрудники, действующие в соответствии с этой общей ценностной концепцией, могут сформировать общую цель сотрудничества и повысить осведомленность коллектива о предприятии.

Во-вторых, корпоративная культура может способствовать росту и развитию сотрудников. Культивируя позитивную корпоративную культуру,

¹¹⁴ Дуэт "Среда", Чэнь Чжуанмин, Лу Минхун, "Принципы и методы менеджмента", Третье издание, Шанхай: Издательство университета Фудань, 1999.

компании могут предоставить сотрудникам платформу для обучения и роста, а также стимулировать их потенциал и креативность. В этой позитивной культурной атмосфере сотрудники могут больше сосредоточиться на своей работе и легче испытывать чувство выполненного долга¹¹⁵.

Опять же, корпоративная культура может привлекать и удерживать таланты. Отличная корпоративная культура может дать компаниям уникальное конкурентное преимущество и привлечь в компанию больше выдающихся талантов. В то же время позитивная корпоративная культура может также повысить удовлетворенность и лояльность сотрудников, снизить текучесть кадров и тем самым снизить затраты компании на персонал.

3. Взаимодействие между организационной структурой и культурой

Существует тесная связь и взаимодействие между организационной структурой и культурой. Подходящая организационная структура помогает сформировать здоровую корпоративную культуру, а хорошая корпоративная культура может еще больше оптимизировать организационную структуру.

Прежде всего, организационная структура может формировать и поддерживать культуру предприятия. Благодаря созданию соответствующих отделов и должностей организационная структура может обеспечить хорошую платформу поддержки корпоративной культуры. Например, на предприятии, которое придает большое значение инновациям, исследованиям и разработкам, может быть создан специальный отдел исследований и разработок и созданы соответствующие должности для поддержки формирования и развития инновационной культуры.

Во-вторых, корпоративная культура может влиять на организационную структуру и корректировать ее. Позитивная корпоративная культура может стимулировать инициативу и энтузиазм сотрудников, делая организационную структуру более гибкой и приспособляемой к изменениям. Например, на предприятии, стремящемся к гибкости рынка и инновациям, может быть принята единая организационная структура, способствующая быстрой передаче информации и быстрому принятию решений.

Наконец, взаимодействие между организационной структурой и культурой в совокупности влияет на эффективность работы компании. Подходящая организационная структура и хорошая корпоративная культура могут координироваться друг с другом и формировать добродетельный круг. Организационная структура обеспечивает хорошую поддержку и гарантию корпоративной культуры, а корпоративная культура может корректировать и оптимизировать организационную структуру, чтобы компания могла лучше достигать своих стратегических целей.

Короче говоря, организационная структура и корпоративная культура являются двумя незаменимыми элементами корпоративного стратегического управления. Подходящая организационная структура может улучшить поток

¹¹⁵ Маленький Альфред. д. Чандлер, "Видимая рука: революция в управлении американскими компаниями", Пекин: The Commercial Press, 1987.

информации, оптимизировать распределение ресурсов и обеспечить последовательность обязанностей, в то время как хорошая корпоративная культура может формировать общие ценности, способствовать росту сотрудников и повышать их сплоченность. Между ними существует тесная связь и взаимодействие, которые в совокупности влияют на эффективность и конкурентоспособность предприятий. Корпоративные стратегические менеджеры должны уделять все внимание построению организационной структуры и культуры и использовать их как одно из важных средств содействия корпоративному развитию.

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ОРГАНИЗАЦИОННАЯ СТРУКТУРА И КУЛЬТУРА В КОРПОРАТИВНОМ СТРАТЕГИЧЕСКОМ УПРАВЛЕНИИ

Аннотация: В современной конкурентной бизнес-среде корпоративное стратегическое управление стало очень важной частью. В дополнение к четкой формулировке и реализации стратегии, организационная структура и культура также являются ключевыми факторами успешной реализации корпоративной стратегии. В этой статье мы рассмотрим взаимосвязь между организационной структурой и культурой в корпоративном стратегическом управлении и проанализируем, как они могут совместно способствовать развитию предприятий.

Ключевые слова: Корпоративное стратегическое управление; организационная структура и культура

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ORGANIZATIONAL STRUCTURE AND CULTURE IN CORPORATE STRATEGIC MANAGEMENT

Summary: In today's competitive business environment, corporate strategic management has become a very important part. In addition to clearly articulating and implementing a strategy, organizational structure and culture are also key factors in the successful implementation of a corporate strategy. In this article, we will look at the relationship between organizational structure and culture in corporate strategic management and analyze how they can jointly contribute to the development of enterprises.

Keywords: Corporate strategic management; organizational structure and culture

1. Роль организационной структуры

Организационная структура¹¹⁶ - это система взаимоотношений и взаимосвязей между различными подразделениями и должностями на

¹¹⁶ Дуэт "Среда", Чэнь Чжуанмин, Лу Минхун, "Принципы и методы менеджмента", Третье издание,

предприятия. Хорошая организационная структура помогает обеспечить бесперебойную реализацию стратегических целей.

Во-первых, организационная структура может способствовать потоку информации. Разумная организационная структура позволяет создать эффективные каналы связи, позволяющие быстро передавать и совместно использовать информацию между различными подразделениями и должностями. Это позволяет избежать информационных барьеров и информационной асимметрии, а также повысить точность и своевременность принятия решений.

Во-вторых, организационная структура распределяет обязанности и полномочия. Устанавливая четкие обязанности и полномочия, организационная структура может гарантировать, что каждый сотрудник знает объем своих должностных обязанностей и полномочий, что позволит ему лучше выполнять свою работу. В то же время последовательное распределение обязанностей и полномочий также может избежать злоупотреблений и неразберихи в распределении полномочий и обеспечить прозрачность и беспристрастность деятельности предприятия.

Опять же, организационная структура помогает оптимизировать распределение ресурсов. Разумная организационная структура позволяет реализовать централизованное управление и оптимальное распределение ресурсов, а также повысить эффективность их использования. Благодаря разумному разделению отделов и функциональному планированию профессиональные способности сотрудников могут быть использованы в полной мере, что позволяет предприятиям получать наибольшие выгоды при ограниченных ресурсах.

2. Роль культуры

Корпоративная культура - это система ценностей, кодексов поведения и общих убеждений, которые разделяют и которым следуют сотрудники предприятия. Здоровая корпоративная культура помогает сформировать хорошую рабочую атмосферу и повышает сплоченность и центростремительную силу сотрудников.

Прежде всего, корпоративная культура может формировать общие ценности. Четкая корпоративная культура может помочь сотрудникам прояснить основные ценности компании и отождествить себя с ними. Сотрудники, действующие в соответствии с этой общей ценностной концепцией, могут сформировать общую цель сотрудничества и повысить осведомленность коллектива о предприятии.

Во-вторых, корпоративная культура может способствовать росту и развитию сотрудников. Культивируя позитивную корпоративную культуру, компании могут предоставить сотрудникам платформу для обучения и роста, а также стимулировать их потенциал и креативность. В этой позитивной

культурной атмосфере сотрудники могут больше сосредоточиться на своей работе и легче испытывать чувство выполненного долга¹¹⁷.

Опять же, корпоративная культура может привлекать и удерживать таланты. Отличная корпоративная культура может дать компаниям уникальное конкурентное преимущество и привлечь в компанию больше выдающихся талантов. В то же время позитивная корпоративная культура может также повысить удовлетворенность и лояльность сотрудников, снизить текучесть кадров и тем самым снизить затраты компании на персонал.

3. Взаимодействие между организационной структурой и культурой

Существует тесная связь и взаимодействие между организационной структурой и культурой. Подходящая организационная структура помогает сформировать здоровую корпоративную культуру, а хорошая корпоративная культура может еще больше оптимизировать организационную структуру.

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¹¹⁷ Маленький Альфред. д. Чандлер, "Видимая рука: революция в управлении американскими компаниями", Пекин: The Commercial Press, 1987.

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КОМПЛЕКС МЕР ПО ПОВЫШЕНИЮ ПРИВЛЕКАТЕЛЬНОСТИ КОМПАНИИ ДЛЯ ИНОСТРАННЫХ ИНВЕСТОРОВ

Аннотация: В статье рассматриваются меры по повышению привлекательности компании для иностранных инвесторов. Анализируются ключевые аспекты, влияющие на инвестиционную привлекательность, такие как финансовая прозрачность, уровень корпоративного управления, соответствие международным стандартам и эффективность стратегического планирования. Полученные результаты могут быть использованы компаниями в целях адаптации к требованиям зарубежных инвесторов и расширения инвестиционного потенциала.

Ключевые слова: Инвестиционная привлекательность, международные компании

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A SET OF MEASURES TO INCREASE THE ATTRACTIVENESS OF A COMPANY FOR FOREIGN INVESTORS

Summary: The article examines measures to increase the attractiveness of a company for foreign investors. It analyzes key aspects that influence investment attractiveness, such as financial transparency, corporate governance level, compliance with international standards, and the effectiveness of strategic planning. The results obtained can be used by companies to adapt to the requirements of foreign investors and expand investment potential.

Keywords: Investment attractiveness, international companies

Для повышения привлекательности компании для иностранных инвесторов необходимо реализовать комплекс мер, направленных на

оптимизацию инвестиционной среды, усиление рыночной конкурентоспособности, совершенствование корпоративного управления и укрепление позиций на международных финансовых рынках.

Прежде всего, компании следует пересмотреть инвестиционную структуру и расширить возможности финансирования. Использование таких инструментов, как выпуск международных облигаций, инфраструктурные REITs и «зелёные» облигации, позволит привлечь различные категории инвесторов и повысить ликвидность капитала. Важным шагом также станет привлечение стратегических инвесторов и внедрение механизмов государственно-частного партнёрства (PPP) и реформ смешанной собственности, что укрепит доверие к компании и создаст более широкий спектр инвестиционных возможностей для зарубежных партнёров.

Кроме того, необходимо активнее инвестировать в перспективные отрасли, включая интеллектуальную инфраструктуру, возобновляемые источники энергии и цифровую трансформацию. Развитие этих направлений соответствует глобальным тенденциям устойчивого роста и долгосрочным интересам международных инвесторов. Параллельно важно расширять присутствие на зарубежных рынках, активно участвуя в международных проектах, таких как «Один пояс — один путь», что обеспечит стабильный рост зарубежных активов и повысит инвестиционную привлекательность компании.

Третьим важным направлением является усовершенствование структуры владения иностранными акционерами. Постепенное смягчение ограничений на долю иностранного капитала, повышение прозрачности корпоративного управления и соблюдение международных стандартов управления усилят доверие зарубежных инвесторов. Также стоит наладить более тесное взаимодействие с международными рейтинговыми агентствами, инвестиционными фондами и суверенными фондами, что позволит повысить уровень признания компании на глобальном рынке капитала.

Дополнительно следует активизировать международные инвестиционные связи, учитывая тренды глобальной экономической либерализации и роста мобильности капитала. Установление стратегических партнёрств с многосторонними банками развития, международными финансовыми институтами и транснациональными корпорациями поспособствует привлечению зарубежных инвестиций. Важно также совершенствовать управление инвестиционными отношениями, внедряя прозрачные и эффективные механизмы раскрытия информации, чтобы иностранные инвесторы имели полное представление о стратегии компании, её финансовом положении и подходах к управлению рисками.

Наконец, по мере углубления интеграции в глобальные финансовые рынки компания должна последовательно совершенствовать свою нормативную базу, опираясь на международный опыт. Повышение уровня правовой защищённости, рыночной открытости и прозрачности создаст благоприятные условия для привлечения иностранных инвесторов, повысит

их доверие к компании и укрепит долгосрочную инвестиционную стабильность.

Компания «Китайская железнодорожная строительная корпорация» провела анализ целесообразности и практическое исследование внедрения финансового центра обслуживания, учитывая такие аспекты, как выбор места, проектирование процессов и техническая поддержка. Перед официальным запуском этого центра компания также провела консультации с организациями, которые уже внедрили подобные структуры, и использовала их опыт и ошибки для оптимизации собственного подхода. В процессе реализации CRCC разработала ряд стратегий для минимизации рисков, связанных с организационными изменениями, которые сопровождают создание финансового центра обслуживания.¹¹⁸

Одним из таких рисков является разделение учетных и управленческих функций в рамках финансовой цепочки, что ослабляет связи между ранее тесно связанными структурами. Это, в свою очередь, может повысить нагрузку на центр обслуживания, особенно в части базового бухгалтерского учета, что затруднит внимание к вопросам управления денежными потоками, операциями с активами и общей задолженностью компании. В целях предотвращения этого, CRCC создала должности для бухгалтеров, которые будут заниматься не только обработкой данных, но и обеспечением контроля за состоянием финансов на фронтальной линии. В результате компания смогла наладить эффективное взаимодействие между бизнесом и финансовыми службами, а также повысить ответственность и эффективность работы каждого отдела.

Центр обслуживания CRCC включает в себя несколько бизнес- и финансовых подразделений, при этом взаимодействие между ними имеет решающее значение. После обмена опытом и координации решений, предприятие создает стратегически важные меры, которые направлены на развитие компании. Важно отметить, что центр обслуживания не существует отдельно от других подразделений группы и должен работать в тесной связи с региональными компаниями, обеспечивая их совместное развитие.

Возьмем, например, процесс обработки счетов: центр обслуживания должен тщательно анализировать каждый этап, чтобы создать максимально эффективную и подходящую теоретически систему. На этапе пробного запуска важно собирать обратную связь от таких департаментов, как маркетинг, закупки и проектный отдел, чтобы на основе этих данных обновлять процессы, оптимизировать их и повысить стандарты работы, что в конечном итоге уменьшит нагрузку на сотрудников и повысит эффективность.¹¹⁹

¹¹⁸ Вэй Рун. Анализ влияния МСФО 15 на строительную отрасль. Финансово-экономический бюллетень, 2017 (31): 118-122.

¹¹⁹ Ли Югуй. Исследование области учёта активов по договорам строительных предприятий. Финансы и бухгалтерия, 2020 (06): 34-38.

Кроме того, в вопросах взаимодействия и координации между различными отделами и уровнями, финансовый центр обслуживания должен регулярно собирать мнения и предложения, ориентируясь на реальные потребности региональных компаний. Это позволит проектировать и корректировать соответствующие рабочие процессы, чтобы лучше обслуживать бизнес-отделы и достигать более высоких операционных результатов. Финансовое обслуживание не является чем-то, что можно просто внедрить и забыть; оно должно постоянно совершенствоваться в зависимости от потребностей бизнеса и повышения уровня цифровизации.

Центр финансового обслуживания CRCC включает несколько бизнес- и финансовых подразделений, и эти подразделения не работают изолированно. Эффективное взаимодействие между ними и принятие решений на основе обмена информацией и сотрудничества — ключевые факторы для продвижения компании вперед. Важно отметить, что финансовый центр обслуживания не существует отдельно от других подразделений группы, а должен эффективно взаимодействовать с региональными компаниями для достижения общего роста и развития.

Например, в процессе обработки счетов, финансовый центр обслуживания должен тщательно проанализировать данный процесс, собрать мнения по каждому проекту и систематизировать их. На основе этого анализа разрабатывается наиболее подходящая теоретически система процессов. В ходе пробного запуска важно вовремя получать отзывы от различных отделов, таких как маркетинг, закупки и проектные группы, для корректировки и обновления процессов, что позволит улучшить стандарты работы, снизить нагрузку на сотрудников и повысить эффективность.

В дополнение к этому, в рамках взаимодействия и координации между различными отделами, финансовый центр обслуживания должен регулярно собирать мнения и отзывы, чтобы на основе реальных потребностей региональных подразделений адаптировать и улучшать рабочие процессы. Финансовое обслуживание не является одноразовым проектом, а требует постоянного усовершенствования в ответ на изменения в бизнесе и уровне цифровизации.¹²⁰

Управление обучением включает в себя разработку методов, рабочих процессов, оценку и планирование бюджета. Курсы обучения делятся на два типа: краткосрочные, которые фокусируются на стандартизации операций и обучении рабочих процессов, а также долгосрочные программы, направленные на расширение универсальных навыков сотрудников. Эти курсы соответствуют профессиональным потребностям разных категорий работников — от базовых сервисных специалистов до ключевых технических сотрудников и руководителей.

¹²⁰ Мен Яру. Исследование применения и влияния новых стандартов по доходам в строительной индустрии на примере China Railway Construction Corporation. Экономика строительства, 2021, 42(01): 19-22.

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ИНВЕСТИЦИОННАЯ ПРИВЛЕКАТЕЛЬНОСТЬ КОМПАНИИ НА МЕЖДУНАРОДНОМ РЫНКЕ КАПИТАЛА– КИТАЙСКАЯ ЖЕЛЕЗНОДОРОЖНАЯ МЕЖДУНАРОДНАЯ КОМПАНИЯ

***Аннотация:** В статье рассматриваются особенности формирования инвестиционной привлекательности китайской международной корпорации на мировом рынке капитала. Автор анализирует ключевые факторы, влияющие на восприятие компании иностранными инвесторами, включая финансовую устойчивость, корпоративное управление и прозрачность деятельности. Исследование основано на конкретных примерах международной экспансии китайских компаний. Отмечаются основные вызовы и перспективы выхода на глобальные рынки капитала. Полученные результаты могут быть полезны для повышения конкурентоспособности китайских компаний в условиях глобализации.*

***Ключевые слова:** Инвестиционная привлекательность, международные компании*

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INVESTMENT ATTRACTIVENESS OF THE COMPANY IN THE INTERNATIONAL CAPITAL MARKET – CHINA RAILWAY INTERNATIONAL COMPANY

***Summary:** The article examines the features of the formation of investment attractiveness of a Chinese international corporation in the global capital market. The author analyzes the key factors influencing the perception of a company by foreign investors, including financial stability, corporate governance and transparency of activities. The study is based on specific examples of international expansion of Chinese companies. The main challenges and prospects for entering*

global capital markets are noted. The results obtained can be useful for increasing the competitiveness of Chinese companies in the context of globalization.

Keywords: *Investment attractiveness, international companies*

Китайская международная корпорация China Railway International Group (сокращенно “CRIG”) является дочерней компанией China Railway Group Limited (“China Railway”), одного из крупнейших мировых строительных концернов, входящего в список Fortune Global 500. CRIG играет ключевую роль в реализации международной стратегии развития “двойного совершенства” и новой модели “единый центр, два крыла, N драйверов”, продвигая глобальные проекты.

Материнская компания China Railway с более чем 120-летней историей была зарегистрирована на биржах Шанхая и Гонконга в 2007 году и сегодня представляет собой одну из крупнейших корпораций в мире, специализирующуюся на проектировании, строительстве, промышленном производстве, девелопменте и зарубежных инженерных проектах. Компания реализует инфраструктурные проекты более чем в 100 странах и регионах мира, занимая 39-е место в списке Fortune Global 500 за 2023 год, 2-е место в рейтинге ENR 250 крупнейших международных подрядчиков за 2022 год и 4-е место среди китайских публичных компаний.

Как мировой лидер в области железнодорожного строительства, China Railway обладает полным набором ключевых технологий для строительства железных дорог. В таких направлениях, как высокоскоростные магистрали, горные железные дороги, грузовые железные дороги, электрификация путей, мостовые конструкции, туннели, стрелочные переводы и производство тоннелепроходческих комплексов, компания сохраняет международное лидерство.¹²¹

Среди достижений — создание национальных брендов “Китайские высокоскоростные железные дороги”, “Китайские мосты”, “Китайские туннели”, “Китайское оборудование” и “Китайская электрифицированная железная дорога”. За годы работы компания получила 490 национальных премий за качественные проекты (включая 37 золотых наград), 236 премий Лубана за строительные достижения, 167 наград Чжань Тянью за гражданское строительство, 154 национальных премии за проектные изыскания, 101 награду за консультационные инженерные услуги и 34 международных награды от FIDIC за выдающиеся инженерные проекты.

История компаний, входящих в состав China Railway International Group (CRIG), начинается с 1980-х годов, когда, благодаря реформам и политике открытости, они начали выходить на международные рынки. Их деятельность постепенно охватила Азию, Африку, Южную Америку и продолжила расширяться по всему миру. В 2008 году China Railway Group Limited

¹²¹ Вэй Рун. Анализ влияния МСФО 15 на строительную отрасль. Финансово-экономический бюллетень, 2017 (31): 118-122.

основала компанию China Railway International Economic Cooperation Company, объединив ресурсы, связанные с внешнеэкономической деятельностью, и реорганизовав несколько дочерних компаний, таких как Sichuan Railway International, China Railway Engineering (Hong Kong), филиалы в Малайзии, Сингапуре и на Ближнем Востоке. Новая компания была создана как специализированная структура для работы на зарубежных рынках. В ноябре 2013 года China Railway провела очередную реорганизацию, включив в состав CRIG еще четыре подразделения: компании, занимающиеся внешнеэкономической деятельностью в Венесуэле, Лаосе, а также строительные филиалы. В мае 2020 года была запущена реформа зарубежной структуры управления, в результате которой CRIG получила статус платформенной компании в рамках стратегии “единый центр, два крыла, N драйверов”.

Сегодня CRIG курирует 9 зарубежных региональных штаб-квартир China Railway, включая Юго-Восточную и Южную Азию, Ближний Восток, Евразию, Западную Европу, Северную и Южную Африку, Южную и Центральную Америку, охватывая 96 стран и три региона, включая Гонконг, Макао и Тайвань.

CRIG реализовала множество средних и крупных проектов по всему миру в таких областях, как железнодорожное и автомобильное строительство, городская инфраструктура, энергетика, аэропорты, порты, ирригационные системы, добыча полезных ископаемых, информационные технологии, международная торговля и инвестиции в недвижимость. Многие из этих проектов были отмечены отраслевыми наградами, заслужили признание профессионального сообщества и высокую оценку стран, где они реализовывались.

В последние годы компания успешно трансформируется из традиционного подрядчика в модель “подрядчик + инвестор”, стремясь стать поставщиком услуг на всех этапах цепочки создания ценности, активно участвовать в развитии региональной экономики и брать на себя социальную ответственность. Такой подход позволяет CRIG реализовывать проекты высокого качества, способствуя взаимовыгодному развитию с местными сообществами и формируя новые перспективы для устойчивого роста.

Стратегические инвестиции представляют собой приобретение иностранными инвесторами акций публичных компаний с целью их долгосрочного владения, что отличает их от финансовых инвестиций. Это по-настоящему “терпеливый капитал”, ориентированный на создание ценности. В Китае с 2005 года действует специальное постановление, которое обеспечивает правовую основу для стратегических инвестиций иностранных инвесторов в акции публичных компаний. Согласно статистике, с момента вступления постановления в силу более 600 компаний получили такие инвестиции.

До этого иностранные инвесторы могли вкладываться в компании через программы QFII, RQFII или механизмы международного биржевого

взаимодействия, а также через стратегические инвестиции. Недавние изменения в законодательстве снизили порог для стратегических инвестиций по пяти направлениям. Во-первых, иностранным физическим лицам теперь разрешено участвовать в таких инвестициях. Во-вторых, ослаблены требования к активам иностранных инвесторов для привлечения долгосрочного капитала.

В-третьих, добавлена возможность стратегических инвестиций через тендерное предложение. В-четвёртых, введён механизм трансграничного обмена акциями с использованием акций зарубежных компаний как средства оплаты. В-пятых, снижены требования к доле владения акциями (с 10% до 5%) и сроку их обязательного удержания (с трёх лет до 12 месяцев), сохраняя акцент на долгосрочный характер таких инвестиций.¹²²

Благодаря благоприятной рыночной среде и значительным ресурсам, компания China Railway является привлекательной для стратегических инвесторов. В процессе международного строительства она сотрудничает с такими странами, как Кения и Вьетнам. Внутренняя структура компании хорошо организована, обязанности четко распределены, а строгие механизмы проверки и контроля делают China Railway особенно конкурентоспособной в вопросах оценки и привлечения инвестиций.

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¹²² Мен Яру. Исследование применения и влияния новых стандартов по доходам в строительной индустрии на примере China Railway Construction Corporation. Экономика строительства, 2021, 42(01): 19-22.

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ИНВЕСТИЦИОННЫЙ КЛИМАТ СТРАНЫ КАК ФАКТОР ПРИВЛЕЧЕНИЯ ИНОСТРАННЫХ ИНВЕСТИЦИЙ

***Аннотация:** В данной статье рассматривается инвестиционный климат как ключевой фактор привлечения иностранных инвестиций в национальную экономику. Автор анализирует основные компоненты инвестиционного климата, включая политическую стабильность, правовую защиту инвесторов и экономическую инфраструктуру. Особое внимание уделено сравнительному анализу инвестиционной привлекательности различных стран и практике улучшения условий для инвесторов. В результате исследования выявлены эффективные стратегии по формированию благоприятного инвестиционного климата. Полученные выводы могут быть полезны для формирования государственной инвестиционной политики и повышения конкурентоспособности страны на мировом инвестиционном рынке.*

***Ключевые слова:** инвестиционный климат, иностранные инвестиции, инвестиционная привлекательность*

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INVESTMENT CLIMATE OF THE COUNTRY AS A FACTOR IN ATTRACTING FOREIGN INVESTMENTS

***Summary:** This article examines the investment climate as a key factor in attracting foreign investment into the national economy. The author analyzes the main components of the investment climate, including political stability, legal protection of investors and economic infrastructure. Particular attention is paid to a comparative analysis of the investment attractiveness of various countries and the practice of improving conditions for investors. As a result of the study, effective*

strategies for creating a favorable investment climate were identified. The findings may be useful for forming state investment policy and increasing the country's competitiveness in the global investment market.

Keywords: *investment climate, foreign investment, investment attractiveness*

Юридическая система, регулирующая прямые иностранные инвестиции (FDI)¹²³, является одним из ключевых факторов инвестиционной среды. Прежде чем инвестировать в другую страну, иностранные инвесторы тщательно изучают ее законодательную базу и правовую политику в сфере FDI. Если правовая система способствует привлечению инвестиций, обеспечивает безопасность, предоставляет льготы и не содержит множества ограничений, такая страна, скорее всего, станет привлекательной для иностранных вложений.

Наоборот, если законодательство нестабильно, сложно прогнозируемо и не соответствует мировым экономическим тенденциям, инвесторы, скорее всего, предпочтут вложить капитал в другие регионы.

Как и любые другие компании, предприятия с иностранными инвестициями обязаны иметь законный статус. При этом они обладают финансовой самостоятельностью и несут полную ответственность за свою деятельность. Национальное законодательство определяет права совместных предприятий с участием иностранного капитала, включая свободу предпринимательской деятельности, выбор отрасли и формы инвестирования, право на выбор местоположения бизнеса, а также вопросы собственности.

Четкое регулирование прав собственности на активы FDI-компаний мотивирует инвесторов эффективно управлять капиталом, развивать бизнес и стремиться к увеличению прибыли. С другой стороны, такие предприятия обязаны соблюдать налоговое законодательство, выполнять юридические обязательства и соблюдать экологические нормы.

Таким образом, детально прописанный правовой механизм и продуманная государственная политика являются основой для легальной регистрации и успешного функционирования иностранных инвестиций.

Политика, непосредственно связанная с ПИИ (прямыми иностранными инвестициями), играет ключевую роль в формировании их объема и качества в стране. Регулирующие нормы в этой сфере можно разделить на две основные группы.

Правила, регулирующие создание и деятельность FDI

Каждая страна устанавливает свои принципы в отношении FDI: какие отрасли поощряются, какие ограничиваются или вовсе запрещены для иностранных инвестиций; разрешена ли полная или частичная собственность на проекты для зарубежных инвесторов; предоставляются ли льготы и насколько свободны условия ведения бизнеса.

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Чем более открыта и благоприятна политика государства для иностранных инвестиций, тем большее количество FDI привлекается, что создает благоприятные условия для работы компаний. Если же законодательство вводит жесткие ограничения и бюрократические барьеры, это, наоборот, отпугивает инвесторов. В зависимости от стратегических целей государства, этапов экономического развития и отраслевых приоритетов, эти правила могут пересматриваться и адаптироваться.

Стандарты режима FDI

Один из ключевых аспектов – это условия, на которых принимающая страна предоставляет иностранным инвесторам свои ресурсы и возможности. Важно понимать, будут ли FDI-компании пользоваться равными правами с местными предпринимателями или же их положение будет менее выгодным.

Существует два главных режима: Режим наибольшего благоприятствования (MFN – Most Favored Nation)

Этот принцип – один из основополагающих в международных инвестиционных соглашениях. Он гарантирует, что иностранные инвесторы будут получать такие же или даже более выгодные условия, чем те, которые предоставлены другим странам. Проще говоря, государство обязуется не создавать дискриминационных условий для инвесторов из разных стран.

MFN-кlausу можно классифицировать по различным критериям: она может быть ограниченной (например, применяться только к определенным территориям, секторам или периодам) или неограниченной; условной (требующей соблюдения ряда критериев) или безусловной; односторонней или взаимной. В инвестиционной сфере MFN-принцип чаще всего действует на взаимной основе между странами, подписавшими соглашение.

Однако существуют и исключения из этого принципа. Например, государства могут отказаться от применения MFN по соображениям национальной безопасности, защиты здоровья населения, морали и общественного порядка. Кроме того, в рамках региональной экономической интеграции (например, в таможенных союзах) могут устанавливаться особые условия, не подпадающие под общий принцип MFN.

Национальный режим (National Treatment)

Несмотря на широкие возможности MFN-принципа, он не всегда гарантирует полное равенство условий для иностранных инвесторов. Именно поэтому MFN, как правило, дополняется принципом национального режима, который обеспечивает иностранным инвесторам те же права и условия, что и местным компаниям.

Таким образом, правовая политика FDI определяет не только количество и качество иностранных инвестиций в стране, но и их долгосрочную устойчивость. Современные государства стремятся к тому,

чтобы создать сбалансированные условия, которые одновременно привлекали бы инвестиции и защищали национальные интересы¹²⁴.

Принцип национального режима (NT, National Treatment) означает, что иностранные инвесторы должны получать равные условия с местными предпринимателями при схожих обстоятельствах. Многие государства применяют NT для устранения недобросовестной конкуренции, считая его инструментом укрепления экономики. С этой точки зрения, доступ на зарубежные рынки требует недискриминационного подхода, что особенно актуально в условиях глобализации и растущей экономической интеграции. Однако принимающие страны также заинтересованы в защите и развитии национальных отраслей, что требует определенного регулирования NT.

На сегодняшний день мировая экономика остается неравномерной, поэтому в ряде случаев требуется поддержка местных предпринимателей по сравнению с иностранными инвесторами, чтобы достичь баланса. В связи с этим NT-принцип предусматривает несколько исключений:

- Общие исключения – могут быть связаны с национальной безопасностью, общественным здоровьем, порядком и моралью.
- Специальные исключения – охватывают такие сферы, как интеллектуальная собственность, двусторонние тарифные соглашения, меры предосторожности в финансовом секторе или временные макроэкономические меры.
- Индивидуальные исключения для конкретных стран – применяются в зависимости от экономической политики и социальной ситуации.

Объем и количество исключений определяют реальное влияние NT в конкретном инвестиционном соглашении. Кроме того, NT обычно реализуется на взаимной основе между странами, что гарантирует равноправие инвесторов.

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АНАЛИЗ ФИНАНСОВЫХ ПОКАЗАТЕЛЕЙ КОМПАНИИ

***Аннотация:** В статье рассматриваются теоретические и прикладные аспекты анализа финансовых показателей компании как одного из ключевых инструментов финансового менеджмента. Анализируются основные методы и коэффициенты, применяемые для оценки ликвидности, рентабельности, финансовой устойчивости, деловой активности и инвестиционной привлекательности предприятия. Особое внимание уделяется значению комплексного подхода к финансовой диагностике и важности регулярного мониторинга ключевых индикаторов для принятия управленческих решений. Приводятся примеры практического применения анализа и современные цифровые инструменты, используемые в этом процессе.*

***Ключевые слова:** финансовый анализ, коэффициенты, ликвидность, рентабельность, деловая активность, устойчивость, финансовая отчетность, диагностика, показатели*

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ANALYSIS OF FINANCIAL AND ECONOMIC ACTIVITIES OF TRADING ENTERPRISES

Abstract: *The article examines the features of analyzing the financial and economic activities of trading enterprises in the modern economic environment. It reveals key indicators, methods, and tools for evaluating efficiency in trade, including the analysis of revenue, expenses, profitability, inventory turnover, liquidity, and financial stability. Modern approaches to comprehensive diagnostics are presented, problems of resource management in trade are discussed, and ways to improve economic efficiency are proposed.*

Keywords: *trading enterprise, financial analysis, profitability, turnover, liquidity, financial stability, efficiency*

Введение

Финансовый анализ представляет собой важнейший инструмент оценки текущего состояния и перспектив развития предприятия. Он служит основой для принятия обоснованных управленческих решений, а также используется инвесторами, кредиторами, государственными органами и другими заинтересованными сторонами. Эффективный анализ позволяет выявить сильные и слабые стороны финансово-хозяйственной деятельности компании, определить степень её устойчивости и инвестиционной привлекательности.

1. Теоретические основы финансового анализа

Финансовый анализ — это процесс оценки финансового состояния компании на основе данных бухгалтерской и управленческой отчётности. Он включает в себя:

- горизонтальный и вертикальный анализ;
- анализ финансовых коэффициентов;
- трендовый и сравнительный анализ;
- факторный анализ.

Целью анализа является диагностика финансового здоровья компании, выявление тенденций и факторов, влияющих на её эффективность.

2. Источники информации для анализа

Основными источниками информации являются:

- бухгалтерский баланс (форма №1);
- отчёт о финансовых результатах (форма №2);
- отчёт о движении денежных средств (форма №4);
- пояснительная записка и приложения.

Также используются внутренние управленческие данные, бизнес-планы, маркетинговые отчёты и др.

3. Анализ ликвидности и платёжеспособности

Анализ ликвидности позволяет оценить способность компании своевременно погашать краткосрочные обязательства. Ключевые показатели:

коэффициент текущей ликвидности (Ктл) = $\frac{\text{Оборотные активы}}{\text{Краткосрочные обязательства}}$

коэффициент быстрой ликвидности (Кбл) = $\frac{\text{Абсолютная ликвидность}}{\text{Краткосрочные обязательства}}$

Нормативные значения и динамика этих коэффициентов сигнализируют о финансовой стабильности и уровне риска невыполнения обязательств.

4. Анализ финансовой устойчивости

Финансовая устойчивость отражает соотношение собственного и заемного капитала. Основные показатели:

- коэффициент автономии (доля собственного капитала);
- коэффициент финансовой зависимости;
- коэффициент соотношения заемных и собственных средств.

Стабильные значения свидетельствуют о способности компании функционировать независимо от внешних источников финансирования.

5. Анализ деловой активности

Показатели деловой активности показывают, насколько эффективно используются ресурсы. Основные коэффициенты:

- оборачиваемость активов;
- оборачиваемость дебиторской и кредиторской задолженности;
- оборачиваемость запасов.

Увеличение скорости оборачиваемости свидетельствует о рациональном управлении ресурсами.

6. Анализ рентабельности

Рентабельность характеризует доходность деятельности компании. Ключевые показатели:

- рентабельность продаж (ROS);
- рентабельность активов (ROA);
- рентабельность собственного капитала (ROE).

Высокая рентабельность отражает способность предприятия эффективно использовать ресурсы для получения прибыли.

7. Анализ инвестиционной привлекательности

Инвесторы и акционеры оценивают:

- чистую прибыль на акцию (EPS);
- дивидендную доходность;
- коэффициент рыночной стоимости к прибыли (P/E);
- экономическую добавленную стоимость (EVA).

Эти показатели помогают определить потенциал роста компании и оценить её привлекательность на рынке капитала.

8. Комплексный подход к анализу

Для получения объективной картины необходимо использовать системный и комплексный подход, включающий:

- сочетание абсолютных и относительных показателей;
- анализ за несколько периодов (тренд);
- сопоставление с аналогичными компаниями отрасли (бенчмаркинг);
- построение рейтингов и моделей (например, модель Альтмана).

Такой подход обеспечивает высокую точность диагностики и обоснованность принимаемых решений.

Заключение

Анализ финансовых показателей компании — это неотъемлемая часть стратегического и оперативного управления. Он позволяет не только оценить текущее положение компании, но и выявить потенциал роста, риски и направления улучшения. В условиях цифровой трансформации и глобальной конкуренции способность к качественному финансовому анализу становится ключевым конкурентным преимуществом.

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ПУТИ СОВЕРШЕНСТВОВАНИЯ СИСТЕМЫ СТРАТЕГИЧЕСКОГО УПРАВЛЕНИЯ КОМПАНИИ «VIVO COMMUNICATION TECHNOLOGY CO. LTD.»

***Аннотация:** в современном мире, характеризующемся стремительным развитием технологий, глобализацией и цифровизацией, электронная торговля играет ключевую роль в стратегическом управлении международным бизнесом. Компания VIVO Communication Technology Co. Ltd. является одним из крупнейших игроков в сфере производства и дистрибуции высокотехнологичных продуктов, таких как смартфоны и смарт-устройства.*

***Ключевые слова:** управление, система управления, стратегическое управление, совершенствование системы управления.*

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WAYS TO IMPROVE THE STRATEGIC MANAGEMENT SYSTEM OF VIVO COMMUNICATION TECHNOLOGY CO. LTD.

***Abstract:** in the modern world, characterized by the rapid development of technology, globalization and digitalization, e-commerce plays a key role in the strategic management of international business. VIVO Communication Technology Co. Ltd. It is one of the largest players in the production and distribution of high-tech products such as smartphones and smart devices.*

***Keywords:** management, management system, strategic management, management system improvement.*

Введение

VIVO Communication Technology Co. Ltd., известная компания, которая выделяется на рынке своим инновационным подходом к производству смартфонов и других технологий. Компания сталкивается с необходимостью постоянного совершенствования своей стратегии в управлении компанией. Повышение эффективности системы и стратегии управления является важной и актуальной темой по причине высокой конкуренции на рынке. Поэтому

компаниям с целью повышения конкуренции, эффективности работы, необходимо улучшать стратегию управления.

Метода и исследования: в данной работе были применены несколько методов исследования. Был использован анализ теоретической информации, сравнение и выводы.

Объектом для исследования в данной статье выбрана компания VIVO Communication Technology Co. Ltd, которая занимается производством смартфонов и аксессуаров к ним. Так же компания занимается разработкой программного обеспечения для смартфонов и приложений. [1]

Изучение в открытых источниках данных системы управления в компании позволило сделать вывод о том, что выбранная компания разработала и реализует 4-е стратегических направления касательно управления: [3]

- инновации в программном обеспечении и приложений для смартфонов;
- повышение производительности труда персонала;
- разработки креативного дизайна в промышленности;
- формирование оптимальной структуры управления.

Компания реализует систему стратегического управления, которая направлена на повышение конкурентоспособности, увеличения доли рынка, повышения узнаваемости бренда.

На основании изученного материала были выявлены основные проблемы в стратегическом управлении компанией: [2]

- высокая зависимость от оф-лайн продаж (в обычных магазинах);
- высокая конкуренция на рынке (множество разных брендов из Китая, которые уже завоевали определённую долю рынка и расположение потребителей);
- на некоторых рынка (в других странах) продукция компании воспринимается как бюджетный бренд и не пользуется особым спросом.

С целью повышения эффективности стратегического управления компанией можно предложить следующие направления:

- повышение эффективности и устойчивости цепочки поставок, что может включать в себя диверсификацию поставщиков и использование аналитики для прогнозирования спроса;
- постоянный мониторинг и анализ потребительских предпочтений для своевременной адаптации продуктового портфеля и маркетинговых стратегий;
- развитие корпоративной культуры, которая поддерживает инновации, сотрудничество и адаптивность к изменениям;
- создание и внедрение эффективной системы управления рисками, чтобы минимизировать потенциальные угрозы для бизнеса;
- внедрение инноваций в деятельность компании, которые позволят усовершенствовать работу персонала.

Каждое из этих направлений требует тщательного планирования и координации, а также вовлеченности всех уровней организации для успешной реализации.

Заключение: Совершенствование системы стратегического управления VIVO Communication Technology Co. Ltd. требует комплексного подхода, включающего анализ текущих стратегий, инновации, диверсификацию, цифровую трансформацию, устойчивое развитие, развитие человеческого капитала и глобальную экспансию. Эти меры помогут компании оставаться конкурентоспособной и успешно развиваться в будущем.

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ОЦЕНКА СИСТЕМЫ СТРАТЕГИЧЕСКОГО УПРАВЛЕНИЯ ВНЕШНЕЭКОНОМИЧЕСКОЙ ДЕЯТЕЛЬНОСТЬЮ КОМПАНИИ «VIVO COMMUNICATION TECHNOLOGY CO. LTD.»

***Аннотация:** В условиях глобализации и усиления международной конкуренции стратегическое управление внешнеэкономической деятельностью становится ключевым фактором успеха для технологических компаний. В данной статье проводится всесторонний анализ системы стратегического управления компании «VIVO Communication Technology Co. Ltd.», одного из ведущих производителей мобильных устройств на мировом рынке. Исследование направлено на выявление ключевых элементов стратегии, которые способствовали успешному расширению компании на международные рынки.*

***Ключевые слова:** стратегическое управление, внешнеэкономическая деятельность, VIVO Communication Technology Co. Ltd., международные рынки, конкурентные преимущества.*

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WAYS TO IMPROVE THE STRATEGIC MANAGEMENT SYSTEM OF VIVO COMMUNICATION TECHNOLOGY CO. LTD.

***Abstract:** In the context of globalization and increasing international competition, strategic management of foreign economic activity is becoming a key success factor for technology companies. This article provides a comprehensive analysis of the strategic management system of VIVO Communication Technology Co. Ltd., one of the leading manufacturers of mobile devices on the global market. The research aims to identify the key elements of the strategy that contributed to the company's successful expansion into international markets..*

***Keywords:** strategic management, foreign economic activity, VIVO Communication Technology Co. Ltd., international markets, competitive advantages.*

Введение

Стратегическое управление ВЭД невозможно без системного анализа внешней среды и собственных ресурсов. От качества анализа напрямую

зависят оперативность и обоснованность управленческих решений. В процессе планирования решают задачи по выработке стратегических целей, оценке ресурсов и потенциальных возможностей, анализу тенденций в сфере маркетинговых исследований на внутреннем и зарубежных рынках, определению стратегии на будущее и выработке конкретных действий, необходимых для её достижения.

Цель статьи — оценить систему стратегического управления внешнеэкономической деятельностью компании, выявить её сильные и слабые стороны, а также определить возможности и угрозы, с которыми сталкивается «VIVO».

Метода и исследования: в данной работе были применены несколько методов исследования. Был использован анализ теоретической информации, сравнение и выводы.

Объектом для исследования в данной статье выбрана компания VIVO Communication Technology Co. Ltd, которая занимается производством смартфонов и аксессуаров к ним. Так же компания занимается разработкой программного обеспечения для смартфонов и приложений. [1]

VIVO Communication Technology Co. Ltd активно осуществляет внешнеэкономическую деятельность. По данным годового отчета компании можно сделать вывод, что основной объем продаж в рамках внешнеторговой деятельности осуществляется в следующие страны:

- Китай – 8% доля рынка, в частности 21% Xiaomi и 17% Apple;
- Индия – 12% доля рынка, в частности через он –лайн продажи (интернет магазины) осуществляется порядка 40% продаж.

Приведем слабые стороны стратегического управления внешнеэкономической деятельности компании: ограниченное присутствие на развитых рынках Европы и США, высокая зависимость от поставщиков комплектующих, недостаточное развитие собственных каналов электронной торговли в ряде регионов.

Далее приведем угрозы стратегического управления внешнеэкономической деятельности компании: растущая конкуренция в сегменте бюджетных смартфонов, экономическая нестабильность в развивающихся странах, ужесточение международного регулирования в сфере электронной торговли.

Далее рассмотрим возможности и угрозы:

- **возможности:** расширение на новые рынки, такие как Ближний Восток и Латинская Америка, внедрение новых технологий в электронную торговлю, повышение эффективности за счёт оптимизации логистики и персонализации клиентского опыта.

- **угрозы:** растущая конкуренция в сегменте бюджетных смартфонов, экономическая нестабильность в развивающихся странах, ужесточение международного регулирования в сфере электронной торговли.

Заключение: Совершенствование системы стратегического управления ВЭД в компании VIVO Communication Technology Co. Ltd. требует

комплексного подхода, включающего анализ текущих стратегий, инновации, диверсификацию, цифровую трансформацию, устойчивое развитие, развитие человеческого капитала и глобальную экспансию. Эти меры помогут компании оставаться конкурентоспособной и успешно развиваться в будущем.

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ПОЗИТИВНОЕ И НЕГАТИВНОЕ ВЛИЯНИЕ МЕЖДУНАРОДНОЙ ИНТЕГРАЦИИ НА ДЕЯТЕЛЬНОСТЬ МЕЖДУНАРОДНЫХ КОМПАНИЙ

Аннотация: В данной статье речь пойдет о позитивном и негативном влиянии международной интеграции на деятельность международной компании. Автор статьи дает значение международной интеграции, а вместе с тем освещает вопросы об актуальности изучения связанных вопросов с влиянием международной интеграции на международные компании.

Ключевые слова: международная интеграция, влияние международной интеграции, уровни международной интеграции.

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POSITIVE AND NEGATIVE IMPACT OF INTERNATIONAL INTEGRATION ON THE ACTIVITIES OF INTERNATIONAL COMPANIES

Abstract: This article will discuss the positive and negative impact of international integration on the activities of an international company. The author of the article gives the meaning of international integration, and at the same time highlights the issues of relevance of studying related issues with the impact of international integration on international companies.

Keywords: international integration, impact of international integration, levels of international integration.

Введение

Международная интеграция – явление, которое оказывает значительное влияние на глобальную экономическую среду. Процесс углубления взаимодействий между странами в различных сферах, от торговли до культурных обменов, предоставляет международным компаниям новые возможности для роста и расширения. Однако, помимо очевидных преимуществ, этот процесс сопровождается и определенными трудностями [2].

Вопрос влияния международной интеграции на деятельность международных компаний актуален в настоящее время, по нескольким причинам:

- усиление межфирменной и межгосударственной конкурентной борьбы, а для укрепления позиций в глобализирующейся экономике необходима кооперация территориально сопряжённых стран;
- расширение деятельности компаний за пределы национальных рынков;
- возможность снизить издержки производства и сбыта;
- снижение расходов, связанных с национальным государственным регулированием, таких как налоги, затраты на природоохранные меры;
- возможность использовать иностранную индустриальную инфраструктуру, а также валютные ресурсы других стран [4].

Однако у международной интеграции есть и отрицательные последствия, например, усложнение структуры и процессов координации, культурные различия, которые могут навредить сотрудничеству.

Проблема международной интеграции просматривается во влиянии, как позитивного, так и негативного, вследствие чего, хотелось бы рассмотреть подробнее о тех результатах, которые прослеживаются на фоне влияния.

Процесс конкурентоспособности мировых экономик постоянно совершенствуется, ввиду непрерывного развития науки и технологий. Этот процесс усиливается необходимостью глубокой международной интеграции, которая способствует координации и гармонизации усилий в научно-техническом сотрудничестве для укрепления потенциала и успешного выхода на международные рынки. Такая интеграция, становясь ключевым фактором, подчеркивает важность взаимодействия в глобальном масштабе. При этом изменения в международных политических отношениях, взаимодействие экономических интересов разных стран и другие факторы оказывают значительное влияние на эти процессы [1].

Необходимо отметить и тот факт, что взаимодействие международных компаний протекает с разной степенью интенсивности, в разных масштабах, проявляясь более четко в одних регионах и менее продуктивно в других.

С одной стороны, участие в международной интеграции позволяет компаниям получать доступ к новым рынкам, расширять свою клиентскую базу и оптимизировать производственные цепочки. С другой стороны, это увеличивает уровень конкуренции, требует значительных инвестиций в адаптацию продуктов под новые рынки и укрепление международных партнерских отношений [3].

Международная интеграция оказывает значительное влияние на деятельность международных компаний, причем это влияние может носить как позитивный, так и негативный характер.

С учетом положительных аспектов, глобальная интеграция предоставляет предприятиям возможности для развития на новых рынках. Это открывает перед компаниями доступ к большему числу потребителей за

пределами рыночных границ, что ведет к повышению продаж и увеличению прибыли.

Нельзя не отметить тот факт, что адаптируя передовые мировые технологии и практики, интеграция значительно повышает качество и стандарты производства продукции. Это не только способствует более высокой удовлетворенности клиентов, но также укрепляет репутацию компании на глобальном уровне.

С другой стороны, интеграция на международном уровне может иметь и негативное влияние на операции бизнеса, особенно учитывая усиление конкуренции. Компании оказываются перед лицом увеличившегося числа крупных игроков рынка, что может привести к уменьшению рыночной доли и создать дополнительное давление на ценовую политику [4].

Также стоит понимать, что наличие политической нестабильности в странах, где осуществляется деятельность международных компаний, может привести к определенному рода трудностям, сформировавшимся на фоне изменений в политической среде, экономической неустойчивости и др.

Исходя из сказанного в данной статье, хотелось бы отметить следующее. Международная интеграция предоставляет компаниям как значительные возможности для роста и развития, так и ставит перед ними ряд различных вызовов. Эффективное управление этими возможностями и рисками является ключом к успешной глобальной стратегии на международном уровне.

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ИККИ РАВОҒЛИ СТАТИК НОАНИҚ ТЎСИНЛАРНИ ЧЕГАРАВИЙ МУВОЗАНАТ УСУЛИДА ҲИСОБЛАШ

Аннотация: Ушбу мақолада чегаравий мувозанат усули билан конструкциянинг юк кўтариш қобилиятини баҳолаш келтириган. Чегаравий мувозанат усули амалётда кенг қўлланилади ва узлуксиз тўсинлар, плиталар ҳамда бошқа конструкция-ларни ҳисоблашда фойдалиналиди

Калит сўзлар: конструкция, чегаравий мувозанат, юк кўтариш қобилияти, деформацияланувчанлик.

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CALCULATION OF TWO-SIDED STATIC INDETERMINATE BEAMS BY THE LIMIT EQUILIBRIUM METHOD

Abstract: In this article, the limit equilibrium method is used to assess the load-bearing capacity of a structure. The limit equilibrium method is widely used in practice and is used to calculate continuous beams, slabs and other structures.

Keywords: structure, ultimate equilibrium, bearing capacity, deformability.

Олиб борилган тадқиқотлар таҳлили шуни кўрсатадики, икки равоқли статик ноаниқ конструкциялар бикрлигини уларнинг белгиланган кесим ўлчамлари ва захира коэффициентлари таъминлайди. С.М.Крилов ва А.А.Гвоздев тадқиқотларининг асосий мақсади икки равоқли статик ноаниқ конструкциялардаги кучларни қайта тақсимланишини эътиборга олган ҳолда уларни мустаҳкамлигини ва юк кўтара олиш қобилиятини аниқлаш бўлган. Икки равоқли статик ноаниқ элементларда арматуранинг бирор бир кесимдаги оқувчанлиги элементнинг деформацияланишига олиб келади. Кучларнинг ўзгармас миқдорида содир бўладиган деформациялар конструкцияда кучларнинг қайта тақсимланишига сабаб бўлади, бу эса ўз навбатида элементда олдинги ўзгаришларни ва аввалги хусусий кучланишларнинг таъсирини йўққа чиқариши мумкин. А.А Гвоздев томонидан икки равоқли статик ноаниқ темирбетон конструкцияларни ҳисоблаш усулининг икки

асосий йўналиши татбиқ этилган. Уларнинг биринчиси, конструкциянинг юк кўтариш қобилиятини баҳолаш мақсадига қаратилган бўлиб, чегаравий мувозанат усулининг яратилишига олиб келган. Чегаравий мувозанат усули амалиётда кенг қўлланилади ва узлуксиз тўсинлар, плиталар ҳамда бошқа конструкцияларни ҳисоблашда фойдаланилади [1]. Чегаравий мувозанат усули конструкция ўзининг юк кўтариш қобилиятини йўқотган пайтини кўриб чиқади. Конструкциянинг юк кўтариш қобилиятини йўқотишидан олдинги ишлаш даври чегаравий мувозанат усули билан ҳисобланганда акс этмайди. Конструкцияларнинг юк кўтариш қобилиятини ҳисоблаш учун чегаравий мувозанат усули деформацияланмайдиган тизимнинг мувозанат тенгламаларидан фойдаланади. Бу тенгламалардан конструкциянинг бузилиш босқичидан, мувозанат тенгламаларида геометрик катталикларнинг ўзгаришини эътиборга олмаган ҳолда фойдаланиш мумкин. Ушбу шартга риоя қилиш чегаравий мувозанат усулининг биринчи шартини ташкил этади. Чегаравий мувозанат усулининг биринчи шarti қуйидагича таърифланади: Конструкция юк кўтариш қобилиятини юқотгунга қадар деформацияси шунчалик кичик бўлиши керакки, мувозанат шартларига кирувчи геометрик катталикларнинг ўзгаришини эътиборга олинмайди.

Конструкциянинг юк кўтариш қобилиятини чегаравий мувозанат усули билан аниқлаш икки йўл билан амалга оширилади. Биринчи усулда энг катта юк топилади, бунда тизимнинг барча элементлари учун мувозанат шартлари ва чегаравий шартларга бир вақтнинг ўзида риоя қилиш имкони бўлади. Иккинчи усулда эса, кинематик жиҳатдан мумкин бўлган ҳолатларни кўриб чиқиб, мумкин бўлган силжишларда ташқи кучлар ва чегаравий ички кучлар ишларининг тенглиги билан аниқланадиган юкларнинг энг кичиги изланади. Энг кичик юкка мос келадиган кинематик жиҳатдан мумкин бўлган ҳолат, конструкциянинг юк кўтариш қобилияти тугаганда унинг синиш схемасини белгилайди. Конструкцияларнинг юк кўтариш қобилиятини аниқлашнинг биринчи усули статик, иккинчиси эса кинематик усул деб юритилади. Қуйидаги мисолда кўриб чиқсак: Тўсининг таянч қисмида A_{s1} ва A_{s2} ораликда A_s арматура билан қурилмасак шунда таянчлардаги чегаравий моментлар қийматлари қуйидаги кўринишда бўлади: таянчларда $M_1 = \bar{A}_{s1} \sigma Z_1$ ва $M_2 = \bar{A}_{s2} \sigma Z_1$ ораликда $M^{op} = \bar{A}_s \sigma Z_1$. Арматура юзаларига мост равишда моментлар ҳам қуйидаги кўринишда бўлади $M_1 \leq M_2 \leq M^{op}$. Тўсинга тасир қиладиган P кучни ва таянч ҳамда оралик моментни, боғловчи мувозанат шартини қуйидаги формула билан ифодаланилади

$$\frac{PL}{4} = M^{op} + \frac{M_1 + M_2}{2} \quad (1)$$

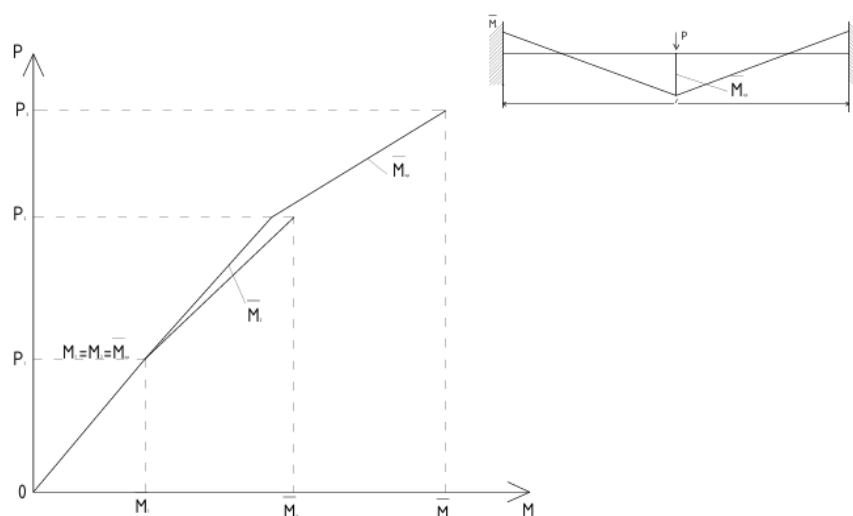
Таянч ва оралик кесимлар учун чегаравий шартларни қуйидаги кўринишда ифодалаш мумкин:

$$M_1 \leq \overline{M}_1; M_2 \leq \overline{M}_2; M^{op} \leq \overline{M}^{op}. \quad (2)$$

Р юк ортиб бориши билан таянч ва оралик моментлари ҳам ортиб боради. Тўсининг иш жараёнининг ушбу босқичида моментлар қийматлари ўртасидаги нисбатлар юк кўтариш қобилиятини йўқотишининг якуний босқичида муҳим аҳамиятга эга эмас. Фараз қилайлик, Р юкланишда чап таянчда биринчи пластик шарнир ҳосил бўлади. Бу юкланишда биринчи чегаравий шарт $M = \overline{M}$ тенгликка айланади. Р юкланишда ҳам мувозанат шарти, ҳам чегаравий шартлар қаноатлантирилади. Икки равоқли статик ноаниқ тўсинда пластик шарнир ҳосил бўлгандан кейин, оралик ва ўнг таянчдаги моментлар ошиши ҳисобига таъсир қилаётган юкмаларни яна ошириш мумкин. Таъсир қилаётган P_2 юкламада ўнг таянчда иккинчи пластик шарнир ҳосил бўлиб, чегаравий қийматга тенг доимий катталиқни ҳосил қилади. Конструкциянинг юк кўтариш қобилиятини аниқлайдиган Р юкнинг қиймати мувозанат шартидан моментларнинг қийматларини чегаравий қийматга қўйиш мумкин. Бузувчи юкнинг қиймати қуйидаги кўринишда ёзилади.

$$\overline{P} = \frac{2}{l}(2M^{op} + \overline{M}_1 + M_2) \quad (3)$$

Юқорида келтирилган мулохазаларни график тарзда тасвирласак қуйидаги кўринишда бўлади (1-расм).



1-расм. Икки учи маҳкамланган, эгилувчи тўсиннинг таянч ва ораликларида эгувчи моментларнинг ўсиш интенсивлигинининг ўзгариши.

1-расмдан кўриниб турибтики тўсинга тасир қиладиган P кучнинг миқдори ортиб бориши билан, таянч ва ораликларда моментлар ўзгаради.

Хулоса: Юқоридаги графикдан хулоса қилиб айтиш мумкинки тўсинга тасир қиладиган кучлардан ҳосил бўладиган ёриқлар тўсин оралиғи ва таянчларда юкларнинг қайта тақсимланишига тўсиқ бўлмайди. P_1 , P_2 ва P_3 юклар мос равишда чап ва ўнг таянчларда ва ораликларда уларнинг чегаравий қийматларига эришиш моментларига жавоб беради.

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«ЗДОРОВЬЕ ЖЕНЩИНЫ» МОРФОЛОГИЧЕСКИЕ АСПЕКТЫ РАКА МАТКИ

Аннотация: В статье рассматриваются морфологические аспекты рака матки, включая гистологические типы, особенности клеточной дифференцировки и патологические изменения тканей. Особое внимание уделено классификации злокачественных новообразований эндометрия и шейки матки, их гистогенезу и молекулярно-биологическим маркерам

Ключевые слова: рак матки, гистологические формы, аденокарцинома, плоскоклеточный рак, предопухолевые заболевания, клинико-морфологический анализ.

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« WOMEN'S HEALTH » PHOLOGICAL ASPECTS OF UTERINE CANCER

Abstract The article discusses the morphological aspects of uterine cancer, including histological types, features of cell differentiation and pathological changes in tissues. Particular attention is paid to the classification of malignant neoplasms of the endometrium and cervix, their histogenesis and molecular biological markers

Key words: uterine cancer, histological forms, adenocarcinoma, squamous cell carcinoma, precancerous diseases, clinical and morphological analysis

Актуальность. Рак матки является одним из распространенных патологий в мире и в том числе в Узбекистане.

Внимание медицинских работников по всему миру направлена на раннюю диагностику рака в прединвазивной стадии.

Хотя и обширна литература по клиника - морфологической характеристики этой патологии, однако представляет несомненный интерес

для клинической онкологии любые статистико-морфологические локальные исследования рака матки.

Цель исследования. Нами проведено изучение операционно - биопсийных материалов по раку матки, поступивших за последние 10 лет в I - ую клинику СамМУ. Проводился клинико - морфологический анализ зависимости от конкретных гистологических форм и локализаций рака матки.

Материалы и методы исследования. В настоящий анализ включены материалы 227 больных, в возрасте 29-79 лет. 78 из них составляли операционно удаленные матки, 149 приходится на раковые опухоли установленные по целевым биопсиям. Оперированные больные были в возрасте 29 -79 лет, а биоптаты взяты у 29-69 летних. Срезы препаратов окрашены гематоксилин -эозином.

Результаты исследования. Результаты показали, что из числа оперированных у 47 имело место рак тела и у 31 рак шейки матки. У 11 больных обнаружен неинвазивный, а у 20- инвазивная форма рака шейки. Рак шейки чаще наблюдался у женщин в возрасте 29-51 лет, а рак тела матки у женщин более старшего возраста, то есть, 41-79 лет.

По гистологическому строению у 7 больных установлена хорионэпителиома. Эти больные были в возрасте 27-44 лет. По операционному материалу чаще распознаны варианты аденокарциномы - 49 случаев, растущие из тела матки. В шейки матки чаще всего был распознан плоскоклеточный рак. Намного реже наблюдался аденокарцинома тела матки (9 больных) и недифференцированная карцинома (5 больных). По биопсийному материалу установлен рак у 149 больных. 27 больным, в возрасте 29-44 лет была выставлена преинвазивная карцинома (carcinoma in situ). Анализ клинических материалов показали, что к раку матки часто предшествовали рецидивирующие воспалительные процессы, гиперплазии эндометрия, дисплазии, полипозы эндометрия, аденомиоз, атипическая железистая гиперплазия, лейкоплакия и эрозии шейки матки.

Выводы. Проведенный анализ материалов 227 женщин показали, что рак шейки матки сравнительно чаще наблюдался в возрасте 29-51 лет. У этих больных в анамнезе имелись пролонгированные дисгормональные заболевания, хронические цервициты, дисплазии и лейкоплакии. В теле матки чаще всего развивалась аденокарцинома, а в шейки - плоскоклеточный рак. Рак матки чаще развивался на фоне облигатных, либо факультативных предопухолевых заболеваний.

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СОВРЕМЕННЫЕ ПРОБЛЕМЫ ОРГАНИЗАЦИИ ХИРУРГИЧЕСКОЙ ПОМОЩИ ПРИ НЕОГНЕСТРЕЛЬНЫХ РАНЕНИЯХ МЯГКИХ ТКАНЕЙ ВОЕННОСЛУЖАЩИХ В СИСТЕМЕ МЕДИЦИНСКОГО ОБЕСПЕЧЕНИЯ ВОЙСК

***Аннотация.** В статье рассматриваются актуальные проблемы организации хирургической помощи при неогнестрельных ранениях мягких тканей у военнослужащих на передовых этапах медицинской эвакуации. Проанализированы основные риски и трудности, включая высокий уровень микробной контаминации ран, недостаток современных антисептических средств, отсутствие стандартизированных алгоритмов оказания помощи, а также недостаточную подготовку медицинского персонала. Отмечается необходимость комплексного подхода к решению данных проблем с учетом специфики военно-полевых условий и современного уровня боевой медицины.*

***Ключевые слова:** военно-полевая хирургия, неогнестрельные ранения, мягкие ткани, инфекционные осложнения, антисептические средства, медицинская эвакуация, стандартизация помощи, военно-медицинская подготовка, раневой процесс, организация хирургической помощи.*

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MODERN ISSUES IN THE ORGANIZATION OF SURGICAL CARE FOR NON-GUNSHOT SOFT TISSUE INJURIES IN MILITARY PERSONNEL WITHIN THE SYSTEM OF MEDICAL SUPPORT FOR THE ARMED FORCES

***Abstract.** The article examines current issues in the organization of surgical care for non-gunshot soft tissue injuries in military personnel at the forward stages of medical evacuation. The main risks and challenges are analyzed, including a high level of microbial contamination of wounds, a shortage of modern antiseptic agents, the absence of standardized treatment protocols, and insufficient training of medical personnel. The study highlights the need for a comprehensive approach to addressing these problems, taking into account the specifics of field conditions and the current state of military medicine.*

Keywords: *Field surgery, non-gunshot injuries, soft tissues, infectious complications, antiseptic agents, medical evacuation, standardization of care, military medical training, wound healing process, organization of surgical care.*

Введение. В условиях современной военно-медицинской практики особое значение приобретает организация своевременной и эффективной хирургической помощи при неогнестрельных ранениях мягких тканей военнослужащих, особенно на передовых этапах медицинской эвакуации. Несмотря на отсутствие огнестрельного характера, такие травмы нередко сопровождаются тяжелыми осложнениями, включая инфицирование, нарушением трофики тканей и длительными сроками восстановления, что требует высокой квалификации медперсонала, четких алгоритмов оказания помощи и использования современных антисептических средств. В связи с этим является актуальным рассмотрение ключевых организационных, кадровых и методологических проблем, мешающие эффективной реализации медицинской помощи в условиях боевых действий и полевых учений.

Анализ литературы. Проведённый анализ научной литературы показывает, что на сегодняшний день в организации хирургической помощи военнослужащим с неогнестрельными ранениями мягких тканей в условиях вооруженных конфликтов и военных учений наблюдается множество недостатков, которые существенно сказываются на эффективности системы медицинского обеспечения войск в целом. Так, военно-полевая практика свидетельствует о наличии актуальных проблем в данном направлении, в частности: высокий риск развития инфекционных процессов, таких как гнойно-септические осложнения, из-за несвоевременной или неадекватной первичной обработки ран военнослужащих; нехватка действенных антисептических средств в местах оказания первой медицинской помощи военнослужащим на передовых этапах их медицинской эвакуации; проблемы стандартизации и алгоритмов оказания помощи военнослужащим на передовых этапах их медицинской эвакуации; недостаточная подготовка военнослужащих по контракту рядового и сержантского состава военно-медицинских служб в аспекте диагностирования и оказания помощи при неогнестрельных мягкотканевых ранениях.

В аспекте высокого риска развития инфекционных процессов при неогнестрельных ранениях мягких тканей **В.В. Бесчастнов, Д.А. Балогланлы, К.Т. Тулеуов и др.** выделяют возможные характеристики раневого процесса у военнослужащих. Так, в рамках механизма травмы: неогнестрельные ранения у военнослужащих часто связаны с воздействием тупых или режущих предметов, что приводит к разрывам, ушибам, сдавлениям тканей; возможны повреждения от взрывной волны или контакт с грубыми поверхностями (например, почвой, металлическими предметами), что увеличивает вероятность загрязнения раны с вытекающими последствиями. По типам, полученные ранения военнослужащих подразделяются на: открытые (рваные, резаные, колотые) раны, которые отличаются разнообразием глубины и

протяженности повреждений; закрытые - повреждения (гематомы, ушибы) могут осложняться инфекцией при наличии подкожных разрывов и некроза тканей. Относительно фаз раневого процесса: воспалительная фаза, т.е. реакция на повреждение сопровождается выделением экссудата, отеком и инфильтрацией тканей; пролиферативная фаза, т.е. начальная регенерация тканей с формированием грануляций. Фаза ремоделирования, т.е. формирование рубца, которая может затрудняться при инфицировании [3, 4, 15].

А.Х. Бабаджанов, А.Н. Карпалин, В.А. Терентьев, Л.Г. Мурзаева и др. акцентируют внимание на микробной контаминации при неогнестрельных ранениях мягких тканей военнослужащих в условиях вооруженных конфликтов и военных учений. В частности, учёными выделяются следующие особенности: высокая степень загрязнения - раны военнослужащих, полученные в полевых условиях, часто загрязнены микроорганизмами из окружающей среды, включая почву, воду, растительность, а также снаряжение и одежду; полимикробная инфекция - часто наблюдается контаминация смешанными штаммами бактерий, основные возбудители которых являются «*Staphylococcus aureus*» (включая метициллин-устойчивые штаммы MRSA), анаэробные бактерии, включая «*Clostridium perfringens*» (риск газовой гангрены), грамположительные и грамотрицательные бактерии, такие как «*Pseudomonas aeruginosa*», «*Escherichia coli*»; биопленки - микроорганизмы формируют биопленки на поверхности раны, что увеличивает устойчивость к антибиотикам и замедляет заживление [2, 11].

В аспекте нехватки действенных антисептических средств в местах оказания первой медицинской помощи при неогнестрельных ранениях мягких тканей военнослужащих на передовых этапах их медицинской эвакуации А.А. Холодарь, В.В. Емелин, А.Е. Кузнецов, Д.Ю. Мадай и др. отмечают, что данная проблема требует системного подхода. В частности, внедрения в военно-полевую практику эффективных форм антисептиков: растворов на основе повидон-йода или хлоргексидина, обладающие длительным эффектом; современных антисептиков с наноразмерными частицами серебра или меди; готовых перевязочных материалов с антисептическими компонентами, т.е. перевязочных материалов, содержащие серебро, медь или антибактериальные покрытия, которые сокращают потребность в отдельных растворах [9, 13, 16].

По результатам проведенных исследований А.Е. Дорохов, С.Р. Акперова, С.Г. Просветов, Ю.Ф. Ермолаев и др. пришли к выводам, что нехватка эффективных антисептических средств на передовых этапах медицинской помощи военнослужащим является серьезной проблемой в условиях боевых действий или полевых учений. Эта проблема напрямую влияет на качество медицинской помощи и увеличивает риск инфекционных осложнений. В качестве основных причин нехватки антисептических средств ученые выделяют следующие: логистические сложности - ограниченная доставка медицинских средств из-за сложных условий боевых действий или

удаленности мест дислокации, непредсказуемые задержки в снабжении из-за нарушений в логистических цепочках; недостаточное планирование - ошибочная оценка потребности в антисептических средствах на разных этапах оказания помощи, нехватка финансирования или внимания к обеспечению передовых медицинских пунктов; хранение и порча антисептиков - условия хранения (например, высокие температуры, влажность) могут снижать эффективность антисептических средств или приводить к их порче; устаревшие препараты - использование антисептиков, которые не соответствуют современным стандартам или недостаточно эффективны против новых штаммов бактерий [7, 10].

В аспекте стандартизации и алгоритмов оказания помощи при неогнестрельных ранениях военнослужащих на передовых этапах их медицинской эвакуации И.В. Гладинец, Н.В. Шатрова, Е.И. Дубынина и др. отмечают, что данная проблема весьма актуальна. На сегодняшний день стандартизация и наличие четких алгоритмов оказания помощи являются ключевыми для эффективного и своевременного лечения военнослужащих, особенно в условиях передовых этапов медицинской эвакуации. Однако в современной системе медицинского обеспечения войск существует ряд проблем, связанных с этим вопросом: недостаток единых стандартов и протоколов, т.е. отсутствие унифицированных протоколов диагностики, первичной хирургической обработки и дальнейшего лечения ран в полевых условиях. Различие подходов к оказанию помощи в зависимости от подразделений, опыта медицинского персонала или наличия ресурсов; сложности адаптации протоколов к военно-полевым условиям - алгоритмы, разработанные для стационарных условий, часто трудно применимы в боевых или полевых условиях из-за ограниченных ресурсов (антисептики, перевязочные материалы, медикаменты), недостатка времени для выполнения полного объема процедур, ограничений, связанных с географическими или климатическими условиями; недостаточный уровень подготовки медицинского персонала - не все военно-медицинские специалисты имеют достаточную подготовку для работы по современным стандартам. Наблюдается недостаточная практическая отработка алгоритмов в рамках тренировок и учений; отсутствие автоматизированных систем поддержки - недостаток мобильных приложений, подсказок или автоматизированных систем для медицинского персонала, которые могли бы обеспечивать пошаговое руководство в экстренных ситуациях; разнообразие типов ранений и необходимость адаптивного подхода - военнослужащие могут получать широкий спектр повреждений (травмы мягких тканей, переломы, ожоги, сочетанные травмы), что требует гибкости в применении стандартов. Общие алгоритмы не всегда могут учитывать индивидуальные особенности конкретных случаев; нехватка ресурсов для реализации стандартов - алгоритмы, предполагающие наличие определенных медицинских средств и оборудования, могут быть невыполнимы из-за их отсутствия в полевых условиях [5, 8, 17].

В аспекте недостаточной подготовки военнослужащих по контракту рядового и сержантского состава военно-медицинских служб по вопросам диагностирования и оказания помощи при неогнестрельных мягкотканевых ранениях Пономарева В.Ф., С.А. Анашкина, А.С. Гура, Е.В. Малинина, А.Л. Лезин и др. отмечают, что данная проблема очень значимая особенно в условиях передовых этапов медицинской эвакуации. Это связано с ограниченными ресурсами, сложностью ранений и необходимостью оперативного принятия решений в военно-полевых условиях. В качестве основных особенностей данной проблематики ученые отмечают следующие: недостаточный уровень теоретической подготовки военнослужащих военно-медицинских служб - отсутствие глубоких знаний о патофизиологии и специфике неогнестрельных ранений мягких тканей (например, рваных, колотых, ушибленных ран), недостаточное внимание к изучению особенностей диагностики и лечения инфекционных осложнений, характерных для таких ранений, нехватка информации о современных антисептических и перевязочных средствах, методах их применения; ограниченные практические навыки военнослужащих военно-медицинских служб - отсутствие регулярных практических тренировок по обработке мягкотканевых ранений в условиях, приближенных к военно-полевым, недостаток опыта работы в стрессовых ситуациях, когда необходимо быстро диагностировать и принять оптимальные решения, низкий уровень навыков первичной хирургической обработки ран в полевых условиях, что повышает риск осложнений; сложности диагностики в полевых условиях - ограниченность оборудования для диагностики, недостаток знаний о признаках глубоких повреждений мягких тканей, которые могут быть не очевидны при поверхностном осмотре, неспособность быстро выявить признаки развивающихся осложнений, таких как инфекция, некроз или газовая гангрена; отсутствие специализированных тренингов для подготовки военнослужащих военно-медицинских служб - недостаточное количество программ повышения квалификации, посвященных именно неогнестрельным мягкотканевым ранениям, мало внимания уделяется обучению в условиях симуляции боевых действий, что затрудняет подготовку к реальным ситуациям; проблемы психологической подготовки военнослужащих военно-медицинских служб - специалисты часто не готовы работать в условиях высокого стресса, ограниченного времени и сложных полевых условий, отсутствие устойчивости к психологическим нагрузкам может снижать их эффективность и способность быстро принимать решения [1, 6, 12, 14].

Выводы. Таким образом, исходя из вышеизложенного полагается целесообразным заключить, что современные проблемы организации хирургической помощи при неогнестрельных ранениях мягких тканей у военнослужащих связаны с рядом факторов, включая организационные, технические, кадровые и методологические аспекты. При этом, в качестве приоритетных, большинство исследователей выделяют проблемы, связанные с высокой вероятностью инфицирования неогнестрельных ранений мягких

тканей, которые часто сопровождаются контаминацией бактериями из окружающей среды, полевых условий. Кроме того, насущной проблемой вступает слабые навыки медицинского персонала относительно работы именно в военно-полевых условиях, экстремальных, максимально приближенных к боевым, обработки неогнестрельных ранений мягких тканей, с учетом специфики боевых действий.

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СУЩНОСТЬ МЕТОДОВ И ФОРМ ПРОГНОЗИРОВАНИЯ И ПЛАНИРОВАНИЯ ДЕЯТЕЛЬНОСТИ ПРЕДПРИЯТИЙ В СОВРЕМЕННЫХ УСЛОВИЯХ

***Аннотация.** Планирование выступает самой важной функцией, с которой начинается процесс управления. Только с его помощью можно определить задачи, поставленные перед организацией, и выбрать необходимые пути их решения. Актуальность данной проблемы связана с необходимостью повышенного внимания к планированию производственных процессов со стороны руководителей организаций. В статье приводится анализ этапов планирования с указанием цели каждого из них. Автор описывает основные подходы к планированию, а также, указывает на значимость стратегического планирования как основы повышения эффективности деятельности компании.*

***Ключевые слова:** планирование, управление, производство, организация, менеджмент, руководство, контроль, этапы планирования, стратегическое планирование.*

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THE ESSENCE OF METHODS AND FORMS OF FORECASTING AND PLANNING THE ACTIVITIES OF ENTERPRISES IN MODERN CONDITIONS

***Abstract.** Planning is the most important function that initiates the management process. It is only through planning that an organization can define its objectives and determine the necessary means to achieve them. The relevance of this issue is associated with the growing need for managerial attention to the planning of production processes. The article analyzes the stages of planning, indicating the purpose of each. The author describes the main approaches to planning and emphasizes the importance of strategic planning as a foundation for increasing company performance and efficiency.*

Keywords: *planning, management, production, organization, leadership, control, planning stages, strategic planning.*

Современные условия ведения бизнеса отличаются высокой степенью нестабильности и неопределенности. Изменчивость внешней среды, ужесточение конкуренции, быстрый научно-технический прогресс — все это требует от организаций способности к гибкому и дальновидному управлению. В этой связи возрастает значение стратегического планирования и прогнозирования как ключевых инструментов обеспечения устойчивого развития организации.

Стратегическое планирование представляет собой процесс определения долгосрочных целей и направлений развития организации, выбора приоритетных путей и средств их достижения. Его основная задача заключается в создании основы для принятия управленческих решений, позволяющих достигать поставленных целей с учетом существующих и прогнозируемых изменений внешней и внутренней среды.

Одним из ключевых этапов стратегического планирования является анализ внешней и внутренней среды организации. Внешний анализ включает исследование политических, экономических, социальных и технологических факторов (PEST-анализ), а также анализ отрасли и конкурентной среды. Внутренний анализ позволяет выявить сильные и слабые стороны организации, оценить ресурсы и потенциал. На основании этих данных формулируются миссия, видение и стратегические цели.

Миссия организации отражает её предназначение и основную идею существования, определяет круг интересов и ценностей, которые она представляет. Видение описывает желаемое будущее состояние организации, к которому она стремится. Стратегические цели конкретизируют направления развития и служат ориентиром для разработки конкретных планов и программ.

На следующем этапе осуществляется выбор стратегий, которые представляют собой обобщенные модели действий, направленных на достижение стратегических целей. Выбор стратегий основывается на результатах анализа и может включать стратегии роста, стабилизации или сокращения. При этом важно учитывать риски и возможности, оценивать ресурсы и компетенции организации.

Стратегическое планирование невозможно без качественного прогнозирования. Прогнозирование деятельности организации позволяет оценить вероятные изменения внешней и внутренней среды, предвидеть угрозы и возможности, определить тенденции и направления развития. Основная цель прогнозирования — минимизировать неопределенность и обеспечить основу для принятия обоснованных решений.

Методы прогнозирования разнообразны и зависят от специфики организации и отрасли. К ним относятся экспертные оценки, экономико-математическое моделирование, экстраполяция тенденций, сценарный

анализ. Каждый из методов имеет свои преимущества и ограничения, поэтому на практике часто используется их комбинация для повышения точности прогнозов.

Экспертные оценки основаны на мнении специалистов, обладающих глубокими знаниями и опытом в конкретной области. Этот метод особенно эффективен при прогнозировании новых и слабо изученных явлений. Экономико-математическое моделирование позволяет анализировать сложные взаимосвязи и зависимости между различными факторами, разрабатывать альтернативные сценарии развития.

Сценарный анализ представляет собой разработку нескольких возможных вариантов развития событий с учетом различных факторов и предпосылок. Такой подход помогает организациям быть готовыми к различным вариантам будущего, повышает их адаптивность и устойчивость.

Результатом стратегического планирования и прогнозирования становится стратегический план — документ, в котором определены миссия, видение, стратегические цели и задачи, описаны выбранные стратегии и основные мероприятия по их реализации. Стратегический план служит ориентиром для всей организации, направляет действия руководства и персонала, обеспечивает согласованность и координацию усилий.

Эффективная реализация стратегического плана требует постоянного мониторинга и корректировки. Внешняя среда постоянно меняется, появляются новые риски и возможности, изменяются внутренние условия. Поэтому важно регулярно проводить оценку выполнения стратегического плана, анализировать отклонения и при необходимости вносить коррективы.

В современных условиях особую актуальность приобретают такие направления стратегического планирования, как цифровая трансформация, устойчивое развитие и социальная ответственность бизнеса. Цифровизация открывает новые возможности для повышения эффективности и конкурентоспособности организаций, требует учета новых рисков и вызовов. Устойчивое развитие предполагает гармоничное сочетание экономических, социальных и экологических интересов, долгосрочную ответственность перед обществом и будущими поколениями.

Особое внимание следует уделять формированию корпоративной культуры, способствующей реализации стратегических целей. Важными аспектами здесь являются развитие лидерских качеств у менеджеров, обучение персонала, стимулирование инновационной активности. Корпоративная культура, ориентированная на достижение высоких результатов, способствует укреплению позиций организации на рынке.

Важным элементом стратегического управления является система сбалансированных показателей, позволяющая контролировать выполнение целей и оценивать эффективность деятельности организации. Она охватывает финансовые и нефинансовые показатели, что позволяет учитывать все аспекты развития компании.

Инновации также играют важную роль в стратегическом развитии. Внедрение новых технологий, развитие новых продуктов и услуг обеспечивают компании конкурентные преимущества и открывают доступ к новым рынкам. Инновационная активность способствует росту эффективности и устойчивости бизнеса.

Дополнительным направлением стратегического планирования становится управление изменениями. В условиях постоянной трансформации внешней среды способность организации быстро адаптироваться и внедрять изменения становится критически важной. Управление изменениями включает в себя оценку готовности коллектива к трансформациям, разработку программ обучения и мотивации сотрудников, а также создание системы поддержки изменений на всех уровнях управления.

Неотъемлемой частью успешного стратегического планирования является управление знаниями в организации. Формирование эффективной системы накопления, хранения и передачи знаний способствует повышению квалификации персонала и созданию базы для инновационного развития. Знаниевый потенциал становится важнейшим конкурентным преимуществом компании в условиях экономики знаний.

В современных реалиях значимость приобретает внедрение гибких методологий управления проектами, таких как Agile и Scrum. Эти подходы позволяют организациям быстрее реагировать на изменения внешней среды, повышают вовлеченность сотрудников и способствуют более эффективной реализации стратегических инициатив.

Также необходимо учитывать важность стратегических альянсов и партнерств. Совместная деятельность с другими организациями, обмен технологиями и опытом позволяют снижать затраты, расширять рынки сбыта и укреплять позиции на рынке. Грамотно выстроенные партнерские отношения усиливают конкурентные преимущества и открывают новые горизонты для роста.

Стратегическое планирование и прогнозирование становятся важнейшими элементами управления, без которых невозможно успешное функционирование и развитие организации. Они обеспечивают основу для принятия обоснованных решений, помогают минимизировать риски и использовать возникающие возможности, способствуют повышению эффективности и устойчивости бизнеса.

В заключение следует отметить, что стратегическое планирование и прогнозирование — это не разовые мероприятия, а непрерывный процесс, требующий системного подхода, вовлечения руководства и персонала, использования современных методов и инструментов. Только при таком подходе организация сможет обеспечить себе долгосрочный успех и устойчивое развитие в условиях динамичной и конкурентной среды.

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СТРАТЕГИЧЕСКОЕ ПЛАНИРОВАНИЕ И ПРОГНОЗИРОВАНИЕ ДЕЯТЕЛЬНОСТИ ОРГАНИЗАЦИИ

***Аннотация:** В условиях стремительных изменений во внешней и внутренней среде организации вынуждены адаптироваться к новым вызовам, чтобы не только сохранить свои позиции, но и обеспечить устойчивое развитие. Одним из важнейших элементов управления становится стратегическое планирование и прогнозирование, позволяющее определить долгосрочные ориентиры и выстроить траекторию развития.*

***Ключевые слова:** в каком направлении должна развиваться организация, какие цели необходимо достичь и какими ресурсами следует располагать.*

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STRATEGIC PLANNING AND FORECASTING OF ORGANIZATIONAL ACTIVITY

***Abstract:** In the context of rapid changes in both external and internal environments, organizations are forced to adapt to new challenges not only to maintain their positions but also to ensure sustainable development. Strategic planning and forecasting have become essential elements of management, enabling the determination of long-term goals and the construction of a development trajectory.*

***Keywords:** organizational development direction, strategic goals, resource planning.*

Введение

Сущность и значение стратегического планирования. Стратегическое планирование представляет собой системный и непрерывный процесс, направленный на определение миссии, целей и путей достижения желаемого будущего состояния организации. Особенность стратегического планирования заключается в его ориентированности на длительный период (обычно от 3 до 10 лет), а также в необходимости учитывать множество внешних и внутренних факторов.

Стратегическое планирование – это систематический процесс разработки и реализации планов для достижения долгосрочных или общих целей организации. Данный процесс начинается с определения миссии и видения компании, а затем разработки конкретных стратегических целей и планов для их достижения. В центре стратегического планирования лежит концепция SWOT-анализа, который позволяет оценить сильные и слабые стороны организации, а также выявить возможности и угрозы внешней среды. Эта модель представляет собой всесторонний инструмент анализа текущего положения организации и выбора оптимального пути ее развития. Также существует концепция «ценностных цепочек» Майкла Портера, которая фокусируется на создании ценности в каждом этапе производственного процесса, от исходного сырья до конечного потребителя. Цель этой концепции — максимизировать добавленную стоимость на каждом этапе, оптимизируя ресурсы и минимизируя потери. Концепция «голубого океана», упомянутая ранее, акцентирует внимание на создании новых рыночных ниш, вместо того чтобы конкурировать на перенасыщенных рынках. Суть метода заключается в поиске и создании новых рыночных пространств или «голубых океанов», где конкуренция либо отсутствует, либо минимальна. Еще одной важной концепцией в стратегическом планировании является «Сбалансированная система показателей» (BSC), разработанная Робертом Капланом и Дэвидом Нортон. Эта система предполагает разработку интегрированных показателей производительности, которые сочетают в себе финансовые и нефинансовые метрики, чтобы дать менеджерам полное представление о деятельности компании. Помимо упомянутых концепций, в стратегическом планировании используются и другие инструменты, и методики, такие как PESTEL-анализ (анализ макросреды), матрица Ансоффа (для определения стратегий роста) и многие другие. Каждая из этих концепций служит своей цели и может быть использована в различных ситуациях, в зависимости от специфики компании и вызовов, стоящих перед ней. Но несмотря на разнообразие инструментов и методик, основной целью стратегического планирования всегда остается обеспечение устойчивого роста и конкурентоспособности компании в меняющемся мире.

Главной целью стратегического планирования является обеспечение устойчивости и конкурентоспособности организации в условиях неопределенности. Процесс планирования предполагает анализ текущего положения, прогнозирование будущих изменений, определение возможных сценариев развития и выбор оптимальной стратегии действий.

Основные задачи стратегического планирования:

- Формулирование миссии и видения организации;
- Определение ключевых целей и приоритетов;
- Оценка ресурсов и возможностей компании;
- Выявление внешних угроз и факторов риска;
- Разработка стратегий и программ развития.

Стратегическое планирование включает несколько последовательных этапов:

1. Анализ внешней среды Оценка политических, экономических, социальных, технологических, экологических и правовых факторов (PESTLE-анализ). Этот этап позволяет понять тенденции и угрозы, которые могут повлиять на деятельность организации.

2. Анализ внутренней среды Определение сильных и слабых сторон компании, оценка производственного потенциала, финансовых возможностей, кадрового состава, организационной структуры. Часто используется метод SWOT-анализа.

3. Определение миссии и видения Миссия отражает основное предназначение организации, её философию и ценности. Видение формулирует образ будущего состояния компании.

4. Постановка стратегических целей Цели должны быть конкретными, измеримыми, достижимыми, релевантными и ограниченными во времени (SMART). Они служат ориентиром для всей организации.

5. Разработка стратегий Выбор путей достижения целей. Стратегии могут включать выход на новые рынки, разработку новых продуктов, внедрение инновационных технологий и т.д.

6. Реализация стратегического плана На этом этапе формируются конкретные программы, распределяются ресурсы, назначаются ответственные лица и устанавливаются сроки выполнения задач.

7. Контроль и корректировка стратегии Постоянный мониторинг выполнения стратегии позволяет своевременно выявлять отклонения и вносить необходимые коррективы.

Прогнозирование — неотъемлемая часть стратегического планирования. Оно представляет собой процесс предвидения и количественной оценки будущих изменений во внешней и внутренней среде организации. Прогнозирование позволяет уменьшить неопределенность и повысить обоснованность принимаемых управленческих решений.

Классификация прогнозов:

- По содержанию: экономические, социальные, научно-технические, экологические и др.

- По срокам: краткосрочные (до 1 года), среднесрочные (1-5 лет), долгосрочные (свыше 5 лет).

Основные методы прогнозирования:

- Экспертные оценки (метод Дельфи);
- Экстраполяция тенденций прошлого и настоящего на будущее;
- Сценарный анализ с моделированием нескольких вероятных вариантов развития событий;
- Экономико-математическое моделирование и регрессионный анализ;
- Анализ временных рядов.

Прогнозирование дает возможность определить наиболее вероятные и альтернативные варианты развития ситуации, что способствует выработке гибкой и адаптивной стратегии.

Для повышения эффективности стратегического планирования применяются разнообразные аналитические инструменты:

1. SWOT-анализ Позволяет выявить сильные и слабые стороны компании, а также внешние возможности и угрозы. Это способствует принятию решений, направленных на использование преимуществ и устранение недостатков.

2. PESTLE-анализ Анализ макросреды позволяет учитывать внешние факторы, способные оказывать влияние на бизнес в долгосрочной перспективе.

3. Модель пяти сил Портера Данный метод помогает оценить уровень конкуренции в отрасли, выявить силу покупателей и поставщиков, угрозу появления новых игроков и товаров-заменителей.

4. BSC — сбалансированная система показателей Используется для оценки эффективности реализации стратегии по четырём направлениям: финансы, клиенты, внутренние бизнес-процессы и обучение/развитие.

5. Анализ жизненного цикла продукта Помогает определить стадии развития продукции (введение, рост, зрелость, спад) и спланировать маркетинговую и производственную политику.

В условиях усиливающейся глобализации, цифровизации экономики и постоянных изменений стратегическое планирование становится важнейшим элементом управления организацией.

Значение стратегического планирования:

—Повышение устойчивости бизнеса за счёт своевременного выявления угроз и возможностей;

—Обеспечение согласованности действий всех подразделений организации;

—Снижение рисков благодаря детальному анализу внешней и внутренней среды;

—Формирование долгосрочного конкурентного преимущества;

—Мотивация персонала на достижение общих целей компании.

Грамотная стратегическая работа позволяет организациям не только приспосабливаться к изменениям, но и самим формировать внешнюю среду, влиять на рынок, задавать тренды.

Примеры стратегического планирования на практике Примером успешного стратегического планирования является компания Apple. Благодаря долгосрочной стратегии на инновации, создание уникальных продуктов и развитие экосистемы устройств и сервисов, Apple смогла занять лидирующие позиции на рынке.

Другой пример — стратегическое развитие автомобильной компании Tesla. Илон Маск выстроил поэтапный план: от выпуска дорогих

электромобилей к массовым моделям, параллельно развивая сеть зарядных станций и совершенствуя технологии хранения энергии.

Эти примеры демонстрируют важность стратегического подхода для достижения масштабных целей и успеха на рынке.

Несмотря на значимость и эффективность стратегического планирования, необходимо учитывать существующие риски и ограничения данного процесса:

1. Неопределенность внешней среды Даже самый тщательный анализ не может предусмотреть все изменения внешней среды, такие как экономические кризисы, политические потрясения или глобальные пандемии.

2. Ограниченность ресурсов Внедрение стратегических планов требует значительных временных, финансовых и человеческих ресурсов, которые могут быть ограничены.

3. Человеческий фактор Ошибки в прогнозах, субъективные мнения и неверные управленческие решения способны привести к искажению стратегической картины.

4. Сопротивление изменениям внутри организации Новые стратегии нередко встречают сопротивление со стороны персонала, особенно если они требуют пересмотра привычных методов работы или реорганизации структуры.

5. Сложности в реализации Даже при качественно разработанной стратегии на практике возникают сложности в её исполнении из-за недостаточного контроля, нехватки компетенций или изменения приоритетов.

Заключение

Стратегическое планирование и прогнозирование являются основой эффективного управления организацией. Они позволяют формировать долгосрочные цели, учитывать влияние внешней среды, рационально распределять ресурсы и управлять рисками.

Современные условия требуют от бизнеса высокой степени гибкости и готовности к изменениям. Поэтому именно системное стратегическое планирование позволяет не просто выживать, а добиваться устойчивого развития и укрепления конкурентных позиций на рынке.

Организации, уделяющие должное внимание стратегическому управлению, имеют больше шансов на успех в долгосрочной перспективе, чем те, кто действует спонтанно и без чёткого плана. Стратегия становится не просто документом, а важнейшим инструментом выстраивания эффективной и устойчивой бизнес-модели.

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КОМПЛЕКСООБРАЗОВАНИЕ РЕНИЯ С БЕНЗГИДРОКСАМОВОЙ КИСЛОТОЙ В СОЛЯНОКИСЛЫХ РАСТВОРАХ

Аннотация: Спектрофотометрическим методом изучено взаимодействие рения (VII) с бензгидроксамовой кислотой в кислой среде в присутствии олова(II). Определены устойчивость и состав комплексов. Разработан спектрофотометрический метод определения рения в присутствии ряда элементов, примененный для анализа сплавов и технологических растворов, полученных при обжиге молибденовых концентратов.

Ключевые слова: рений, реагент, соединение, состав, константа, компонент, плотность.

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COMPLEXATION OF RHENIUM WITH BENZHYDROXAMIC ACID IN HYDROCHLORIC SOLUTIONS

Abstract: The interaction of rhenium (VII) with benzhydroxamic acid in an acidic medium in the presence of tin (II) was studied by spectrophotometric method. The stability and composition of the complexes were determined. A spectrophotometric method for determining rhenium in the presence of a number of elements was developed, applied to the analysis of alloys and process solutions obtained during the roasting of molybdenum concentrates.

Keywords: rhenium, reagent, compound, composition, constant, component, density.

Введение. Бензгидроксамовая кислота (БГК) и ее аналоги широко применяются в аналитической химии. БГК образует окрашенные соединения с ионами металлов Co^{2+} , Cu^{2+} , Ni^{2+} , Fe^{3+} , Cr^{3+} , Ti (IV), U (VI), Mo (VI) и другими, экстрагируемыми кетонами и спиртами [1-3].

Мы изучали реакцию комплексообразования рения с БГК в солянокислых растворах. Определены оптимальные условия взаимодействия в системе Re (VII) – HCl – БГК – Sn (II), состав и устойчивость соединений, а также разработан спектрофотометрический метод определения рения в присутствии сопутствующих элементов.

Объект и метод исследования. Для приготовления растворов рения использовали соли NH_4ReO_4 и KReO_4 , очищенные перекристаллизацией. Солянокислый раствор рения (V) в виде K_2ReOCl_5 готовили по методике [2]. В качестве реагента на рений использовали обычную БГК марки ч., очищенную перекристаллизацией из уксусноэтилового эфира.

Комплексообразование рения с БГК. При взаимодействии перренат-иона с БГК в среде HCl в присутствии восстановителя образуется зеленовато-желтое окрашенное соединение с $\lambda_{\text{макс}}$ 340-350 нм. Оптическая плотность достигает максимума в 3-4 М HCl . Повышение или снижение концентрации кислоты уменьшает оптическую плотность растворов (рис. 1), что обусловлено изменением состояния рения и реагента или смещением равновесия в сторону образования хлоридных комплексов.

Рений вступает в реакцию с валентностью < 7 . Поэтому для сдвига равновесия в сторону образования низковалентного рения требуется большой избыток восстановителя Sn (II).

Для достижения максимальной оптической плотности растворов необходим 100-кратный избыток реагента, содержащий 1,2 г олова (II). Измерения показали, что реакция протекает за 2,5-3,0 часа при 20-30 °С.

На образование соединения рения с БГК влияет природа кислот: в HCl , H_2SO_4 , H_3PO_4 и CH_3COOH оптическая плотность наибольшая в соляно- и сернокислой средах. Однако реакция протекает быстрее в сернокислой среде за счет разогрева растворов. В фосфорной кислоте образуется осадок, затрудняющий определение рения. В азотной и хлорной кислотах определение невозможно.

Состав и устойчивость комплекса рения с БГК. Методами сдвига равновесия и пересечения кривых (рис. 2) найдены молярные соотношения реагирующих компонентов при постоянной концентрации рения ($2 \cdot 10^{-4}$ М), HCl (3,3 М), хлорида олова и различной концентрации БГК при $\lambda_{\text{макс}} = 340\text{-}350$ нм.

В растворах кроме соединения с молярным соотношением $\text{Re} : \text{БГК} = 1 : 2$ при низких концентрациях БГК ($2 \cdot 10^{-3}$ - $8 \cdot 10^{-3}$ М) присутствует соединение с соотношением $\text{Re} : \text{БГК} = 1 : 1$.

Условная константа нестойкости комплекса, определенная методами сдвига равновесия, по кривой насыщения, а также графическим методом пересечения кривых (рис 2) равна $2,58 \cdot 10^{-5}$; $1,81 \cdot 10^{-5}$.

Механизм взаимодействия рения с БГК. По данным анализа кривых поглощения системы Re (VII) – HCl – БГК – Sn (II) установлено сохранение формы, положение максимума поглощения, а также образование в оптимальных условиях одного комплексного соединения состава 1 : 2 с $\lambda_{\text{макс}} = 340\text{-}350$ нм.

Определено, что при взаимодействии Re (V), взятого в виде K_2ReOCl_5 в HCl, с БГК образуется соединение, спектр поглощения которого идентичен спектру соединения, полученного в 3,3 н HCl в присутствии олова (II). Эти результаты позволяют предположительно считать рений пентавалентным в его комплексе с БГК.

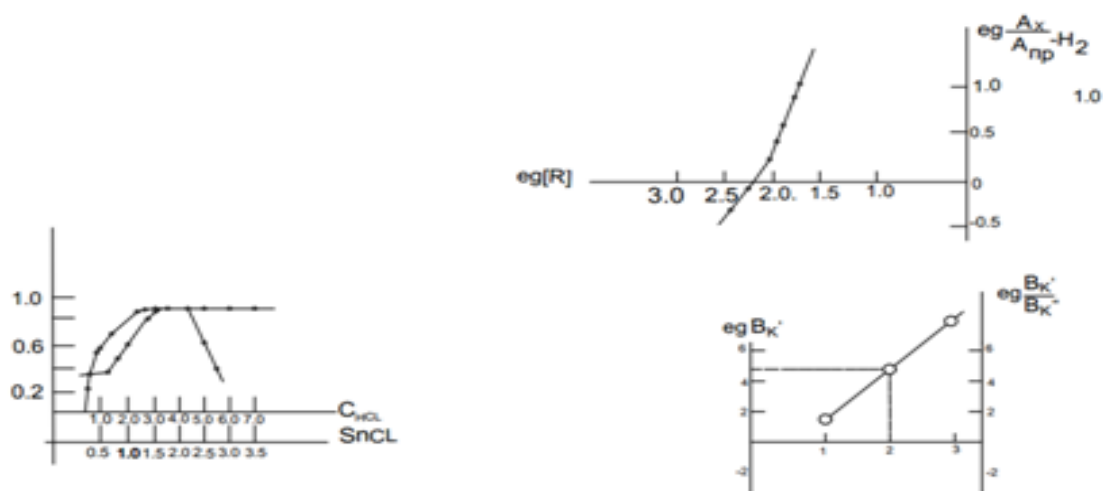


Рис. 1. Влияние концентрации HCl (1) и SnCl_2 (2) на оптическую плотность растворов комплекса рения с БГК ($C_{\text{Re}} = 2 \cdot 10^{-4}$ М; $C_{\text{БГК}} = 2 \cdot 10^{-4}$ М).

Рис. 2. Состав комплекса рения с бензгидроксамовой кислотой, определенный методами сдвига равновесия (1) и пересечения кривых (2) ($C_{\text{Re}} = 2 \cdot 10^{-4}$ М, 3,3 н HCl).

Знак заряда комплексной группы установлен ионообменно-хроматографическим методом с использованием ионитов марок АВ-17 и КУ-2. Доказан его анионный характер.

Для подтверждения данных о составе выделено твердое соединение, в котором соотношение Re и БГК по данным элементного анализа равно 1 : 2.

В ИК-спектре выделенного в твердом виде соединения присутствуют интенсивные полосы при 925 и 965 см^{-1} , обусловленные симметричными и антисимметричными колебаниями группы ReO_2 . В отличие от ИК-спектров БГК в спектре исследуемого комплекса происходит существенное изменение при $3310\text{-}3320$ и $1630\text{-}1640$ см^{-1} , где расположены частоты валентных колебаний соответственно групп OH и CO. Так, в спектре комплексного соединения отсутствует полоса валентного колебания $\nu_{\text{C=O}}$ снижается до $1620\text{-}1600$ см^{-1} .

Таким образом, комплексообразование осуществляется за счет замещения протона OH-группы и координации карбоксильной группы с образованием хелатного цикла.

Соблюдение закона Бера в растворах комплекса. Поглощение комплекса рения с БГК в 3,3 М НСl пропорционально концентрации рения в интервале 4-40 мкг/мл. Для построения градуировочного графика в колбы емкостью 25 мл помещают определенное количество рения (до 1000 мкг), добавляют 5 мл $1 \cdot 10^{-1}$ М раствора БГК, 6 мл НСl (11,34 М), 6 мл 20%-ного раствора SnCl₂ в НСl и дополняют объем до 25 мл дистиллированной водой. После перемешивания измеряют оптическую плотность при $\lambda_{\text{макс}} = 340-350$ нм в кювете с $l = 1$ см через 3,0-3,5 ч.

Молярный коэффициент погашения, рассчитанный методом наименьших квадратов, равен 4540 ± 57 .

Результаты и их обсуждение. По данным о влиянии посторонних элементов на определение рения, в солянокислом растворе определению не мешают 1000 кратные количества Ca²⁺; 500-кратные – Ba²⁺; 400-кратные – Mg²⁺, Zn²⁺, Ca²⁺, Mn²⁺; 200-кратные – Na⁺, K⁺, Pb²⁺, Ni²⁺, Fe³⁺, Al³⁺, Ga³⁺, In³⁺; 100-кратные – Sr²⁺, W (VI); 50-кратные – Cu²⁺, Co²⁺, V⁺; 25-кратные – V (V), Zr (IV); 10-кратные – Tl³⁺, Sb³⁺, Ti (IV), Ge (IV); 5-кратные – Os (IV); 2,5-кратные – Nb⁵⁺; однократные – Cr (VI) и Mo (VI), также 200-кратные количества бром-, тарtrat-, цитрат-ионов и комплексона III, 100-кратные – иодид-, фосфат-, борат-, ацетат-ионов; 50-кратные – оксалат-ионов и 10-кратные – хлорат-ионов. Мешают определению рения Pd, Bi, Se, Pt (темно-коричневое окрашивание).

Mo (VI) и W (VI) в оптимальных условиях комплексов с БГК не образуют, но одновременно с рением восстанавливаются оловом (II). Поэтому следует или повысить концентрацию SnCl₂, либо применять маскирующие реагенты (винную или щавелевую кислоты).

Хорошая избирательность реакции рения с БГК позволила нам разработать методику определения рения в сплавах.

Определение рения в сплавах. Сплав ТР-10 (0,1-0,2 г) растворяли в концентрированной соляной кислоте при слабом нагревании. Затем охлажденный раствор переносили в мерную колбу на 250 мл и разбавляли до метки водой. Для разложения сплавов, содержащих вольфрам (ВР-27), навеску (0,05-0,1 г) помещали в коническую колбу, добавляли 20-30 мл воды и 5-10 мл 30%-ного раствора H₂O₂ и нагревали до полного ее растворения. К полученному раствору добавляли 1-2 мл 25%-ного раствора аммиака и кипятили несколько минут для разрушения пероксида водорода. Затем разбавляли до 150 мл и нейтрализовали 2-3 мл концентрированной НСl. Охлажденный раствор переносили в мерную колбу на 250 мл и разбавляли до метки водой.

Для определения рения аликвотную часть раствора (1-6 мл) отбирали в колбу емкостью 25 мл, вводили 6 мл (11,3 М) НСl, 5 мл 0,1 М раствора БГК, 1 мл 5%-ной винной кислоты (в случае сплава вольфрам-рений) и 6 мл 20%-ного раствора SnCl₂. Через 3,5 часа в кюветах с $l = 1$ см измеряли оптическую плотность раствора при $\lambda_{\text{макс}} = 340-350$ нм. По градуировочному графику

находили содержание рения. Приводим результаты определения рения БГК в сплавах ТР-10 и ВР-27 (навески ТР-10 – 0,1532 г, ВР-27 – 0,0903 г, $n = 5$).

Сплав	Аттестованное содержание рения, г	Найдено рения, г		
		X	S	$X \pm \sigma$
ТР-10	0,01532	0,01529	0,0002236	$0,01529 \pm 0,00028$
ВР-27	0,02438	0,02470	0,001323	$0,02470 \pm 0,00164$

Заключение. Разработанные методы внедрены для контроля технологических растворов, полученных при обжиге молибденовых концентратов, содержащих рений, Мо, W, Re и остаточную серную кислоту, а также для одновременного и раздельного определения рения и Мо с помощью БГК.

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ИССЛЕДОВАНИЕ И АНАЛИЗ КОРПОРАТИВНОЙ СТРАТЕГИИ

Аннотация: Исследование и анализ корпоративной стратегии играют жизненно важную роль в современной бизнес-среде. В этой статье сначала излагается важность и предпосылки исследования корпоративной стратегии, а затем подробно рассматриваются определение и роль корпоративной стратегии, методология исследования, анализ конкретных ситуаций, влияющие факторы и будущие тенденции. Благодаря исследованию и анализу корпоративных стратегий it может помочь компаниям лучше понимать изменения на рынке, формулировать эффективные конкурентные стратегии и повышать свою конкурентоспособность и прибыльность. В заключительной части подчеркивается практическая значимость исследований и анализа корпоративной стратегии, а также направление исследований, направленное на то, чтобы смотреть в будущее, что является полезным источником вдохновения для корпоративного стратегического управления. Исследование и анализ корпоративной стратегии являются ключом к успеху предприятия и будут продолжать играть важную роль в его будущем развитии.

Ключевые слова: Исследование и анализ корпоративной стратегии, ее важность и влияющие факторы

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RESEARCH AND ANALYSIS OF CORPORATE STRATEGY

Summary: Research and analysis of corporate strategy play a vital role in today's business environment. This article first outlines the importance and prerequisites of corporate strategy research, and then discusses in detail the definition and role of corporate strategy, research methodology, analysis of specific situations, influencing factors and future trends. Through research and analysis of corporate strategies, IT can help companies better understand market changes., formulate effective competitive strategies and increase their competitiveness and profitability. The final part highlights the practical importance of research and analysis of corporate strategy, as well as the direction of research aimed at looking

to the future, which is a useful source of inspiration for corporate strategic management. Research and analysis of corporate strategy are the key to the success of the enterprise and will continue to play an important role in its future development.

Keywords: *Research and analysis of corporate strategy, its importance and influencing factors*

1. Важность исследования и анализа корпоративной стратегии

Исследование и анализ корпоративной стратегии - очень важная часть корпоративного управления. Благодаря углубленным исследованиям и анализу корпоративных стратегий it может помочь компаниям сформулировать соответствующие направления развития и достичь долгосрочного устойчивого развития. Исследование и анализ корпоративной стратегии могут помочь компаниям понять динамичные изменения рыночной среды, использовать возможности для развития и решать сложные задачи. Исследования и анализ корпоративной стратегии также могут помочь компаниям повысить свою конкурентоспособность, создать имидж бренда, завоевать долю рынка и максимизировать рост и прибыль. Исследование и анализ корпоративной стратегии также могут помочь компаниям избежать рисков, избежать ошибок и повысить точность и эффективность принятия решений. Исследование и анализ корпоративной стратегии необходимы для развития предприятия и являются одним из ключей к его успеху. В сегодняшней высококонкурентной рыночной среде только постоянное проведение корпоративных стратегических исследований и анализа позволяет нам сохранить конкурентные преимущества и добиться устойчивого развития¹²⁵.

История исследований и анализа корпоративной стратегии уходит корнями в развитие бизнес-менеджмента. В условиях растущей рыночной конкуренции и стремительных изменений в окружающей среде предприятия сталкиваются со многими проблемами и возможностями. В этом контексте исследование корпоративной стратегии стало одним из основных направлений управления предприятием.

В условиях углубления глобализации экономики и стремительного развития информационных технологий предприятия нуждаются в более систематическом и научном подходе при разработке и реализации стратегий. И исследование корпоративной стратегии как раз и направлено на решение этой проблемы. Благодаря углубленному изучению внутренней и внешней среды предприятия, структуры конкуренции в отрасли и распределения ресурсов it может помочь предприятию лучше использовать рыночные возможности, справляться с вызовами и добиваться устойчивого развития.

¹²⁵ Лю Лицин. Монопольный конкурентный рынок и инновационная стратегия предприятия [J]. Научные управленческие исследования, 2022 (4): 15-16.

В нынешних экономических условиях исследование корпоративной стратегии приобретает еще большее значение. В связи с усилением рыночной конкуренции и диверсификацией потребительского спроса компаниям необходимо постоянно корректировать свои стратегии, чтобы адаптироваться к меняющимся рыночным условиям. Постоянные изменения в международной экономической ситуации также привели к большей неопределенности в формулировании корпоративных стратегий.

Усиливают исследования и анализ корпоративной стратегии, углубленно обсуждают теоретические и практические вопросы разработки корпоративной стратегии, оказывают мощную поддержку в принятии корпоративных решений и становятся неизбежным выбором для современного управления предприятием.

2. Определение и роль корпоративной стратегии

Корпоративная стратегия - это планы действий и решения, принимаемые предприятием для достижения долгосрочных целей и преимуществ. Важным руководящим принципом для предприятий является определение направления развития, выбор конкурентных преимуществ и распределение ресурсов на основе внешней среды и внутренних ресурсов. При разработке корпоративных стратегий необходимо всесторонне учитывать такие факторы, как рыночный спрос, конкуренты и технологическое развитие, чтобы гарантировать компаниям успех на высококонкурентном рынке.

Роль корпоративной стратегии в основном отражается в следующих аспектах: Корпоративная стратегия может помочь предприятиям определить свое позиционирование и направление развития, а также избежать слепого следования примеру и пустой траты ресурсов. Корпоративная стратегия может помочь компаниям принимать решения и планировать, эффективно интегрировать ресурсы и повышать операционную эффективность и конкурентоспособность на рынке. Корпоративная стратегия может помочь компаниям гибко реагировать на изменения рынка, сохранять конкурентные преимущества и стабильный рост. Корпоративная стратегия также может помочь компаниям создать имидж бренда и корпоративную культуру, а также повысить корпоративную сплоченность и основную конкурентоспособность¹²⁶.

Определение и роль корпоративной стратегии - это основа и гарантия долгосрочного развития предприятия. Это не только ключевой элемент успеха предприятия, но и важная движущая сила для устойчивого развития предприятия в условиях рыночной конкуренции. Предприятиям следует уделять внимание стратегическому управлению, постоянно оптимизировать и корректировать свои стратегии, чтобы адаптироваться к изменениям рынка и вызовам, а также добиваться долгосрочного устойчивого развития.

2.1 Методология исследования корпоративной стратегии

¹²⁶ Лю Лицин. Монопольный конкурентный рынок и инновационная стратегия предприятия [J]. Научные управленческие исследования, 2022 (4): 15-16.

Методология исследования корпоративной стратегии относится к методам и приемам, используемым на практике для решения проблем или выявления фактов. При проведении исследований корпоративной стратегии исследователи могут выбрать подходящую методологию в соответствии с различными целями и потребностями. Ниже описаны несколько распространенных методологий исследования корпоративной стратегии :

1) Метод качественного исследования: Метод качественного исследования заключается в проведении исследования путем описания и объяснения характеристик, обстоятельств и явлений объекта исследования. При исследовании корпоративной стратегии качественные исследования могут проводиться с использованием интервью, наблюдений, тематических исследований и т.д., чтобы получить глубокое представление о процессе разработки, реализации и результатах стратегии компании.

2) Количественные методы исследования: Количественные методы исследования предназначены для изучения корпоративных стратегий с помощью количественных данных и статистического анализа. Распространенные методы количественного исследования включают анкетирование, эмпирические и экспериментальные исследования, которые могут помочь исследователям проанализировать взаимосвязь между корпоративной стратегией и результатами деятельности, а также изучить взаимодействие между стратегическими переменными.

3) Методы сравнительного исследования: Методы сравнительного исследования проводятся путем сравнения стратегических практик и результатов деятельности различных компаний, различных отраслей или разных стран/регионов. С помощью сравнительных исследований можно выявить различия и сходства между различными корпоративными стратегиями, и они могут послужить основой для принятия корпоративных стратегических решений.

4) Метод имитационного исследования: Метод имитационного исследования заключается в проведении исследования путем моделирования процесса разработки и реализации корпоративной стратегии. С помощью имитационного моделирования можно оценить влияние различных стратегических решений на эффективность деятельности предприятия и обеспечить научную основу для принятия корпоративных решений.

Выбор методологии исследования корпоративной стратегии должен определяться в соответствии с конкретными проблемами и целями исследования. В то же время, она также может сочетаться с различными методами комплексного исследования, чтобы способствовать углубленному и всестороннему исследованию корпоративной стратегии¹²⁷.

2.2 Тематический анализ исследования корпоративной стратегии

¹²⁷ Сяо Фэй. Экономический анализ разумного расходования средств на рекламу [J]. Business Times, 2023 (33): 74.

Тематический анализ исследований корпоративной стратегии заключается в проведении углубленного анализа и сравнительного исследования стратегических мер, принимаемых различными предприятиями в процессе разработки, с целью обобщения успешного опыта и извлеченных уроков, а также предоставления рекомендаций и вдохновения для других предприятий. Ниже мы рассмотрим конкретное содержание и практическую значимость исследования корпоративной стратегии на примере нескольких типичных случаев.

Возьмем, к примеру, Apple. Благодаря инновационному дизайну продукта, сильной маркетинговой стратегии и глобальному подходу Apple успешно создала серию популярных продуктов и добилась больших успехов на рынке. Ключом к успеху компании является точное понимание потребностей потребителей и постоянные технологические инновации, благодаря которым ее продукция всегда занимает лидирующие позиции.

Возьмем в качестве примера Amazon. Благодаря созданию совершенной платформы электронной коммерции и логистической системы Amazon успешно создала крупнейшую в мире платформу онлайн-торговли, предоставляющую потребителям удобный опыт совершения покупок. Ключом к успеху компании является быстрое реагирование на изменения рынка и постоянные инвестиции в технологии, которые позволили добиться устойчивого роста и увеличения доли рынка.

Возьмем в качестве примера компанию Google Inc. Google известна во всем мире своей мощной поисковой системой и рекламным бизнесом. Ключом к успеху компании являются постоянные технологические инновации и внимание к пользовательскому опыту, что позволяет ей постоянно привлекать пользователей и рекламодателей, а также обеспечивать стабильный рост бизнеса и повышение прибыльности.

Из приведенного выше анализа кейсов видно, что исследование корпоративной стратегии имеет важное значение для успеха предприятия. Только постоянно исследуя и обобщая опыт, мы можем найти стратегическое направление, подходящее для нашего собственного развития, повысить конкурентоспособность предприятий и добиться устойчивого развития. Предприятиям следует уделять внимание стратегическим исследованиям, продолжать перенимать передовой опыт и предоставлять больше возможностей для собственного развития.

2.3 Факторы, влияющие на корпоративную стратегию

Факторы, влияющие на стратегию компании, можно разделить на внутренние и внешние. Внутренние факторы включают ресурсы, возможности, культуру и организационную структуру компании. К внешним факторам относятся рыночная конкуренция, экономическая среда, политика и нормативные акты, а также научно-техническое развитие.

Ресурсы и возможности предприятия являются важными внутренними факторами, влияющими на разработку стратегий. Наличие достаточных финансовых средств, талантов и технических преимуществ может помочь

компаниям выделиться на фоне конкурентов. Культура и организационная структура предприятия также окажут важное влияние на реализацию стратегии. Сплоченная и сотрудничающая команда, а также отлаженная и эффективная организационная структура могут способствовать бесперебойной реализации стратегии.

С точки зрения внешней среды, интенсивность рыночной конкуренции и изменения рыночного спроса являются важными факторами, влияющими на стратегический выбор. Компаниям необходимо постоянно обращать внимание на рыночные тенденции и гибко корректировать свои стратегии, чтобы адаптироваться к изменениям рыночного спроса. Неопределенность экономической среды, изменения в политике и нормативных актах, а также темпы научно-технического развития также будут влиять на разработку и реализацию корпоративных стратегий.

Существует множество факторов, влияющих на корпоративную стратегию. Компаниям необходимо всесторонне учитывать внутренние и внешние факторы и разрабатывать гибкие стратегические планы для адаптации к изменяющейся бизнес-среде. Только на основе полного понимания этих факторов предприятие может получить устойчивое конкурентное преимущество и достичь долгосрочных целей в области развития.

В будущем, в связи с ускоренным развитием глобализации и цифровизации, корпоративные стратегические исследования столкнутся с новыми вызовами и возможностями. С одной стороны, глобальная экономическая интеграция будет еще более углубляться, и компаниям необходимо будет уделять больше внимания межкультурному менеджменту и разработке стратегий интернационализации в условиях международной конкуренции. Стремительное развитие цифровых технологий изменит бизнес-среду предприятий, и традиционные отрасли промышленности столкнутся с давлением цифровой трансформации. Исследованиям в области корпоративных стратегий необходимо уделять больше внимания разработке и внедрению цифровых стратегий.

По мере того как экологические проблемы становятся все более актуальными, корпоративная социальная ответственность станет важной частью корпоративной стратегии. В будущих исследованиях корпоративной стратегии необходимо уделять больше внимания устойчивому развитию и охране окружающей среды, интегрировать концепции охраны окружающей среды в процесс разработки стратегии и обеспечить бесприоритетную ситуацию между экономическим ростом и охраной окружающей среды.

Инновации станут основой конкуренции между предприятиями. В будущем при проведении исследований корпоративной стратегии необходимо уделять больше внимания разработке и внедрению инновационных стратегий, постоянно продвигать технологические инновации и инновации бизнес-моделей предприятий, а также поддерживать конкурентные преимущества. В связи с широким применением новых

технологий, таких как искусственный интеллект и большие данные, исследователи корпоративных стратегий также должны уделять больше внимания влиянию технологических инноваций на корпоративную стратегию и постоянно изучать новые бизнес-модели и конкурентные стратегии.

В будущем исследования корпоративной стратегии будут уделять больше внимания интернационализации, цифровизации, устойчивому развитию и инновациям. Компаниям необходимо постоянно корректировать свои стратегии, чтобы адаптироваться к новой конкурентной среде и достичь устойчивого развития и конкурентных преимуществ.

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ИССЛЕДОВАНИЕ МАРКЕТИНГОВЫХ СТРАТЕГИЙ В КОРПОРАТИВНОМ СТРАТЕГИЧЕСКОМ УПРАВЛЕНИИ

***Аннотация:** С непрерывным развитием рыночной экономики рыночная конкуренция становится все более ожесточенной. Являясь ключевым фактором выживания и развития предприятия, разработка и реализация маркетинговых стратегий имеют важное значение для успеха предприятия. В этой статье мы начнем с концепции маркетинговой стратегии, анализа корпоративной маркетинговой стратегии и исследования маркетинговой стратегии, а также обсудим, как проводить исследование маркетинговой стратегии в стратегическом менеджменте.*

***Ключевые слова:** Маркетинговая стратегия; стратегический менеджмент*

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RESEARCH OF MARKETING STRATEGIES IN CORPORATE STRATEGIC MANAGEMENT

***Summary:** With the continuous development of the market economy, market competition is becoming more and more fierce. As a key factor in the survival and development of the enterprise, the development and implementation of marketing strategies are essential for the success of the enterprise. In this article, we will start with the concept of marketing strategy, corporate marketing strategy analysis and marketing strategy research, and discuss how to conduct marketing strategy research in strategic management.*

***Keywords:** Marketing strategy; strategic management*

1. Обзор маркетинговой стратегии

Маркетинговая стратегия относится к долгосрочным, целенаправленным и конкурентоспособным маркетинговым стратегиям и планам, разработанным в ответ на потребности целевого рынка предприятия и конкурентной среды в конкретных рыночных условиях. Разработка маркетинговой стратегии требует полного понимания собственных ресурсов и возможностей компании, а также рыночных условий и конкурентной среды,

и в то же время она должна быть согласована с общей стратегией компании для достижения долгосрочных целей компании по прибыльности на рынке¹²⁸.

Маркетинговая стратегия включает в себя четыре аспекта: продуктовую, ценовую, рекламную и каналную стратегии. Что касается продуктов, то компаниям необходимо понимать рыночный спрос и разрабатывать продукты, соответствующие рыночному спросу; что касается ценообразования, то компаниям необходимо иметь глубокое представление о рыночных ценах и психологических ожиданиях потребителей, а также разрабатывать соответствующие стратегии продаж; что касается продвижения, то компаниям необходимо применять различные рекламные технологии. методы в соответствии с рыночным спросом и психологическими особенностями потребителей для повышения узнаваемости продукта, репутации и объема продаж; что касается каналов, то компаниям необходимо выбирать соответствующие каналы в соответствии с рыночным спросом и характеристиками продукта и полагаться на каналы для достижения продаж и дистрибуции продукта.

2. Анализ корпоративной маркетинговой стратегии

Анализ маркетинговой стратегии предприятия - это разработка конкретных маркетинговых стратегий, основанных на понимании рынка и ситуации в самой компании. При анализе корпоративной маркетинговой стратегии необходимо обратить внимание на следующие аспекты :

1) Анализ рынка

Анализ рынка требует углубленного анализа отраслевого рынка и всестороннего понимания рыночных условий, тенденций и конкуренции. Компании должны понимать свое положение на рынке, понимать потребности клиентов и продажи продукции, чтобы лучше формулировать маркетинговые стратегии¹²⁹.

2) Анализ потребителей

Потребительский анализ - это углубленное исследование потребностей, покупательского поведения и психологического состояния потенциальных потребителей. Благодаря пониманию потребностей клиентов компании могут разрабатывать продукты, отвечающие потребностям рынка, и проводить маркетинговые мероприятия, подходящие для различных типов потребителей.

3) Анализ конкурентов

Анализ конкурентов - это углубленный анализ силы и рыночной стратегии конкурентов предприятия. Анализируя слабые стороны и преимущества конкурентов, компании могут разработать свои собственные

¹²⁸ Сюй Ицзюань. Стратегический анализ инноваций в бизнес-администрировании предприятий в условиях новой экономической нормы [J]. Мир маркетинга, 2022 (16): 122-124.

¹²⁹ Сюй Ицзюань. Стратегический анализ инноваций в бизнес-администрировании предприятий в условиях новой экономической нормы [J]. Мир маркетинга, 2022 (16): 122-124.

дифференцированные конкурентные стратегии и внедрить соответствующие методы продвижения для повышения узнаваемости продукта и репутации.

3. Исследование маркетинговой стратегии

Исследование маркетинговой стратегии относится к изучению того, как преобразовать маркетинговые стратегии в планы действий и внедрить эффективные средства для достижения маркетинговых целей предприятий.

1) Исследование стратегии продукта

Предприятиям необходимо в полной мере учитывать характеристики продукции, рыночный спрос и конкурентные условия, а также изучать способы создания конкурентоспособных продуктов, повышения основных ценностей продукции и улучшения качества продукции и эксплуатационных возможностей. В то же время компании должны разрабатывать соответствующие комбинации продуктов и упаковку, исходя из рыночного спроса и общей стратегии компании¹³⁰.

2) Исследование ценовой стратегии

Ценовая стратегия - это стратегия установления цены на продукт. Компании должны разработать соответствующие стратегии продаж, основанные на рыночном спросе и психологической оценке потребителей, такие как рекламные цены, фиксированные цены и т.д. Стратегии ценообразования предприятий также должны учитывать рыночный спрос, стоимость продукции, цены конкурентов и т.д. Компании должны выбрать наиболее подходящую ценовую стратегию, чтобы увеличить выручку от продаж и прибыльность.

3) Исследование стратегии продвижения

Предприятиям следует выбирать соответствующие методы продвижения, основанные на рыночном спросе и потребительских характеристиках, чтобы увеличить продажи и популярность продукции. Например, подарки, купоны и т.д. могут быть использованы для повышения осведомленности потребителей о товарах и удовлетворенности ими, а также для повышения узнаваемости бренда продукта.

4) Исследование стратегии канала

Стратегия развития каналов сбыта относится к тому, как компании выбирают и выстраивают каналы сбыта продукции потребителям. Компаниям следует выбирать подходящие каналы, основываясь на характеристиках рынка и продукта, и рассмотреть возможность создания комбинации онлайн- и офлайн-каналов для максимального охвата потенциальных потребителей продукцией.

Исследование маркетинговой стратегии имеет важное значение для развития предприятия. Предприятия должны полностью понимать рынок и потребности потребителей, выбирать наиболее подходящую маркетинговую

¹³⁰ Го Сицзя. Исследование инноваций в деловом администрировании предприятий на основе новых экономических норм [J]. Финансы и экономика, 2021 (34).

стратегию и повышать узнаваемость продукта и репутацию, чтобы предприятия могли сохранять конкурентное преимущество в условиях рыночной конкуренции и получать более высокую долю рынка и доход.

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ИССЛЕДОВАНИЕ КОРПОРАТИВНОЙ СТРАТЕГИИ

Аннотация: В современной конкурентной бизнес-среде исследование корпоративной стратегии стало ключом к повышению конкурентоспособности компаний и достижению устойчивого развития. Исследование корпоративной стратегии направлено на то, чтобы дать компаниям стратегическое направление и рекомендации для принятия решений, а также помочь им определить наилучшую стратегию адаптации к текущей рыночной среде и будущим тенденциям развития. В этой статье мы обсудим важность исследования корпоративной стратегии, методы исследования и процесс ее реализации.

Ключевые слова: Корпоративная стратегия; стратегическое направление

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CORPORATE STRATEGY RESEARCH

Summary: In today's competitive business environment, corporate strategy research has become the key to increasing companies' competitiveness and achieving sustainable development. Corporate strategy research aims to provide companies with strategic direction and recommendations for decision-making, as well as to help them determine the best strategy for adapting to the current market environment and future development trends. In this article, we will discuss the importance of corporate strategy research, research methods, and the process of its implementation.

Keywords: Corporate strategy; strategic direction

1. Важность исследования корпоративной стратегии

Исследование корпоративной стратегии имеет важное значение для долгосрочного развития предприятия. В частности, он выполняет следующие важные функции¹³¹ :

¹³¹ Го Сицзя. Исследование инноваций в деловом администрировании предприятий на основе новых экономических норм [J]. Финансы и экономика, 2021 (34).

Позиционирование и конкурентные преимущества: Исследование корпоративной стратегии помогает компаниям позиционировать свои позиции на рынке и изучать преимущества конкурентов, чтобы прояснить конкурентные преимущества предприятий и сформулировать соответствующие стратегии.

Понимание рынка и инновации: Благодаря исследованию рыночной среды, отраслевых тенденций и потребностей клиентов компании могут получить глубокое представление об изменениях на рынке и заранее прогнозировать будущие тенденции, чтобы осуществлять инновационную деятельность для удовлетворения потребностей клиентов.

Распределение ресурсов и поддержка принятия решений: Исследование корпоративной стратегии может помочь компаниям рационально распределять ресурсы, оптимизировать процесс принятия решений и обеспечить соответствие корпоративных решений стратегическим целям.

2. Методы исследования

Анализ внешней среды: Первым шагом в исследовании корпоративной стратегии является проведение углубленного анализа внешней среды. Это включает в себя изучение моделей рыночной конкуренции, отраслевых тенденций, политики и нормативных актов, а также изучение потребностей клиентов и конкурентов. Обычно используемые методы исследования включают изучение рынка, анализ конкурентов и прогнозирование тенденций.

Оценка внутренних ресурсов: Компаниям необходимо оценить свои собственные ресурсы и возможности, чтобы определить свои конкурентные преимущества на рынке. Это включает в себя анализ организационной структуры, человеческих ресурсов, финансового положения и технических возможностей предприятия. Методы, которые могут быть использованы, включают SWOT-анализ и анализ цепочки создания стоимости.

Стратегический выбор и формулировка¹³²: После завершения анализа внешней среды и внутренних ресурсов предприятию необходимо осуществить стратегический выбор и формулировку. Это включает в себя постановку долгосрочных целей, определение стратегических приоритетов и первоочередных задач, а также определение пути и плана реализации стратегии.

3. Процесс внедрения

Постановка целей: Прежде чем проводить стратегические исследования, компаниям необходимо уточнить свои цели и ожидаемые результаты. Это способствует целенаправленности и последовательности целей всего исследовательского процесса.

¹³² Го Сицзя. Исследование инноваций в деловом администрировании предприятий на основе новых экономических норм [J]. Финансы и экономика, 2021 (34).

Сбор и анализ данных: Компании могут собирать соответствующие данные и анализировать их с помощью опросов, интервью, маркетинговых исследований и т.д. Точность и оперативность данных имеют важное значение для надежности результатов исследований.

Оценка и корректировка результатов: После завершения стратегического исследования предприятию необходимо оценить результаты исследования и внести необходимые коррективы на основе результатов оценки. Это помогает обеспечить соответствие результатов исследований реальному положению дел на предприятии.

Исследование корпоративной стратегии является важным инструментом поддержки принятия решений и играет роль, которую нельзя игнорировать в условиях высокой конкуренции в бизнес-среде. Благодаря анализу внешней среды и внутренних ресурсов он помогает предприятиям определить свои конкурентные преимущества и сформулировать стратегические направления. В процессе внедрения уточните цели, тщательно соберите данные и оцените результаты исследований, чтобы внести необходимые коррективы. Только благодаря разумному и эффективному исследованию корпоративной стратегии предприятия могут продолжать внедрять инновации и развиваться в условиях рыночной конкуренции.

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ИССЛЕДОВАНИЕ ИННОВАЦИОННЫХ СТРАТЕГИЙ БИЗНЕС- АДМИНИСТРИРОВАНИЯ ПРЕДПРИЯТИЙ

***Аннотация:** В процессе развития бизнеса, благодаря применению современных моделей бизнес-администрирования, предприятия могут эффективно управлять предприятиями, делать процесс принятия решений более научным и обеспечивать стабильные гарантии выживания и развития предприятий. Под влиянием новой ситуации предприятия также претерпевают постоянные реформы в процессе своего развития. Для того чтобы привести модель бизнес-администрирования в соответствие с ситуацией развития предприятия, необходимо постоянно совершенствовать методы управления бизнесом, чтобы предприятие могло идти в ногу с темпами развития новой экономической нормы, чтобы функции бизнес-администрирования могли быть эффективно реализованы для обеспечения что ресурсы могут быть интегрированы, оптимизированы и эффективно использованы своевременно в ходе развития предприятия.*

***Ключевые слова:** Управление бизнесом; Бизнес-администрирование; инновационная стратегия*

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RESEARCH OF INNOVATIVE BUSINESS ADMINISTRATION STRATEGIES OF ENTERPRISES

***Summary:** In the process of business development, through the use of modern business administration models, enterprises can effectively manage enterprises, make the decision-making process more scientific and provide stable guarantees for the survival and development of enterprises. Under the influence of the new situation, enterprises are also undergoing constant reforms in the process of their development. In order to bring the business administration model in line with the development situation of the enterprise, it is necessary to constantly improve business management methods., so that the enterprise can keep up with the pace of development of the new economic norm, so that business administration functions can be effectively implemented to ensure that resources can be integrated, optimized and effectively used in a timely manner during the development of the enterprise.*

Keywords: *Business management; Business Administration; innovation strategy*

1. Значение инноваций в деловом управлении предприятиями

1.1 Эффективный контроль эксплуатационных и управленческих расходов

В период развития предприятия на него оказывает влияние ситуация в области экономического развития, и ему необходимо осуществлять всесторонний контроль затрат, чтобы в полной мере увеличить норму прибыли предприятия и еще больше повысить конкурентоспособность предприятия на отраслевом рынке. Являясь важным элементом системы управления предприятием, развитие бизнес-администрирования может помочь предприятиям рационально разрабатывать системы и планы оперативного управления. Таким образом, мысли и поведение сотрудников, занимающих различные должности на предприятии, могут быть всесторонне стандартизированы, а затем может быть осуществлен эффективный контроль за операционными и управленческими расходами. В то же время это также может эффективно сдерживать работу по управлению финансами и проводить углубленный анализ корпоративных затрат в течение каждого отчетного периода, чтобы можно было динамично корректировать фактическое использование расходов, постепенно снижать стоимость средств, продажи и т.д., а также осуществлять правильный и эффективный контроль за расходами. налоговые платежи и т.д. Таким образом, можно комплексно управлять расходами компании, повысить эффективность фактического использования затрат и обеспечить надежную гарантию устойчивого развития компании¹³³.

1.2 Повысить уровень управления человеческими ресурсами

Являясь важной гарантией развития предприятия, человеческие ресурсы играют в нем очень важную роль. Для того чтобы предприятие развивалось плавно и стабильно, необходимо рационализировать распределение человеческих ресурсов. Это также является важным содержанием в развитии делового администрирования, которое оказывает большее влияние на стабильное развитие предприятия и качество работы сотрудников. При обычных обстоятельствах процесс управления человеческими ресурсами в основном охватывает регулирование заработной платы, служебную аттестацию, привлечение талантов и обучение. Под влиянием процесса модернизации и развития разработка этих задач неотделима от поддержки бизнес-администрирования. В процессе развития предприятию необходимо ориентироваться на перспективу в качестве

¹³³ У Вэньтао. Оптимизация провинции Хэнань в соответствии с новой экономической нормой Оптимизация провинции Хэнань в соответствии с новой экономической нормой Оптимизация анализа предпринимательской и инновационной среды студентов колледжей провинции Хэнань [J]. Инновации и технологии, 2015 (08).

дополнительной точки входа, рационализировать стратегию развития талантов и еще больше повышать уровень управления человеческими ресурсами, чтобы можно было постоянно укреплять сплоченность сотрудников компании. Таким образом, в процессе развития предприятия ИТ может принимать научно обоснованные меры для сотрудников на различных должностях, чтобы сотрудники могли в полной мере использовать свои преимущества и обеспечивать стабильную гарантию наличия талантов для развития и трансформации предприятия.

1.3 Содействие эффективному осуществлению стратегий развития

На современном этапе развития развитие и функционирование предприятия может обеспечить стабильную и здоровую работу только в том случае, если у него есть четкое направление развития и бизнес-цели. В противном случае это будет противоречить законам развития рынка и окажет прямое влияние на формальное развитие предприятий. Таким образом, это не только привело к растрате ресурсов, но и серьезно замедлило скорость развития предприятия. Качественная разработка бизнес-администрирования позволяет всесторонне оценить внутреннюю и внешнюю среду предприятия и всесторонне понять проблемы, возникающие в процессе развития предприятия, чтобы предприятие могло динамично корректировать свою стратегию развития в течение периода развития и осуществлять научное планирование долгосрочного развития. о компании "Энтерпрайз". Таким образом, модель развития бизнеса и сфера деятельности предприятия могут постоянно совершенствоваться, степень совместимости предприятия с законодательством о развитии рынка может быть всесторонне улучшена, и может быть проложен путь для стабильной работы предприятия¹³⁴.

2. Инновационные контрмеры для делового администрирования предприятий в новую эпоху

2.1 Обеспечить идеологическую гарантию

2.1.1 Повышение осведомленности руководства

Что касается нынешней формы развития нашей страны, то экономика вступила в новую нормальную стадию развития. В связи с этим в процессе развития предприятия необходимо всесторонне стандартизировать разработку системы управления бизнесом. Таким образом, в процессе функционирования предприятия можно своевременно выявлять и избегать рисков, существующих в финансовой работе, и полностью гарантировать стабильную работу предприятия. Поэтому под влиянием новой ситуации, в процессе развития и функционирования предприятия, необходимо уделять все внимание работе по управлению бизнесом и постоянно внедрять в нее инновации, чтобы обеспечить надежную гарантию стабильного развития предприятия. Таким образом, руководству и менеджменту предприятия необходимо изучить основы управления бизнесом, чтобы постоянно

¹³⁴ Го Сицзя. Исследование инноваций в деловом администрировании предприятий на основе новых экономических норм [J]. Финансы и экономика, 2021 (34).

оптимизировать модель управления бизнесом предприятия. В то же время, в период развития предприятия также необходимо провести хорошую работу по внутренней рекламе бизнес-администрирования, всесторонне повысить профессиональную грамотность и идеологическую осведомленность сотрудников предприятия, а также помочь сотрудникам предприятия получить всестороннее представление о работе по управлению бизнесом, чтобы чтобы они могли осознать важность инновационного развития работы по управлению бизнесом и осуществлять активное сотрудничество в области качественного развития работы по управлению бизнесом. Кроме того, в процессе функционирования предприятия также необходимо правильно применять концепцию современного менеджмента, чтобы можно было в полной мере продемонстрировать роль и преимущества делового администрирования, чтобы оно могло в полной мере реализовать свое должное значение в развитии предприятия, чтобы инновации уровень делового администрирования может неуклонно повышаться.

2.1.2 Разъяснять принципы внедрения инноваций и развития бизнес-администрирования

2.1.2.1 Стандартизация

В процессе развития, если предприятие хочет внедрить комплексные инновации в свою работу по управлению бизнесом, первое, что ему необходимо сделать, - это четко установить систему и стандарты управления бизнесом, чтобы внутренние каналы коммуникации и рабочие процессы предприятия были более стандартизированы. Таким образом, только сотрудники предприятия могут сформировать стандартизированный образ мышления. При выполнении служебных обязанностей результаты и процессы работы измеряются в соответствии с установленными стандартами, что способствует тому, чтобы работа по оценке эффективности компании была более справедливой.

2.1.2.2 Уточнение

Под влиянием условий развития современного рынка, поскольку традиционная модель управления предприятием является слишком грубой, она оказалась неспособной удовлетворить реальные потребности современного управления предприятием. В связи с этим в период развития предприятия необходимо постепенно трансформировать модель управления в сторону совершенствования. В рамках этого процесса предприятиям необходимо уточнить должностные обязанности различных сотрудников и создать соответствующие механизмы управления эффективностью. В то же время необходимо также сохранять независимость и актуальность между различными должностями. Используя этот метод, ИТ-отдел может способствовать осуществлению расходов, повышению эффективности производства и т.д., а также осуществлять эффективный контроль за эксплуатационными расходами¹³⁵.

¹³⁵ Го Сицзя. Исследование инноваций в деловом администрировании предприятий на основе новых

2.1.2.3 Ориентация на людей

Чтобы создать концепцию, ориентированную на людей, необходимо всесторонне учитывать интересы клиентов, акционеров и сотрудников, чтобы создать ту ценность, которой они заслуживают. Таким образом, сервисные функции бизнес-администрирования могут быть полностью использованы для предоставления клиентам более качественного сервиса. В то же время необходимо также установить сочетание интересов с инвесторами. Таким образом, в период разработки можно совместно нести риски, которые могут или уже существуют, и вносить свой вклад в стабильное развитие предприятия. Кроме того, необходимо также полностью сформировать корпоративную культуру и рабочую среду для дальнейшего стимулирования потенциала сотрудников компании, чтобы они могли испытывать сильное чувство сопричастности и добиваться общего прогресса с компанией.

2.1.3 Проникнуть в концепцию научного менеджмента

Когда предприятие внедряет инновации в свою работу по управлению бизнесом, если оно хочет добиться эффективного внедрения научной концепции управления, оно может начать как с цели, так и со стратегического управления, чтобы осуществить внедрение концепции управления. При разработке целевой управленческой работы необходимо использовать целевое проектирование и управление в качестве дополнительной точки входа в деятельность предприятия и выполнять различные управленческие работы в рамках целевой системы. В течение этого периода необходимо планировать достижение стратегических целей, исходя из фактического развития предприятия. Следует отметить, что при планировании стратегических целей развития предприятия необходимо сосредоточиться на основных ресурсах, а общее управление взаимосвязью между вводимыми ресурсами и получаемыми выгодами должно быть разумно отнесено к общей работе бизнес-администрации. Таким образом, можно добиться эффективных инноваций в управлении бизнесом за счет постоянного совершенствования целевого управления. С развитием экономической интеграции стратегическое управление в процессе развития будет влиять на предприятия, что изменит экономическое положение предприятий на отраслевом рынке. Чтобы стабилизировать положение предприятия на отраслевом рынке, в процессе функционирования и развития предприятию необходимо осуществлять стратегическое развертывание с точки зрения долгосрочной перспективы развития, интегрировать преимущества развития предприятия и рационализировать распределение ресурсов для дальнейшего повышения конкурентоспособности предприятия сам по себе.

2.2 Обеспечить институциональные гарантии

2.2.1 Рационально сформулировать систему делового администрирования

Рационализация и разработка системы бизнес-администрирования могут сделать различные процессы в процессе разработки бизнес-администрирования более стандартизированными и еще больше повысить эффективность работы бизнес-администрирования. В связи с этим предприятиям необходимо провести всесторонний анализ недостатков на текущем этапе бизнес-администрирования и понять слабые звенья системы бизнес-администрирования. Таким образом, система управления бизнесом может быть научно разработана для обеспечения того, чтобы ее модель управления была более инновационной, что позволит эффективно расширять экономические и социальные выгоды предприятия в процессе развития.

2.2.2 Совершенствование системы административного надзора за промышленностью и коммерцией

Совершенствование системы надзора за промышленным управлением может сделать развитие промышленного и коммерческого управления более стандартизированным. В связи с этим, на текущем этапе развития, в период становления предприятия, необходимо постоянно совершенствовать систему производственного управления и надзора, основанную на фактическом развитии предприятия, и полностью внедрять ее в процессе эксплуатации предприятия. Таким образом, недостатки, существующие в процессе развития промышленного и коммерческого менеджмента, могут быть своевременно устранены, что позволит более стандартизировать мысли и поведение промышленных и коммерческих менеджеров и еще больше повысить эффективность надзора и управления¹³⁶.

2.3 Оказывать техническую поддержку

2.3.1 Усовершенствовать систему информатизации бизнес-администрирования предприятия

Под влиянием развития информационной эры, когда предприятия внедряют инновации в управление бизнесом, они могут использовать эту технологию. Таким образом, может быть достигнуто эффективное сотрудничество между различными подразделениями и решены ключевые вопросы развития бизнес-администрирования. Поэтому предприятиям необходимо постоянно совершенствовать свое информационное оборудование и активно оптимизировать стандартную систему построения информации, совершенствовать информационную систему и продвигать стандартизацию, которая должна быть внедрена как можно скорее. Благодаря построению информационной системы соответствующие передаваемые данные могут быть разумно проверены, чтобы обеспечить более стандартную и точную передачу данных, а также дальнейшее повышение эффективности бизнес-администрирования. Установление единых норм делового администрирования может полностью гарантировать точность

¹³⁶ Го Сицзя. Исследование инноваций в деловом администрировании предприятий на основе новых экономических норм [J]. Финансы и экономика, 2021 (34).

управленческих данных и рациональность их содержания, а также всесторонне предотвратить неразумные явления в управлении бизнесом.

2.3.2 Усилить систему сетевой безопасности

При использовании информационных технологий необходимо комплексно выстраивать их безопасность. В течение всего процесса использования необходимо не только своевременно убирать мусор в системе, но и настраивать средства защиты для обеспечения сохранности и целостности информации. В связи с этим при использовании информационной системы бизнес-администрирования необходимо регулярно обновлять оборудование для обеспечения безопасности и изоляции, а также использовать высокозащищенные защитные продукты для предотвращения возникновения инцидентов безопасности. Кроме того, в операционной системе могут быть реализованы соответствующие меры защиты, а сама система может быть активно проверена и оптимизирована для всестороннего улучшения показателей защиты от рисков.

2.4 Обеспечивать защиту талантов

Качественное развитие бизнес-администрирования неотделимо от мощной поддержки талантов. В связи с этим в процессе развития предприятия необходимо уделять все внимание талантам и активно привлекать высококвалифицированных и профессиональных технических специалистов. Таким образом, это может не только существенно способствовать плавному развитию бизнес-администрирования, но и обеспечить надежную гарантию инноваций в бизнес-администрировании. В рамках этого процесса предприятиям необходимо постоянно совершенствовать систему подготовки кадров, ориентируясь на инновации в области делового администрирования. В нынешних условиях, при развитии системы управления человеческими ресурсами на предприятиях, они сталкиваются с ситуацией большей мобильности талантов. В связи с этим, в процессе функционирования предприятия необходимо придерживаться руководящей идеологии ориентации на людей и создать надежную систему оплаты труда и обращения для привлечения и удержания талантов. В то же время предприятиям также необходимо рационализировать и скорректировать традиционную модель обучения, основанную на реальных потребностях в развитии, чтобы еще больше повысить профессионализм бизнес-менеджеров, чтобы они могли в полной мере выполнять свои должностные обязанности во время реальной работы, чтобы можно было в полной мере продемонстрировать роль делового администрирования. Кроме того, предприятиям также необходимо активно корректировать механизм стимулирования талантов, чтобы сделать его более научным и совершенным, а также соответствующим реальным целям развития предприятия. Таким образом, работа по управлению бизнесом может быть оптимизирована во времени в течение фактического периода разработки, чтобы компания могла внедрять комплексные инновации и в полной мере использовать свои профессиональные преимущества. Благодаря совершенствованию механизма

привлечения талантов можно эффективно оптимизировать структуру команды бизнес-администрирования на предприятии, повысить грамотность и опыт команды бизнес-администрирования, а также способствовать диверсифицированному развитию инновационной модели бизнес-администрирования.

В соответствии с новыми экономическими нормами инновации в области делового администрирования на предприятиях, как систематический проект, должны основываться на направлении развития предприятия, рационализировать цели развития предприятия, оптимизировать ресурсы предприятия и еще больше повысить уровень работы делового администрирования, чтобы обеспечить диверсифицированный подход. путь развития инновационной системы бизнес-администрирования предприятия.

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ИССЛЕДОВАНИЕ ПО УПРАВЛЕНИЮ ФИНАНСОВЫМИ РИСКАМИ ЦЕПОЧКИ ПОСТАВОК В КОММЕРЧЕСКИХ БАНКАХ

Аннотация: Благодаря инновациям и развитию финансовой сферы коммерческие банки больше не ограничиваются традиционными сферами бизнеса и начали расширять финансирование цепочки поставок, чтобы предоставлять финансовые услуги цепочке поставок в целом, повышать эффективность финансово-хозяйственной деятельности, а также предоставлять возможность связанным цепочкам поставок получать надежную финансовую поддержку. Что касается малых и средних предприятий в цепочке поставок, то они часто находятся в неблагоприятном положении с точки зрения развития, и проблемы с финансированием являются более серьезными. Таким образом, развитие финансирования цепочки поставок коммерческими банками может эффективно решить проблемы финансирования малых и средних предприятий, тем самым стабилизируя общее развитие отрасли. цепочка поставок. Однако коммерческие банки также сталкиваются с различными бизнес-рисками в этой связи, что оказывает влияние на предоставление коммерческими банками финансирования цепочки поставок. Эта статья начинается с обзора финансовых рисков коммерческих банков в цепочке поставок, исследует важность управления финансовыми рисками коммерческих банков в цепочке поставок, а затем обсуждает принципы финансирования цепочки поставок, осуществляемого коммерческими банками, и, наконец, выдвигает предложения по управлению рисками.

Ключевые слова: Коммерческие банки; финансирование цепочки поставок; управление рисками

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RESEARCH ON FINANCIAL RISK MANAGEMENT OF THE SUPPLY CHAIN IN COMMERCIAL BANKS

Summary: Thanks to innovations and the development of the financial sector, commercial banks are no longer limited to traditional business areas and have begun to expand supply chain financing in order to provide financial services to the

supply chain as a whole, increase the efficiency of financial and economic activities, and enable related supply chains to receive reliable financial support. As for small and medium-sized enterprises in the supply chain, they are often at a disadvantage in terms of development, and financing problems are more serious. Thus, the development of supply chain financing by commercial banks can effectively solve the financing problems of small and medium-sized enterprises, thereby stabilizing the overall development of the industry. the supply chain. However, commercial banks also face various business risks in this regard, which has an impact on the provision of supply chain financing by commercial banks. This article begins with an overview of the financial risks of commercial banks in the supply chain, explores the importance of managing the financial risks of commercial banks in the supply chain, and then discusses the principles of supply chain financing provided by commercial banks, and finally puts forward proposals for risk management.

Keywords: Commercial banks; supply chain financing; risk management

1. Обзор финансовых рисков в цепочке поставок коммерческих банков

Финансовый бизнес с цепочкой поставок принципиально отличается от традиционного банковского дела, то есть он больше не обслуживает отдельного клиента, а всю цепочку поставок, в которой расположено предприятие в целом, так что коммерческие банки могут обслуживать все предприятия в цепочке поставок, решать связанные с этим проблемы корпоративного финансирования и в то же время, финансовые бизнес-риски могут быть распределены, уменьшить потери клиентов и обеспечить стабильную работу клиентов цепочки поставок, принося стабильную выгоду банкам. Однако из-за влияния различных факторов коммерческие банки также сталкиваются с различными рисками при осуществлении финансовой деятельности в цепочке поставок, включая рыночные риски, юридические риски, кредитные риски и операционные риски¹³⁷.

Рыночный риск. Это относится к изменениям цен на сырьевые товары на рынке. Когда рыночная цена корпоративного обеспечения меняется, особенно когда рыночная цена снижается, банк не сможет погасить кредит в это время, поэтому банк понесет убытки. В частности, некоторые малые и средние предприятия в цепочке поставок часто могут выбирать только личные активы в качестве обеспечения, а личные активы подвержены изменениям цен в рыночной среде, что влечет за собой соответствующие риски для коммерческих банков.

Юридические риски. Финансирование цепочки поставок - это новый вид финансовых услуг. Субъект, который выбирает услугу, больше не является отдельным предприятием, а всеми предприятиями в цепочке поставок. Следовательно, для стабильного предоставления услуги и получения

¹³⁷ Чжу Сиюн, Чжао Тяньтянь. Построение системы индексов оценки финансового кредитного риска цепочки поставок на основе модели KMV [J]. Логистический инжиниринг и менеджмент, 2022, 44 (10) : 48-51.

стабильных выгод неизбежно требуется стабильная работа цепочки поставок в целом, и еще более важно, чтобы закон предусматривал соответствующие ограничения и поддержку. Однако действующие соответствующие законы недостаточно надежны, и соответствующие системы нуждаются в совершенствовании. В то же время корректировка правовой системы также приведет к возникновению новых проблем. Например, различные компании в цепочке поставок не имеют полного представления о содержании законов и нормативных актов, а также наблюдается отставание в получении информации, что приведет к юридическим спорам между предприятиями, предприятия и банки.

Кредитный риск. В цепочке поставок все больше малых и средних предприятий. Эти малые и средние предприятия зачастую сложнее финансировать из-за их небольшого размера и низкой способности к развитию. Кроме того, уровень эксплуатации и управления не высок, а риск банкротства намного выше. Поэтому коммерческие банки предъявляют более строгие стандарты к финансовым услугам, предоставляемым малыми и средними предприятиями, и они не в состоянии установить стабильные доверительные отношения. Особенно в тех случаях, когда малые и средние предприятия имеют тенденцию к банкротству, коммерческие банки часто сталкиваются с прямыми убытками, что еще больше увеличивает кредитный риск¹³⁸.

Операционный риск. Это относится к рискам при продвижении различных процессов и работе с бизнес-деталью при развитии финансового бизнеса в цепочке поставок. Например, продвижение бизнес-процессов осуществляется недостаточно строго, и возникают проблемы с ранним расследованием, среднесрочным обзором и запоздалым управлением. В разработке некоторых финансовых продуктов цепочки поставок имеются недостатки, приводящие к возникновению проблем с рисками, которые могут возникнуть в любой момент. Кроме того, риски также могут быть вызваны ошибками в работе операторов. Когда возникают операционные риски, это неизбежно влечет за собой прямые убытки для коммерческих банков. В то же время это повлияет на рыночную репутацию коммерческих банков и снизит удовлетворенность клиентов цепочки поставок. Поэтому необходимо строго контролировать риски в этом отношении.

2. Важность управления финансовыми рисками в цепочке поставок коммерческих банков

Развитие коммерческими банками финансового бизнеса в сфере цепочки поставок является их собственной инновацией и расширением сферы бизнеса, а также новой попыткой. Несмотря на то, что они могут получать стабильную прибыль, существуют также риски, которые оказывают

¹³⁸ Чжу Сиюн, Чжао Тяньтянь. Построение системы индексов оценки финансового кредитного риска цепочки поставок на основе модели KMV [J]. Логистический инжиниринг и менеджмент, 2022, 44 (10) : 48-51.

существенное влияние на дальнейшее развитие финансового бизнеса в сфере цепочки поставок. Таким образом, только усиливая управление рисками, мы можем эффективно избежать воздействия факторов риска, сделать осуществление предпринимательской деятельности более плавным и упорядоченным и обеспечить ожидаемые сопутствующие выгоды. В то же время, это также обеспечивает более качественные услуги для клиентов цепочки поставок. Таким образом, управление финансовыми рисками цепочки поставок необходимо. деятельность коммерческих банков имеет очевидное значение, что, в частности, отражается в следующих аспектах :

Во-первых, для обеспечения стабильного развития финансовой бизнес-деятельности цепочки поставок. В процессе осуществления финансового бизнеса по цепочке поставок коммерческим банкам необходимо обеспечить надежность и стабильность своей деловой деятельности, чтобы гарантировать, что они смогут получить ожидаемые выгоды от этого бизнеса. Однако, учитывая различные существующие риски, это неизбежно окажет большее влияние на доходы бизнеса и может привести к тому, что коммерческие банки столкнутся с определенными убытками. Чтобы справиться с такими проблемами, коммерческие банки могут эффективно избегать различных факторов риска путем усиления управления рисками, что позволяет повысить уровень управления рисками, способствуя тем самым бесперебойному осуществлению предпринимательской деятельности и обеспечивая получение стабильной прибыли¹³⁹.

Второй шаг заключается в расширении возможностей коммерческих банков по управлению финансовыми рисками в цепочке поставок. Что касается развития финансовой деятельности в цепочке поставок, коммерческим банкам необходимо обеспечить наличие у них надежных возможностей по управлению рисками для устранения бизнес-рисков, которые могут возникнуть на различных этапах. Фактически, в процессе продвижения бизнеса коммерческие банки также будут подвержены влиянию различных факторов, в результате чего они сами будут подвержены влиянию факторов риска и не смогут полностью контролировать свою деловую деятельность. Более того, существование факторов риска и возникновение проблем, связанных с рисками, также создают более серьезные проблемы для управления банковскими рисками. На этом этапе, с помощью внедрения системы управления рисками, банки могут быть в курсе динамики и изменений различных рисков, чтобы принимать эффективные меры для их устранения и контроля, что позволяет значительно повысить уровень управления рисками и заложить хорошую основу для дальнейшего развития. последующая деловая деятельность.

Третье - повысить уровень обслуживания клиентов и управления в цепочке поставок. Финансирование цепочки поставок затрагивает всю

¹³⁹ Лян Лицзюнь, Лю Лина, Чжан Чэньюй. Исследование причин, оценка и предотвращение финансовых рисков в цепочке поставок [J]. Региональные финансовые исследования, 2022 (9): 57-62.

цепочку поставок, поэтому необходимо учитывать потребности каждого клиента. Как одновременно удовлетворить потребности в индивидуальном обслуживании клиентов, как ведущих, так и нижестоящих, является ключевым вопросом, который коммерческие банки должны учитывать при разработке решений по финансовому обслуживанию цепочки поставок. Когда коммерческие банки осознают существование различных проблем с рисками, на основе усиления управления рисками они могут позволить себе учитывать более практические факторы, такие как проблемы с кредитоспособностью клиентов, в процессе предоставления услуг клиентам, а затем осуществлять целенаправленное управление кредитными рисками таким образом, чтобы воздействие рисков могло быть минимальным. можно снизить или эффективно избежать рисков, а также повысить уровень обслуживания клиентов и управления ими.

В-четвертых, коммерческие банки заложили хороший фундамент для последующего развития. Поскольку финансирование цепочки поставок в настоящее время является ключевой сферой деятельности коммерческих банков, усиление управления и инноваций в этой области может не только позволить коммерческим банкам получать больше преимуществ в этом бизнесе, но и заложить хорошую основу для последующего развития, с тем чтобы последующая работа могла быть более эффективной. проводится для получения более надежного опыта. Хорошо обслуживая клиентов, вы получаете ожидаемые выгоды. В то же время он может еще больше повысить свою конкурентоспособность по сравнению с другими коммерческими банками, усилить свое социальное влияние и привлечь больше внимания потенциальных клиентов¹⁴⁰.

3. Принципы, которым коммерческие банки должны следовать при финансировании цепочки поставок

Хотя финансирование цепочки поставок может принести коммерческим банкам больше выгод, выгоды и риски всегда сосуществуют. Поэтому коммерческие банки не могут вести бизнес вслепую. Они всегда должны быть готовы к изменениям факторов риска. В то же время, оценивайте выгоды и риски рационально и не стремитесь к выгодам вслепую. и не обращайтесь на риски. Необходимо понимать свои собственные сильные стороны в этом бизнесе и ориентироваться на стабильное ведение финансового бизнеса в цепочке поставок, разрабатывая его в соответствии со своими собственными требованиями к работе и трудовыми нормами, чтобы выгоды были более стабильными, а риски лучше контролировались.

Поэтому коммерческие банки должны следовать соответствующим принципам при финансировании цепочки поставок.

Один из них заключается в улучшении рабочего процесса. В процессе осуществления коммерческими банками финансовой деятельности в цепочке

¹⁴⁰ Лян Лицзюнь, Лю Лина, Чжан Чэньюй. Исследование причин, оценка и предотвращение финансовых рисков в цепочке поставок [J]. Региональные финансовые исследования, 2022 (9): 57-62.

поставок, как правило, речь идет о кредитовании, банковском акцепте переводных векселей, дисконтировании векселей и т.д. Способы осуществления и управления каждым бизнес-контентом требуют от коммерческих банков разъяснения конкретного бизнес-процесса для того, чтобы в первую очередь внедрить систему, с тем чтобы бизнес-деятельность была эффективной. может выполняться плавно и упорядоченно и быть ориентирована на удовлетворение потребностей клиентов. В то же время, в связи с постоянно меняющимися потребностями клиентов, коммерческим банкам необходимо уточнить конкретные операции и процессы управления содержанием предпринимательской деятельности, прежде чем осуществлять конкретную предпринимательскую деятельность, чтобы гарантировать получение соответствующей поддержки в последующей предпринимательской деятельности. Избегайте отсутствия процессов в бизнес-операциях, которые влияют на продвижение бизнеса, развитие клиентов и окажут определенное влияние на развитие цепочки поставок. Поскольку процессы, связанные с работой, будут оказывать непосредственное влияние на эффективность работы и фактические выгоды, а также непосредственно затрагивать клиентов, необходимо уделять внимание усилению совершенствования и оптимизации рабочих процессов, чтобы можно было лучше продвигать соответствующие рабочие процессы для удовлетворения потребностей развития собственного бизнеса коммерческих банков. В то же время могут быть удовлетворены различные потребности клиентов, что, в свою очередь, может позволить коммерческим банкам добиться более эффективного развития, а группам клиентов также более активно участвовать в соответствующей бизнес-деятельности.

Во-вторых, необходимо строго отбирать клиентов по цепочке поставок. Клиенты, с которыми сталкивается система финансирования цепочки поставок, могут быть представителями разных отраслей и разных сфер деятельности, поэтому они будут сопряжены с различными бизнес-рисками. Чтобы обеспечить бесперебойное осуществление своей деятельности, коммерческим банкам необходимо тщательно и строго отбирать клиентов для финансирования цепочки поставок. Старайтесь по возможности выбирать зрелые и стабильно развивающиеся отрасли, но для развивающихся отраслей требуется тщательный анализ, чтобы избежать недостаточного понимания отрасли, что затрудняет получение конкретных преимуществ от предоставления продуктов и услуг. В то же время коммерческие банки должны признавать статус ключевых предприятий в цепочке поставок и стараться изо всех сил обслуживать других клиентов в цепочке поставок, основываясь на мнении ключевых предприятий, чтобы использовать опыт ключевых предприятий при выборе кооперативных предприятий для содействия коммерческим банкам в осуществлении поставок. организуйте финансовый бизнес и обеспечьте стабильность бизнеса. Кроме того, в связи с очевидными пробелами в развитии цепочки поставок клиентов в различных областях и образованием все большего

количества новых предприятий коммерческим банкам необходимо проводить всестороннее исследование не только клиентов, но и других клиентов в цепочке поставок в процессе отбора этой части клиентов, чтобы коммерческие банки могли понять общее состояние развития и проблемы развития цепочки поставок, особенно риски, которые существуют при развитии различных предприятий. Коммерческим банкам необходимо провести всесторонний анализ и оценку, и только после прохождения оценки рисков они могут начать необходимый бизнес, в противном случае они не смогут предоставлять кредиты и другие предприятия, чтобы избежать воздействия рисков.

В-третьих, необходимо усилить управление услугами и дизайн продукта, а также всесторонне рассмотреть собственные возможности по управлению рисками. Дизайн продукта является ключом к продвижению финансового бизнеса в цепочке поставок, а также окажет непосредственное влияние на развитие различных предприятий в цепочке поставок. Поэтому необходимо разрабатывать целевые финансовые продукты и сервисные решения, основанные на развитии цепочки поставок и потребностях предприятий в развитии. В то же время это может повысить удовлетворенность клиентов, тем самым обеспечивая поддержку будущим инновациям и развитию бизнеса банка. В то же время банкам необходимо строго учитывать свои собственные возможности по управлению рисками и избегать расширения своих бизнес-продуктов за пределы своих возможностей по управлению рисками. Необходимо согласовывать предоставление продуктов и услуг с их собственными возможностями по управлению рисками, чтобы продукты могли приносить ожидаемые выгоды, а услуги могли предоставляться действовать более рационально. Кроме того, поскольку факторы, вызывающие риски, постоянно меняются, коммерческим банкам необходимо быть в курсе соответствующих факторов, особенно прямого влияния изменений рыночных факторов на развитие предприятий в цепочке поставок. После того, как коммерческие банки поймут реальную ситуацию в этом отношении, они могут внести соответствующие коррективы в соответствии с действительную ситуацию, чтобы избежать влияния различных факторов риска после начала предпринимательской деятельности. Из-за существования различных факторов риска на рынке это серьезно повлияет на развитие предприятий, что, в свою очередь, скажется на деловой активности самих коммерческих банков. Банки продолжают совершенствовать методы выявления и анализа рисков, с тем чтобы они могли соответствующим образом улучшить содержание своих услуг и продуктов, чтобы предоставление услуг и продуктов было более плавным и упорядоченным.

Коммерческие банки будут сталкиваться с различными типами рисков в процессе финансирования цепочки поставок. Коммерческим банкам необходимо укреплять свои возможности по выявлению рисков и контролю за ними и в то же время осуществлять продвижение бизнеса в соответствии с

основными принципами предпринимательской деятельности, чтобы обеспечить стабильную доходность при одновременном предоставлении надежных услуг и продуктов для поставщиков. цепочка клиентов. В настоящее время многие коммерческие банки постоянно расширяются и совершенствуются в области финансирования цепочки поставок, но проблемы с рисками существуют всегда. Что касается этого объективного явления, то только путем усиления анализа факторов риска и принятия эффективных мер по снижению воздействия рисков коммерческие банки могут добиться стабильного и устойчивой развития в этой области.

1. Принимать меры по диверсификации рисков и их снижению для борьбы с рыночными рисками

Риски в финансировании цепочки поставок существуют постоянно, и их проявления более сложны и разнообразны, главным образом из-за множества факторов, которые влияют на риски и изменяются в любое время. Чтобы эффективно справляться с рисками и снижать их воздействие, можно использовать методы диверсификации рисков для децентрализации рисков. Например, компании, занимающиеся цепочками поставок, обязаны усилить контроль за перевозками грузов третьими лицами и могут осуществлять страхование имущества, включая страхование транспортировки, чтобы снизить риск потери груза и уменьшить общее воздействие на цепочку поставок.

В то же время, что касается дальнейшего снижения рисков, то страхование может быть добавлено для предоставления корпоративных гарантий, снижения корпоративных кредитных рисков и обеспечения стабильности бизнеса коммерческого банка. Из-за силы и статуса основных предприятий в цепочке поставок на самом деле могут быть некоторые отличия от ожиданий коммерческих банков, и цепочка поставок, созданная вокруг основных предприятий, хотя и может поддерживать определенную стабильность, но полагается только на существующий уровень кредитования и возможности соответствующих предприятий однако на самом деле трудно соответствовать кредитным стандартам, установленным коммерческими банками. В настоящее время также требуется вмешательство страховых организаций, и страховые организации также рады предоставить такие гарантии, чтобы заложить основу для осуществления своей собственной последующей деятельности в области страхования. Таким образом, добавление страхования обеспечивает лучшую защиту и поддержку коммерческим банкам при финансировании цепочки поставок, делая рыночные риски контролируемыми.

Кроме того, риски на рынке более изменчивы. Коммерческим банкам следует учитывать такие характеристики, укреплять свое понимание и анализ рисков, хорошо работать в области управления рисками и предлагать надежные методы реагирования на риски, чтобы можно было эффективно контролировать и разрешать проблемы, связанные с рисками, а также учитывать влияние рисков на их собственный бизнес активность может быть

сокращена. И мы также должны обращать внимание на изменения рыночных рисков, корректировать и оптимизировать бизнес-деятельность на этой основе, а затем вносить соответствующие улучшения в соответствии с реальной ситуацией, чтобы можно было эффективно контролировать рыночные риски и избегать их. Оказывать большее влияние.

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ИССЛЕДОВАНИЯ В ОБЛАСТИ КОРПОРАТИВНЫХ РИСКОВ И АНТИКРИЗИСНОГО УПРАВЛЕНИЯ

Аннотация: Анализ бизнес-рисков предприятия - это систематический и всесторонний анализ и оценка различных рисков, с которыми предприятие может столкнуться в ходе бизнес-процесса. Он направлен на то, чтобы помочь предприятию выявить потенциальные риски и сформулировать соответствующие стратегии управления рисками для обеспечения устойчивого развития предприятия. В этой статье будут проанализированы бизнес-риски предприятий с пяти точек зрения.

Ключевые слова: Анализ рисков ведения бизнеса; стратегия управления рисками

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RESEARCH IN THE FIELD OF CORPORATE RISKS AND CRISIS MANAGEMENT

Summary: Business risk analysis of an enterprise is a systematic and comprehensive analysis and assessment of various risks that an enterprise may face during a business process. It aims to help the company identify potential risks and formulate appropriate risk management strategies to ensure the sustainable development of the company. This article will analyze the business risks of enterprises from five perspectives.

Keywords: Business risk analysis; risk management strategy

1. Рыночный риск

Изменения рыночного спроса: проанализируйте тенденции изменения рыночного спроса и поймите потенциальные рыночные риски. Например, технический прогресс, изменения в привычках потребления и другие факторы могут привести к изменению рыночного спроса¹⁴¹.

¹⁴¹ Чэнь Сяосянь, Хэ Шань. Исследование по измерению финансовых рисков в цепочке поставок коммерческих банков, основанное на перспективах финансовых технологий [J]. Журнал Юго-Западного университета национальностей (издание гуманитарных и социальных наук), 2022, 43 (7) : 123-128.

Угроза со стороны конкурентов: Оцените силу и долю конкурентов на рынке, а также проанализируйте риски, которые могут представлять конкуренты. Например, новые продукты конкурентов, ценовые войны и т.д. могут представлять угрозу позициям компании на рынке.

Изменения в политике: Обратите внимание на влияние изменений в государственной политике на бизнес-операции. Например, изменения в налоговой политике, политике в области охраны окружающей среды и т.д. могут оказать существенное влияние на рыночную конкурентоспособность предприятий.

2. Операционные риски

Риски в цепочке поставок: Оцените потенциальные риски в цепочке поставок, включая нестабильные поставки сырья и проблемы с качеством у поставщиков. Создайте механизм управления рисками в цепочке поставок, чтобы обеспечить стабильную работу цепочки поставок.

Риски производственного процесса: Проанализируйте риски, связанные с опасностями для безопасности, проблемами качества и т.д., которые могут возникнуть в производственном процессе. Создайте надежную систему управления производством, усильте контроль качества и снизьте риски производственного процесса.

Риски, связанные с человеческими ресурсами: оцените риски, связанные с человеческими ресурсами, такие как уровень текучести кадров и качество работы сотрудников. Создайте эффективный механизм управления человеческими ресурсами для повышения удовлетворенности и лояльности сотрудников, а также снижения кадровых рисков.

3. Финансовые риски

Долговой риск: Проанализируйте структуру долга и платежеспособность предприятия, а также оцените долговой риск. Создать разумные механизмы привлечения капитала и управления долгом для снижения долговых рисков.

Риск ликвидности капитала: Оцените ликвидность капитала предприятия, чтобы убедиться, что предприятие может своевременно погашать долги и оплачивать операционные расходы. Создайте эффективную систему управления капиталом, чтобы избежать рисков ликвидности капитала.

Валютный риск: Провести анализ валютного риска, связанного с деятельностью компании за рубежом, и разработать соответствующие стратегии управления валютным риском. Например, валютный риск снижается за счет разумных операций хеджирования¹⁴².

4. Риски, связанные с соблюдением законодательства

¹⁴² Чэнь Сяосянь, Хэ Шань. Исследование по измерению финансовых рисков в цепочке поставок коммерческих банков, основанное на перспективах финансовых технологий [J]. Журнал Юго-Западного университета национальностей (издание гуманитарных и социальных наук), 2022, 43 (7) : 123-128.

Юридические риски: Оцените юридические споры и юридическую ответственность, с которыми могут столкнуться предприятия в ходе своей деятельности. Создать надежную систему управления соблюдением законодательства для обеспечения законной работы предприятий.

Риски интеллектуальной собственности: Проанализируйте состояние интеллектуальной собственности предприятия и оцените риски, связанные с защитой интеллектуальной собственности. Создать механизм управления интеллектуальной собственностью для защиты прав интеллектуальной собственности предприятий.

Риск по контракту: Оцените риск по контракту, подписанному предприятием и его партнерами, чтобы убедиться в законности и действительности контракта. Создайте механизм управления контрактами для снижения контрактных рисков.

5. Риск стихийных бедствий

Риски стихийных бедствий: Оцените риски стихийных бедствий, с которыми может столкнуться район, где расположено предприятие, таких как землетрясения, наводнения и т.д. Разработать планы действий в чрезвычайных ситуациях для повышения устойчивости предприятий к стихийным бедствиям.

Риски техногенных катастроф: Оцените риски техногенных катастроф, с которыми могут столкнуться предприятия, такие как пожары, несчастные случаи и т.д. Создать систему управления безопасностью полетов, усилить обучение технике безопасности и переподготовку кадров и снизить риск техногенных катастроф.

Риски сетевой безопасности: Оцените риски, с которыми могут столкнуться предприятия с точки зрения сетевой безопасности, такие как утечка данных, сетевые атаки и т.д. Создайте механизм управления сетевой безопасностью для защиты информационной безопасности предприятий.

Анализ бизнес-рисков является неотъемлемой частью управления предприятием. Благодаря всестороннему анализу рыночных рисков, операционных рисков, финансовых рисков, рисков соблюдения законодательства и рисков стихийных бедствий предприятия могут лучше выявлять риски и управлять ими, а также обеспечивать устойчивое развитие предприятий. Поэтому предприятиям следует уделять внимание анализу рисков, создавать надежную систему управления рисками и повышать свою устойчивость к рискам.

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ПРОБЛЕМЫ ПОВЫШЕНИЯ ИННОВАЦИОННОГО ПОТЕНЦИАЛА ПРЕДПРИЯТИЙ

Аннотация: В данной статье рассматриваются проблемы повышения конкурентоспособности и эффективности предприятия, а именно его зависимость от состава ресурсов, квалификации персонала и качества производимой продукции или предоставляемых услуг.

Ключевые слова: инновации, опытно-конструкторские, материально-технические ресурсы, человеческие ресурсы, информационные ресурсы.

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PROBLEMS OF INCREASING THE INNOVATIVE POTENTIAL OF ENTERPRISES.

Abstract: This article discusses the problems of increasing the competitiveness and efficiency of an enterprise, namely its dependence on the composition of resources, staff qualifications and the quality of products or services provided.

Keywords: innovation, development, material and technical resources, human resources, information resources.

В условиях рыночной экономики применение инноваций на предприятии имеет большое значение. Формирование инновационной среды создает условия для постоянного обновления продукции, обновления производственных фондов на основе новой техники, развития общества в целом. Термин "инновация" происходит от английского слова "innovation," обозначающего новое научно-техническое достижение и процесс практического применения нового продукта. В научной литературе рассматривается влияние этого процесса на адаптацию к среде в организации, повышение его эффективности и полное использование социально-экономических возможностей в нашей республике. Основное внимание уделяется вопросам выбора наиболее рациональных вариантов для будущих менеджеров в условиях высокой конкуренции, обеспечения уровня рентабельности и интенсификации деятельности предприятия.

Основная цель предприятия - захват рынка, то есть доля предприятия на рынке, роль и значение производимого товара, охват новых рынков, уровень рентабельности, при этом подразумевается рентабельность личного капитала, рентабельность общего капитала. Это включает в себя финансовую устойчивость, кредитоспособность, ликвидность, уровень самофинансирования, рентабельность капитала, социальные цели, положение на рынке и так далее.

Конкурентоспособность и эффективность предприятия зависят от различных факторов. Инновационный потенциал предприятия зависит от структуры ресурсов, квалификации персонала и качества производимой продукции или оказываемых услуг. Важнейшим из таких факторов являются высококвалифицированные кадры, которые полностью вовлечены в работу и заинтересованы в повышении эффективности предприятия. В связи с этим на любом современном предприятии необходима хорошо структурированная система подготовки и повышения квалификации кадров, которая обеспечивает мотивацию сотрудников, заинтересованность в развитии организации и ответственность за свои обязанности и помогает обеспечить их взгляды. При оценке инновационного потенциала учитывается состав ресурсов предприятия и состояние его развития. Содержание инновационного потенциала предприятия включает в себя следующие основные компоненты, имеющие различные функциональные задачи:

- материально-технические ресурсы;
- информационные ресурсы;
- финансовые ресурсы;
- человеческие ресурсы.

При оценке инновационного потенциала предприятия анализируется состояние материально-технических ресурсов, масштабы инновационной деятельности и технико-технологический уровень, влияющий на темпы реализации продукции. Одним из важных элементов ресурсной составляющей является информационный ресурс, который включает в себя такие активные формы, как уровень знаний сотрудников, проектные модели, алгоритмы, программы, авторские права, патенты. Отличие информационных ресурсов от других ресурсов заключается в их быстром обновлении и изменении. Доля этих ресурсов чрезвычайно чувствительна при оценке инновационного потенциала и, наряду с другими ресурсами (опыт, труд, квалификация, техника, технология, энергия, сырье) проявляется как движущая сила инновационного потенциала. Финансовые ресурсы рассматриваются как гармоничное единство имеющихся ресурсов и неиспользованных возможностей в ресурсной составляющей инновационного потенциала. Они характеризуются совокупностью имеющихся резервов и источников финансовых возможностей и могут быть использованы для реализации определенных целей и задач. При этом объем финансовых ресурсов отражает финансовую мощь, способность системы участвовать

в создании материальных благ и предоставлении услуг. Однако, помимо функции обеспечения, финансовые ресурсы также выполняют функцию страхования, измеряя в денежных единицах материально-технические, информационные, человеческие и другие ресурсы, входящие в состав инновационного потенциала. Из вышеизложенного видно, что человеческий фактор играет важную роль в повышении потенциала предприятия. Благополучное функционирование системы подготовки работников, отвечающей социально-экономическим изменениям, а также современным требованиям научно-технического прогресса, является необходимым фактором достижения положительных результатов во всех сферах: необходимо удовлетворять потребности экономики, трудовых отношений, самосознания личности и развивать творческие способности человека для получения образования. С этой целью аспекты подготовки квалифицированных кадров для повышения инновационного потенциала предприятия заключаются в следующем:

- создание системы непрерывного обучения кадров на основе оптимального сочетания различных форм обучения, переподготовки и подготовки работников по различным профессиям;

- повышение знаний и навыков работников в условиях появления современных технологий, организация производства в тесной связи с их индивидуальными навыками. На сегодняшний день основными этапами формирования системы подготовки кадров необходимо учитывать:

- определение потребностей сотрудников в обучении;
- разработка инструментов для определения мотивации сотрудников к обучению;

- разработка и утверждение концепции системы подготовки кадров на предприятии;

- составление годового учебного плана для сотрудников;

- расчет годового финансирования;

- подбор и утверждение преподавателей среди обучающихся и консалтинговых компаний, как внутри компании, так и на внешнем рынке;

- разработка и утверждение программ дополнительной профессиональной подготовки кадров, а также определение форм и методов обучения;

- разработка и утверждение критериев и показателей оценки, методов, средств диагностики. Процесс повышения знаний и навыков сотрудников на предприятии должен быть постоянным, поэтому задача создания самообучающейся организации, способной использовать опыт, накопленный в ходе своей деятельности, для настройки методов работы при решении бизнес-задач предприятия, всегда актуальна.

Из вышеизложенного можно сделать вывод, что инновационный потенциал является одним из основных источников развития научно-технического прогресса, экономического роста. В то же время необходимо

направлять инвестиционные средства на создание научно-технического и инновационного потенциала. Это проявляется в таких показателях, как существующий инновационный потенциал при оценке инновационного уровня развития экономики, состояние инновационной инфраструктуры, вклад инновационной деятельности в экономический рост региона. В общем случае инновационный потенциал характеризуется инновационной деятельностью, количеством научных сотрудников и научных организаций, показателями деятельности научно-исследовательских институтов, затратами на научно-исследовательские и опытно-конструкторские работы и т.д.

Роль институциональной среды и государственной поддержки. Инновационное развитие предприятий во многом определяется качеством институциональной среды, включая нормативно-правовое регулирование и механизмы поддержки со стороны государства. Наличие налоговых льгот, субсидий на исследования и разработки, защита интеллектуальной собственности стимулируют компании инвестировать в инновации и способствуют коммерциализации научных разработок. Методологические подходы к оценке инновационного потенциала. В научной практике применяются три основных подхода:

1. Ресурсный подход – оценивает наличие и использование ключевых ресурсов (кадры, финансы, технологии).

2. Функциональный подход – анализирует способность предприятия генерировать и внедрять инновации, фокусируясь на организационных процессах и управлении знаниями.

3. Индексный подход – использует интегральные индикаторы, включающие инновационную активность, затраты на НИОКР, число патентов и уровень технологической готовности. Международные аспекты инновационного развития.

Глобальный тренд – переход от линейных моделей инноваций к сетевым и открытым инновационным системам, где взаимодействуют бизнес, наука и государство («тройная спираль»). Участие предприятий в международных научно-технических проектах и консорциумах усиливает доступ к передовым знаниям и технологиям, что способствует росту их конкурентоспособности на мировых рынках.

Инновационная культура как фактор устойчивого развития. Инновационная культура определяется как совокупность ценностей и норм, поддерживающих эксперименты, риск-менеджмент и коллективное обучение. Организации с развитой инновационной культурой демонстрируют более высокую адаптивность к внешним изменениям и быстрее внедряют новые продукты и процессы. Цифровая трансформация как катализатор инновационного потенциала. Современные цифровые технологии (Big Data, IoT, искусственный интеллект) оптимизируют управленческие и производственные процессы, способствуя ускорению инноваций. Цифровизация требует повышения цифровой грамотности персонала и

перестройки организационных структур для эффективного использования новых инструментов.

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РАЗРАБОТКА МЕТОДИКИ КОЛИЧЕСТВЕННОЙ ОЦЕНКИ РИСКОВ ПОРТФЕЛЯ ПРОЕКТОВ НА ПРИМЕРЕ КОМПАНИИ

Аннотация: В статье рассматривается методический подход к разработке количественной оценки рисков проектного портфеля. Актуальность темы связана с необходимостью минимизации рисков и повышения эффективности управления сложными инвестиционными программами.

Ключевые слова: построения модели количественной оценки рисков, рассматривается влияние цифровых технологий и зарубежного опыта, обосновывается практическая значимость предложенной методики.

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DEVELOPMENT OF A METHODOLOGY FOR QUANTITATIVE RISK ASSESSMENT OF A PROJECT PORTFOLIO

Abstract: The article explores a methodological approach to the development of quantitative risk assessment for a project portfolio. The relevance of the topic is due to the need to minimize risks and enhance the efficiency of managing complex investment programs.

Keywords: development of a quantitative risk assessment model, impact of digital technologies and international experience, practical significance of the proposed methodology.

Введение

Современные компании все чаще реализуют многопроектные программы, формируя портфели с различными уровнями рисков. Эффективное управление этими рисками требует системного и количественного подхода. Без достоверной оценки совокупного риска портфеля трудно принять обоснованные стратегические и финансовые решения.

Целью исследования является разработка воспроизводимой методики количественной оценки рисков, позволяющей учесть взаимосвязи между проектами, влияние внешней среды и последствия рисков для всей организации.

Основой методики является расчёт интегрального риска портфеля путём агрегирования индивидуальных рисков проектов с учетом их корреляций. Этапы оценки:

1. Идентификация рисков каждого проекта с использованием экспертных методов и анализа исторических данных.

2. Оценка вероятности наступления и величины ущерба для каждого риска.

3. Расчет индивидуальных проектных рисков по формуле $R = P * C$.

4. Формирование матрицы корреляций между проектами и группами рисков.

5. Проведение Монте-Карло моделирования с большим количеством итераций (не менее 10 000) для прогнозирования распределения совокупного риска.

6. Визуализация полученных результатов в виде риск-карт и диаграмм.

Анализ мировой практики показывает широкое применение программных инструментов для количественной оценки рисков, включая @Risk, Oracle Primavera Risk Analysis, SAP Risk Management. Особое внимание уделяется управлению зависимостями между проектами и моделированию сложных сценариев.

Обычно на практике используются определенные комбинации этих инструментов «подавления» рисков. Процессы управления рисками связаны с идентификацией (выявлением) рисков, анализом и принятием решений, максимизацией положительных и минимизацией отрицательных последствий рисковых событий [3]. Анализ состоит из выявления рисков и их оценки. При выявлении рисков определяются все риски, присущие исследуемой системе. Выявление и оценка тесно связаны между собой, и не всегда можно разделить их на самостоятельные части общего процесса.

Оценка рисков и их управление выполняют важную роль в обеспечении успешности инвестиционных проектов. В процессе управления рисками осуществляется анализ возможных негативных последствий для инвестора и принимаются меры по их снижению и предотвращению. Это помогает минимизировать потери и повысить вероятность получения прибыли.

Без должного внимания к менеджменту инвестиционных рисков, инвесторы могут столкнуться с финансовыми потерями, непредвиденными проблемами и неудачами проектов. Правильное управление рисками позволяет снизить вероятность возникновения потерь и повысить уровень безопасности инвестиций. Менеджмент инвестиционных рисков включает в себя несколько этапов, включая идентификацию рисков, оценку их вероятности и влияния на результаты проектов, разработку стратегий управления рисками и контроль за их выполнением. Кроме того, менеджмент

рисков предусматривает разработку и реализацию планов аварийного реагирования в случае нештатных ситуаций.

Основная цель менеджмента инвестиционных рисков — обеспечить инвесторам максимально возможную защиту от негативного воздействия рисков и минимизировать возможные потери. Корректно оценив и управляя рисками, инвесторы имеют больше шансов на успешные инвестиции и получение прибыли.

Следует иметь в виду, что полное исключение рисков невозможно, поэтому основная задача менеджмента — правильно оценивать и контролировать риски, минимизировать их влияние на инвестиции и гарантировать более безопасное вложение капитала. В рамках процесса управления рисками все мероприятия разделяются на до событийные, которые намечаются и исполняются заблаговременно, и после событийные — после того, как непредвиденное событие уже произошло. Одна из наиболее существенных задач управления рисками связана с выявлением риска, т.е. с созданием и внедрением методологии идентификации и оценки уровня риска, соответствующей условиям предприятия, а вторая — с планированием и осуществлением страхования рисков. Предприятия и организации любых сфер деятельности заняты «лечением» последствий рисков, так как за него необходимо платить, а профилактикой, которая стоит на порядок дешевле «лечения» (при одинаковом результате), никто не хочет заниматься. К профилактическим мероприятиям по снижению рисков в экономике и управлении относятся стратегическое планирование деятельности организации, повышение конкурентоспособности объектов, повышение научного уровня управления (законодательная база, научные подходы, принципы, методы, модели)

Корпорации интегрируют ESG-факторы, социальные и экологические последствия в модели оценки, обеспечивая комплексный взгляд на риски.

Внедрение цифровых двойников портфеля проектов и искусственного интеллекта открывает новые горизонты для прогнозирования рисков. Использование нейронных сетей позволяет выявлять скрытые взаимосвязи между рисками, а ИИ помогает оперативно пересчитывать рисковый профиль при изменении параметров проектов.

На примере компании "СтройИнвест" показана высокая эффективность методики:

- сокращение внеплановых затрат на 18%;
- рост доходности портфеля на 12%;
- снижение вероятности срыва сроков ключевых проектов на 25%.

Методика доказала универсальность и возможность адаптации под различные отрасли.

Современные вызовы требуют расширения функциональности количественной оценки рисков. Важно включать в расчёты политические и макроэкономические риски, учитывать санкционные ограничения и нестабильность внешних рынков. Одним из перспективных направлений

является внедрение стресс-тестирования портфеля проектов, моделирующего сценарии кризисного развития. Это позволит оценить устойчивость компании при реализации самых негативных сценариев.

Актуальным становится и внедрение системы автоматического мониторинга рисков в реальном времени, позволяющей мгновенно реагировать на изменения в проектной среде. Такая система может быть интегрирована в существующие ERP и BI-платформы. Особое внимание должно уделяться учёту рисков человеческого капитала. Потеря ключевых специалистов или недостаток квалифицированных кадров могут значительно повысить рисковую составляющую проектного портфеля.

Важной составляющей становится вовлечение всех уровней менеджмента в процесс оценки рисков, формирование культуры риск-ориентированного мышления и обучение персонала методам количественного анализа.

Экономический эффект от внедрения расширенной методики может включать:

- сокращение проектных издержек за счёт раннего выявления и управления рисками;
- повышение инвестиционной привлекательности компании за счёт прозрачной системы риск-менеджмента;
- снижение стоимости привлечённого капитала благодаря демонстрации эффективного управления рисками перед инвесторами и кредиторами.

Международные компании, такие как Siemens и General Electric, демонстрируют успешные примеры внедрения комплексных систем количественной оценки рисков. Они используют сквозное моделирование, оценивают валютные, регуляторные, технологические и рыночные риски на уровне портфеля.

Разработанная методика количественной оценки рисков проектного портфеля позволяет системно и прозрачно подходить к управлению рисками. Её внедрение обеспечивает повышение качества управленческих решений, снижение неопределённости и рост устойчивости бизнеса.

Методика открывает возможности для интеграции с международными стандартами риск-менеджмента (ISO 31000), повышая конкурентоспособность компании на глобальном рынке.

Заключение

Разработка и внедрение методики количественной оценки рисков проектного портфеля является необходимым условием эффективного управления инвестиционными программами. Методика обеспечивает прозрачность, обоснованность решений и способствует устойчивому развитию бизнеса. В дальнейшем целесообразно развитие методики в направлении учёта социальных и экологических рисков, интеграции с системами бюджетирования и стратегического планирования, а также применения в государственных инвестиционных проектах. Современные

тренды указывают на необходимость комплексного, цифрового и интегрированного подхода к управлению проектными рисками.

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ВИЗУАЛИЗАЦИЯ ПРОЦЕССА УПРАВЛЕНИЯ ПРОЕКТАМИ: ИНТЕГРИРОВАННЫЙ ПОДХОД

Аннотация: Визуализация данных играет ключевую роль в управлении проектами, трансформируя сложные массивы информации в наглядные образы. В условиях растущей сложности проектов, увеличения объемов данных и географического распределения команд возрастает потребность в эффективных методах визуального представления проектной информации. Несмотря на развитие инструментов визуализации, организации сталкиваются с проблемой выбора оптимальных методов для конкретных задач управления проектами.

Ключевые слова: Визуализация данных, управление проектами, интегрированный подход, информационная нагрузка, выбор методов визуализации, многокритериальный анализ, когнитивные особенности, оптимизация, проектная информация, принятие решений.

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VISUALIZING THE PROJECT MANAGEMENT PROCESS: AN INTEGRATED APPROACH

Abstract: Data visualization plays a key role in project management, transforming complex arrays of information into visual images. With the growing complexity of projects, increasing volumes of data, and geographical distribution of teams, the need for effective methods of visual presentation of project information is growing. Despite the development of visualization tools, organizations are faced with the problem of choosing the best methods for specific project management tasks.

Keywords: Data visualization, project management, integrated approach, information load, choice of visualization methods, multicriteria analysis, cognitive features, optimization, project information, decision making.

Цель исследования

Разработка интегрированного подхода к визуализации процесса управления проектами, учитывающего когнитивные особенности восприятия,

формализующего процесс выбора оптимальных методов визуализации и оценивающего их эффективность.

Теоретические основы

В работе формализованы ключевые понятия визуализации в управлении проектами, включая определение информационной нагрузки визуализации и разработку типологии визуальных методов (темпоральные, структурные, ресурсные, финансовые и риск-ориентированные). Доказано существование оптимального уровня информационной нагрузки для каждого метода визуализации и оптимального набора методов для конкретного проекта.

Методология исследования

Предложен многокритериальный подход к выбору оптимальных инструментов визуализации, формализованный как задача оптимизации с использованием матрицы соответствия информационных элементов и методов визуализации. Разработан алгоритм, основанный на жадной эвристике с последующим локальным поиском, гарантирующий аппроксимационное решение с коэффициентом не менее 0.632.

Экспериментальная валидация

Проведено исследование 47 проектов из различных отраслей (ИТ, строительство, НИОКР, маркетинг) с внедрением различных методов визуализации. Результаты показали статистически значимое улучшение эффективности управления проектами в среднем на 32.1% после внедрения оптимизированной визуализации.

Интегрированная система визуализации

На основе исследований разработана интегрированная система визуализации проектной информации, включающая многоуровневую структуру (стратегический, тактический, операционный уровни), адаптивную систему выбора методов и интерактивные инструменты. Экспериментально доказано, что система улучшает качество принятия решений на 27.3% по сравнению с традиционными методами.

Выводы

Предложенный интегрированный подход к визуализации значительно повышает эффективность управления проектами и качество принятия решений. Дальнейшие исследования будут направлены на разработку методов автоматической адаптации визуализации, изучение влияния культурных и когнитивных особенностей, а также интеграцию методов искусственного интеллекта для предиктивной визуализации.

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АНАЛИЗ КОРПОРАТИВНОГО УПРАВЛЕНИЯ ДЕНЕЖНЫМИ ПОТОКАМИ

Аннотация: Самым важным в управлении предприятием является управление денежными потоками. Среди множества показателей оценки стоимости оценка денежных потоков является наиболее авторитетной и репрезентативной, что обеспечивает прочную основу для принятия корпоративных финансовых решений. Уделение внимания денежному потоку в различных видах деятельности предприятия помогает увеличить прибыль. Напротив, компании, которые обращают внимание только на показатели прибыли, не обязательно могут генерировать денежный поток. Управление денежными потоками является основой создания ценности предприятиями. Предприятия принимают решения на основе анализа денежных потоков. Независимо от финансирования, инвестиций, операционной деятельности или распределения прибыли, в центре внимания должен быть денежный поток. В этой статье мы кратко опишем важность управления денежными потоками для финансового менеджмента, проанализируем текущую ситуацию и проблемы управления денежными потоками предприятия, а также предложим контрмеры и предложения по дальнейшему усилению управления денежными потоками на этой основе.

Ключевые слова: Денежный поток; управление денежными потоками; анализ денежных потоков

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CORPORATE CASH FLOW MANAGEMENT ANALYSIS

Summary: The most important thing in enterprise management is cash flow management. Among the many valuation indicators, cash flow estimates are the most authoritative and representative, providing a solid foundation for corporate financial decision-making. Paying attention to the cash flow in various types of business activities helps to increase profits. On the contrary, companies that pay attention only to profit indicators may not necessarily generate cash flow. Cash flow management is the foundation of value creation by enterprises. Businesses make

decisions based on cash flow analysis. Regardless of financing, investments, operating activities, or profit sharing, the focus should be on cash flow. In this article, we will briefly describe the importance of cash flow management for financial management, analyze the current situation and problems of managing the company's cash flows, and propose countermeasures and suggestions for further strengthening cash flow management on this basis.

Keywords: *Cash flow; cash flow management; cash flow analysis*

Денежный поток является очень важным ресурсом для предприятия и играет очень большую роль в производственной и операционной деятельности предприятия. В настоящее время рыночная конкуренция становится все более жесткой, и предприятия сталкиваются с различными финансовыми рисками в своей деятельности, а финансовые риски тесно связаны с движением денежных средств. Следовательно, предприятиям следует улучшить управление денежными потоками, объединить финансовые риски самого предприятия и выдвинуть реальные предложения по снижению операционных рисков предприятия и повышению конкурентоспособности предприятия на рынке. Денежный поток - это основа жизнедеятельности предприятия, и каждый аспект бизнес-процесса предприятия неотделим от него. Таким образом, усиление научного управления и анализа денежных потоков может обеспечить устойчивое выживание и развитие предприятия, и только тогда можно повысить его конкурентоспособность на рынке.

1 Текущая ситуация с управлением денежными потоками в нашей стране

В настоящее время, в связи с постоянными изменениями в макро- и микросредах, китайские предприятия уделяют все больше внимания управлению денежными потоками, но по-прежнему существует множество неотложных проблем, требующих решения в сфере управления денежными потоками.¹⁴³ :

① Осведомленность об управлении капиталом по-прежнему недостаточна. Из-за слабой теоретической базы и отстающего развития практического менеджмента в нашей стране существуют определенные недостатки в концепции и образе мышления управления денежными потоками предприятий. Наиболее типичным является не обращать внимания на управление денежными потоками и рассматривать максимизацию прибыли в качестве финансовой цели.

② Использование средств является неразумным. В последнее время банки смягчили условия кредитования малых и средних предприятий. Хотя это может решить проблемы финансирования и финансовые трудности для некоторых предприятий, с другой стороны, предприятия продолжают уделять

¹⁴³ Обсуждение важной роли управления денежными потоками в выживании предприятий [J]. Чжан Цзин. Финансы и экономика (Академическое издание). 2018(08)

внимание долгосрочным проектам, и компенсация ликвидности постепенно снижается. Если посмотреть на компании, то там больше проблем с просрочкой платежей.

Дебиторская задолженность не может быть погашена вовремя, что не только влияет на нормальное функционирование денежного потока компании, но и увеличивает альтернативные издержки и значительно снижает коэффициент использования средств.

③ Отсутствие надежной системы управления. Среди малых и средних предприятий в нашей стране некоторые руководители компаний сталкиваются с серьезным явлением централизации, в то время как другие являются менеджерами с отсталым мышлением или недостаточными способностями. Все вышеперечисленные явления приводят к тому, что предприятия игнорируют управление денежными потоками, что является основной причиной того, что соответствующую систему управления и контроля всегда было трудно создать и усовершенствовать.

2 Связанные теории денежного потока и управления им

2.1 Зарубежные исследования

Еще в 1860-х годах западные страны начали обращать внимание на движение денежных средств, и был создан прототип отчета о движении денежных средств. В условиях стремительного развития мировой экономики важность отчетов о прибылях и убытках становится все более очевидной. В 1961 году Американский институт дипломированных бухгалтеров (AICPA) опубликовал исследовательский отчет под названием "Анализ движения денежных средств и финансовые отчеты". "Два года спустя Совет по принципам бухгалтерского учета США опубликовал "Заключение № 3" в соответствии с этим и предложил "Отчет об источниках и использовании средств" в качестве дополнительной информации к финансовому отчету." К 1971 году "Отчет об изменениях в финансовом положении" в "Заключении № 19" был заменен. С 1960-х годов мировая экономика претерпела огромные изменения, и менеджеры, кредиторы и инвесторы как внутри предприятия, так и за его пределами с нетерпением ожидали появления полезной бухгалтерской отчетности для принятия решений¹⁴⁴.

После долгого ожидания Совет по стандартам финансовой отчетности США (FASB) в 1984 году, наконец, четко подтвердил важность информации о движении денежных средств. А в ноябре 1987 года впервые был подтвержден статус "третьего отчета" отчета о движении денежных средств в системе общей внешней финансовой отчетности. "Отчет о движении денежных средств не только восполняет недостаток информации о балансе и прибыли, но и предоставляет руководителям компаний новую перспективу оценки, которая может лучше отражать цели финансовой отчетности.

¹⁴⁴ Обсуждение важной роли управления денежными потоками в выживании предприятий [J]. Чжан Цзин. Финансы и экономика (Академическое издание). 2018(08)

На сегодняшний день западные страны имеют долгую историю теоретических исследований в области управления корпоративными денежными потоками, и, постоянно совершенствуя теоретическую базу, они также собрали плодотворные плоды. На данном этапе исследование сосредоточено на следующих аспектах: изучение значения информации о движении денежных средств, использование показателей анализа денежных потоков, а также исследование взаимосвязи между денежными потоками и корпоративной финансовой и инвестиционной деятельностью.

2.2 Отечественные исследования

1 июля 1993 года в нашей стране были обнародованы и внедрены "Стандарты бухгалтерского учета на предприятиях" и "Новая отраслевая система бухгалтерского учета". Оба они совместно указывали на то, что предприятия должны составлять отчеты об изменениях в финансовых условиях и указывать их в качестве еще одного основного заявления в финансовом отчете. Заявление¹⁴⁵.

С развитием рыночной экономики в нашей стране бизнес-механизм предприятий претерпел изменения, и движение денежных средств стало неизбежной темой. Таким образом, "Стандарты бухгалтерского учета предприятия - Отчет о движении денежных средств" появились на свет 1 января 1998 г. Министерство финансов требует, чтобы "предприятия готовили отчеты о движении денежных средств в соответствии с системой сбора и осуществления платежей, чтобы предоставить соответствующим пользователям информацию о наличных деньгах и их эквивалентах, а также информацию об оттоке денежных средств для определенного бухгалтерского учета". точка. Отчет о движении денежных средств является важным дополнением к отчету о начислениях и одним из трех основных отчетов нашей компании. Три года спустя, в целях дальнейшего совершенствования существующей политики, Министерство финансов внесло частичные изменения в первоначальные руководящие принципы в ответ на конкретные условия внедрения и изменения в экономической среде.

Исследования только начались, и ученые в моей стране прилагают неустанные усилия и настаивают на том, чтобы внести свой молчаливый вклад в управление современными предприятиями нашей страны, многие из которых достигли выдающихся результатов. Что касается текущей ситуации, то у каждого направления исследований есть своя направленность, и масштаб исследований постепенно расширяется. Таким образом, эволюция управления денежными потоками наглядно продемонстрировала важность денежного потока и подчеркнула его незаменимую роль.

2.3 Анализ движения денежных средств

Показатели и выводы анализа движения денежных средств являются важной основой для управления денежными потоками. Поэтому, уделяя

¹⁴⁵ Краткий анализ важности и мер противодействия управлению денежными потоками предприятия [J]. Ян Хань. Бухгалтерский учет для предприятий китайского городка. 2018(06)

внимание управлению денежными потоками, необходимо уделять внимание анализу движения денежных средств. Анализ движения денежных средств - это всесторонняя оценка движения денежных средств по проекту, которая в основном включает сумму инвестиций, необходимых для реализации проекта, деятельность инвестора проекта и движение денежных средств в конце проекта.

3 Факторы, влияющие на денежный поток

3.1 Общее влияние бизнес-операций

Для различных отраслей информация о капитале, необходимая предприятиям, имеет свою специфику, и условия функционирования различных отраслей могут быть полностью отражены в финансовой информации. Это требует от финансового персонала точного понимания ситуации в отрасли и своевременного предоставления полезных данных. Стадия роста, на которой находится предприятие, влияет на направленность деятельности предприятия на протяжении всего срока его существования. В частности, в начале предпринимательской деятельности предприятия, поскольку вся операционная деятельность находится на правильном пути, руководство часто сосредотачивается на основной работе, такой как исследование и разработка продукта, а доход компании очень мал или даже отрицателен; когда все готово, компания вступает в период роста. Рост, в целях расширения сферы деятельности и повышения конкурентоспособности на рынке, огромный спрос на капитал стал насущной проблемой; при стабильном развитии все аспекты деятельности предприятия достигают зрелости; на стадии рецессии выручка от продаж снижается день ото дня, а денежный поток предприятий с ограниченным капиталом сокращается оборот находится в невыгодном положении из-за резкого снижения. В течение жизненного цикла, связанного с развитием интегрированного предприятия, ситуация с капиталом постоянно меняется. В любой момент предприятие должно сформулировать соответствующий стратегический план для управления денежными потоками.

Денежный поток генерируется в трех основных аспектах операционной, финансовой и инвестиционной деятельности, и он также влияет на каждый аспект, и существуют также факторы, которые ограничивают денежный поток в каждом виде деятельности предприятия. Являясь основным видом деятельности корпорации, деловая деятельность охватывает все вопросы, за исключением инвестиций и финансирования. Значение этого слова настолько велико, что соответствующие решения окажут важное влияние на денежный поток предприятия. Например, при продаже товаров, чтобы обеспечить нормальное поступление денежных средств, предприятие должно минимизировать риск получения оплаты за продажи и может использовать метод оплаты по мере поступления. Инвестиционная деятельность присутствует во всех аспектах деятельности предприятия, включая строительство и реализацию долгосрочных активов, а также инвестиции в другие компании и реализацию их неденежных эквивалентов. Свободные

средства, не связанные с нормальной работой предприятия, могут быть использованы для других приносящих доход инвестиций, чтобы избежать накопления средств и усилить управление денежными потоками и их анализ.

3.2 Анализ отчета о движении денежных средств

Отчет о движении денежных средств является одним из основных финансовых отчетов, имеющих значительный вес. Информация, отраженная в отчете о движении денежных средств, играет важную роль в координации различных финансовых взаимоотношений и организации финансовой деятельности.

На данном этапе основными методами анализа денежных потоков, которые мы в основном применяем, являются метод прямого анализа, метод структурного анализа, метод анализа коэффициентов и метод анализа тенденций. Большинство предприятий используют метод структурного анализа и метод анализа соотношений. Здесь автор акцентирует внимание на методе структурного анализа. Цель анализа значимости структуры денежных потоков состоит в том, чтобы выявить причины сложившегося в компании денежного потока и оценить, является ли состав денежных потоков разумным, исходя из операционных характеристик и цикла развития компании. С помощью вертикального сравнения структуры денежных потоков также можно выявить тенденцию изменения их структуры и обоснованно спрогнозировать будущие денежные потоки.

В контексте международных финансов хранение умеренно достаточного количества наличных средств и поддержание хорошей денежной ликвидности стало лучшим выбором для предприятий. Уровень управления денежными потоками определяет рост и падение предприятия, и его управленческая работа всегда должна соответствовать цели максимизации стоимости предприятия и стратегическому планированию предприятия. Для создания эффективной системы управления денежными потоками теоретическая основа является основной предпосылкой. В то же время на практике предприятиям следует уделять внимание управлению бюджетом, ориентированному на денежные потоки, усиливать динамичное управление денежными потоками и максимально повышать роль анализа денежных потоков. Только хорошая ситуация с денежными потоками может удовлетворить потребности всех заинтересованных сторон.

Использованные источники:

1. Обсуждение важной роли управления денежными потоками в выживании предприятий [J]. Чжан Цзин. Финансы и экономика (Академическое издание). 2018(08)
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МАКРО-МИКРОСКОПИЯ ВНУТРИСТВОЛЬНЫХ КРОВЕНОСНЫХ СОСУДОВ ЛИЦЕВОГО НЕРВА ПРИ ЭКСПЕРИМЕНТАЛЬНОМ НЕВРИТЕ В УСЛОВИЯХ ПРЯМОГО И ОКОЛЬНОГО КРОВОТОКА

Резюме: В статье изучены кровеносные сосуды нервов на моделях патологических состояний, адекватных жизненным условиям, приближает изучение анатомических вопросов к потребностям практической медицины, что и отвечает стремлениям современной функциональной анатомии. Также нами на 22 кроликах изучались в динамике преобразования сосудов лицевого нерва в условиях экспериментального неврита.

Ключевые слова: кролик, лицевой нерв, воспаление, кровеносный сосуд, спазм, очаг воспаления, деструктивное изменение.

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MACROMICROSCOPY OF INTRACRANIAL BLOOD VESSELS OF THE FACIAL NERVE IN EXPERIMENTAL NEPHRITIS IN CONDITIONS OF DIRECT AND INDIRECT BLOOD FLOW

Abstract: The article examines the blood vessels of nerves on models of pathological conditions adequate to living conditions, brings the study of anatomical issues closer to the needs of practical medicine, which meets the aspirations of modern functional anatomy. We also studied the dynamics of facial nerve vascular transformation in experimental neuritis in 22 rabbits.

Keywords: rabbit, facial nerve, inflammation, blood vessel, spasm, inflammation, destructive change.

Введение. Невриты лицевого нерва являются частыми заболеваниями, вопросы этиопатогенеза и лечения которых продолжают интересовать клиницистов и теоретиков [1,6]. Параличи лицевого нерва могут быть обусловлены полиомиелитом, воспалением среднего уха, опухолью околоушной железы [2]. В неврологической литературе в последнее время появилось большое число статей, в которых этиопатогенетическим моментом невритов лицевого нерва считаются дисциркуляторные расстройства лицевого нерва, возникающие после регионарного артериолярного спазма. Между тем характер сосудистых преобразований в условиях невритов различных нервов вообще и в лицевом нерве, в частности, до настоящего времени достаточно не освещен [3,4].

Цель исследования. Изучить морфологию внутрисосудовых кровеносных сосудов лицевого нерва при экспериментальном неврите

Материалы и методы исследования. Исходя из вышеизложенного, нами на 22 кроликах изучались в динамике преобразования сосудов лицевого нерва в условиях экспериментального неврита. Воспаление вызывалось инъекцией 0,1 мл скипидара в параневральную клетчатку в области краниальной трети нерва после разреза кожи. Воспаление производилось на обеих сторонах, при этом на одной из сторон дополнительно производилась в одной группе опытов односторонняя перевязка общей сонной артерии, а в другой группе - наружной яремной вены, чем создавалось выраженное окольное кровообращение.

Результаты исследования. В первой группе опытов последовательно изучались в динамике сдвиги внутрисосудовых кровеносных сосудов лицевого нерва в условиях развивающегося воспаления параневральной клетчатки без дополнительных вмешательств (контрольная группа). В другой группе опытов изучались сдвиги внутрисосудовых кровеносных сосудов лицевого нерва при развивающемся воспалении с одновременной перевязкой общей сонной артерии на соименной стороне.

В первой группе опытов, где вызывалось воспаление без дополнительных вмешательств, через 6 часов после введения скипидара в параневральную клетчатку не только в месте введения, но и по всей длине нерва обнаруживается спазм сосудов эпипери и эндоневрия.

Через 24 часа после операции спазм сосудистого русла сменяется расширением сосудов, нарастанием компенсаторных приспособлений и деструкции стенок сосудов, особенно на уровне очага воспаления. Через 3 дня после указанной операции деструктивно-реактивные изменения в сосудах лицевого нерва продолжают нарастать. В очаге воспаления, как и через 24 часа, отмечается малососудистая зона с массовой деструкцией и атипичностью структуры сосудистого русла, а также отсутствием анастомозов и сосудистых петель. Через 3 дня после операции изменения в сосудистом русле характеризуются, по сравнению с предыдущим сроком наблюдения, нарастанием в одинаковой мере реактивных и деструктивных изменений. Через 30 дней после введения скипидара в кровеносных сосудах

лицевого нерва происходят значительные преобразования в сторону нормализации, однако полной нормализации эти сроки еще не отмечаются. В этих опытах в те же сроки наблюдения сдвиги в кровеносных сосудах лицевого нерва носят иной характер по сравнению с опытами, где воспроизводился неврит без перевязки общей сонной артерии. Так, через 6 часов после операции в сосудистом русле лицевого нерва отмечается инъекция сосудов во всех оболочках нерва, в то время как в опытах с воспалением без дополнительных вмешательств инъекция сосудов эндоневрия почти не отмечалась. Через 7-10 дней деструктивные изменения в сосудах лицевого нерва уменьшаются, а компенсаторные преобразования остаются на том же уровне, в то время как в опытах с воспалением без дополнительных вмешательств указанные сдвиги продолжали нарастать. В дальнейшем идет медленная перестройка сосудистого русла лицевого нерва в сторону его нормализации с постепенным уменьшением деструктивных и реактивных изменений. К 30 дню после операции продольные сосудистые тракты определяются по всей длине нерва. В предполагаемом участке воспаления, т. е. на уровне введения скипидара все же отмечается незначительная неровность контуров сосудистых стенок и прерывистая инъекция, но очаг воспаления по общему сосудистому рисунку почти не отличается от других отделов. Таким образом, в опытах, где скипидарное воспаление сопровождалось одновременной перевязкой общей сонной артерии на той же стороне воспалительный процесс протекает также с наличием выраженных деструктивных изменений в сосудистом русле лицевого нерва, что свидетельствует о преимущественном влиянии скипидарного воспаления на изменения. Однако указанные деструктивные, а также другие (компенсаторные) преобразования в сосудистом русле лицевого нерва в условиях воспаления с одновременной перевязкой общей сонной артерии значительно раньше претерпевают обратное развитие (7-10 день). А в опытах с воспалением без дополнительных вмешательств к 7-10 дню изменения в сосудах лицевого нерва продолжают нарастать и только с 15 дня отмечается начало нормализации. Таким образом, изменения в сосудистом русле лицевого нерва в опытах с воспалением и одновременной перевязкой наружной яремной вены характеризуются преимущественно компенсаторными и в меньшей степени деструктивными изменениями. Сопоставляя результаты трех вышеописанных групп опытов, следует отметить, что характер преобразований в сосудистом русле лицевого нерва и степень деструктивных изменений стенок сосудов в разных опытах различны. Так, в опытах с воспалением без дополнительных вмешательств деструктивные и компенсаторные изменения в сосудистом русле выражены в большей степени, чем в опытах с воспалением и одновременным выключением общей сонной артерии либо наружной яремной вены.

Вывод. Таким образом, полученными данными выявляются специфические особенности сосудистых реакций в условиях окольного кровотока на фоне асептического воспаления после выключения артерий и

вен. Сопоставления преобразований внутриствольных сосудов лицевого нерва на фоне воспаления и при, интактном нерве позволяют глубже оценить морфологические стороны окольного кровотока нерва в условиях, наиболее приближенных к практике медицины. Эти данные могут быть учтены при рассмотрении вопросов этиопатогенеза и терапии дисциркуляторных невритов лицевого нерва в клинике.

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К МЕТОДИКЕ МОДЕЛИРОВАНИЯ НЕКОТОРЫХ ПАТОЛОГИЧЕСКИХ СОСТОЯНИЙ И ИЗУЧЕНИЮ КРОВЕНОСНЫХ СОСУДОВ СЕРДЦА В ЭКСПЕРИМЕНТЕ

***Резюме:** В данной статье было изучено коллатеральное кровообращение сердца при его патологических состояниях в эксперименте на собаках и кроликах. А также кровеносные сосуды сердца в условиях экспериментального стеноза брюшной аорты на девяти собаках. Операция стенозирования брюшной аорты производилась под эфирным наркозом.*

***Ключевые слова:** кролик, собака, кровообращение, экспериментальная стеноза, кровеносный сосуд, аорта, сердце, стенозирование.*

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TO THE METHODOLOGY OF MODELING SOME PATHOLOGICAL CONDITIONS AND THE STUDY OF BLOOD VESSELS OF THE HEART IN AN EXPERIMENT

***Abstract:** In this article, the collateral circulation of the heart was studied in its pathological conditions in an experiment on dogs and rabbits. And also the blood vessels of the heart under conditions of experimental stenosis of the abdominal aorta on nine dogs. The operation of stenosis of the abdominal aorta was performed under ether anesthesia.*

***Key words:** rabbit, dog, blood circulation, experimental stenosis, blood vessel, aorta, heart, stenosis.*

Введение. В настоящее время накопилась обширная анатомическая литература, посвященная кровообращению сердца человека и животных в норме и эксперименте [1,4]. Несмотря на большое число исследований, все же

многие вопросы кровообращения сердца остаются малоизученными. Так в частности, ограниченное число исследований посвящено изучению кровеносных сосудов сердца при коллатеральном кровообращении (после выключения сосудов) в условиях патологии сердца[3,5]. Только в последние годы появились работы, посвященные вопросам коллатерального кровообращения сердца при его патологии[2,6].

Цель исследования. Изучить коллатеральное кровообращение сердца при его патологических состояниях в эксперименте на собаках и кроликах.

Материалы и методы исследования. Операцию стеноза грудной аорты у кроликов проводили под эфирным наркозом в сочетании с местной анестезией 0,5% раствором новокаина. После разреза кожи вентральной стенки туловища у кролика обнажается грудина, которая разрезается на две половины. Обнажается аорта, под которую иглой Дешана подводится толстая шелковая нить. Концы нити завязываются над аортой, узел затягивается постепенно до достижения нужной степени сужения аорты. Вслед за сужением аорты рана послойно зашивалась. Посмертно кровеносные сосуды были инъецированы водной взвесью черной туши в разведении 1:4. Сердце после инъекции фиксировалось в 20% растворе формалина. На 2-й день после фиксации определялись размеры и вес сердца. Просветленные препараты изучались под микроскопами МБС-2, МБИ-6. Для сопоставления исследовались сердце и его внутриорганные кровеносные сосуды, а также электрокардиографические записи у 8 здоровых кроликов.

Результаты исследования. Сердце кролика питается, главным образом, двумя венечными артериями, которые отходят от аорты на уровне свободного края полулунных клапанов. Лучше всего выражена сосудистая сеть в субэпикардальном слое. Сосуды в этом слое делятся на мелкие веточки, в целом напоминающие ветви ели.

В мышечном слое сосуды меньшего размера, расположены по ходу мышечных волокон, но встречаются сосуды, которые проходят в различных направлениях. У кролика, погибшего через два дня после стенозирования грудной аорты, сердце было увеличено. Толщина левого желудочка увеличилась по сравнению с нормой на 0,8 мм, правого желудочка — на 0,2 мм, вследствие чего изменились размеры сердца в целом. Длина сердца превышает норму на 0,6 см, ширина — на 0,22 см, толщина — 0,28 см, вес сердца — на 2,74 г. Соответственно изменениям величины сердца изменились и его сосуды. Диаметр сосудов увеличился, сосуды приобрели более прямой ход. В субэпикардальном слое диаметр сосудов составляет 30—500 микрон. Число капилляров уменьшилось на 300—500 в одном мм. В мышечном слое сосуды претерпевают меньшие изменения: диаметр их увеличивается не более чем на 5—10 микрон по сравнению с нормой. Через 20 дней после стеноза аорты сосуды сердца значительно увеличились в диаметре. В субэпикардальном слое диаметры сосудов доходят до 800 мкр, в мышечном слое - 120 мкр. Сосуды приобрели узкий тип ветвления. Плотность капилляров уменьшается. В этих опытах устанавливается, что в условиях

экспериментального стеноза грудной аорты у кроликов возникает функциональная гипертрофия стенки желудочков, преимущественно левого. В другой серии опытов мы изучали кровеносные сосуды сердца в условиях экспериментального стеноза брюшной аорты на девяти собаках. В первый день операции собаки не принимали пищу, были малоподвижными, пульс на бедренной артерии был слабым. Число сердечных сокращений равнялось 60—80 ударам в мин. (в норме 100—120). На второй день у собак наступал парез задних конечностей. В первые три дня после операции четверо собак погибли. На вскрытии отмечались скопление асцитической жидкости в брюшной полости, гидроторакс. Животные, выжившие этот срок, чувствовали себя хорошо, но пульс по-прежнему на бедренной артерии оставался слабым, а число сердечных сокращений не превышало 90 ударов в мин. Таким образом, вес сердца и сердечный индекс (СИ) обратно пропорциональны. Учитывая это положение, мы стремились проводить опыты на собаках примерно одинаковой весовой группы — от 12 до 18 кг. В этих условиях сердечный индекс в норме равнялся 0,6-0,8%. У подопытных животных СИ зависит от срока жизни после стенозирования аорты и определялся между 0,9-0,12%. Разница между продольными и поперечным размерами сердца в норме равняется 3-5 см, в условиях опыта — 2—4 см. Увеличение массы сердца и его размеров происходит за счет утолщения стенок преимущественно левого желудочка и незначительно — за счет правого желудочка, а толщина стенок предсердий не изменяется. Реакция сосудистой системы сердца при стенозе брюшной аорты, так же как при стенозе грудной аорты, соответствует изменениям в миокарде. В норме сердце собаки снабжается кровью двумя венечными артериями, которые в субэпикардальном слое делятся на артерии II, III, IV порядков с диаметром 60- 800 микрон. Эти сосуды, анастомозируя между собой, образуют густую сосудистую сеть. Другая часть сосудов проникает в толщу мышечного слоя, дихотомически делится, образуя древовидные разветвления, между которыми имеются нежные анастомозы. Наконец третья часть сосудов, VI порядков (диаметром 20-40 микрон) доходит до субэндокардиального слоя. Капиллярная сеть в мышечном слое расположена вдоль мышечных волокон. Плотность капиллярной сети равна 7800-8900 см². Через двое суток после экспериментального стеноза брюшной аорты отмечается лучшая инъекция сосудов. Число последовательных делений ветвей венечных артерий — в пределах нормы. Диаметры сосудов увеличены. Плотность капиллярной сети в пределах верхней границы нормы. На 20 день опыта характерно утолщение стенок сосудов крупного диаметра, расширение анастомозов мелкой сосудистой сети, нарастание плотности капилляров в 1 см².

Вывод. Таким образом, вес сердца и сердечный индекс (СИ) обратно пропорциональны. У подопытных животных СИ зависит от срока жизни после стенозирования аорты и определялся между 0,9-0,12%. Полученные нами данные в этих сериях исследований являются начальными,

контрольными для последующего изучения коллатерального кровообращения сердца на фоне указанных патологических состояний.

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ТЎҚИМАЧИЛИК КОРХОНАЛАРИ ФАОЛИЯТИ САМАРАДОРЛИГИНИ БОШҚАРИШ

Аннотация. Мақолада тўқимачилик корхонаси фаолият самарадорлигини бошқариш жараёнида қўлланиладиган усуллар ўрганилган.

Калим сўзлар: тўқимачилик, самарадорлик, бошқариш, самара, уюшма, молиявий усул, бюджет, бошқарув.

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PERFORMANCE MANAGEMENT OF TEXTILE ENTERPRISES

Annotation. The article examines the methods used in the management of the efficiency of the textile enterprise.

Keywords: textile, efficiency, management, efficiency, association, financial method, budget management method

Кириш.

Тўқимачилик корхоналари фаолияти самарадорлигини бошқариш жараёнида қўлланилаётган усуллар тармоқда рақобатнинг кескинлашишига олиб келади. Ўзбекистон Республикаси Президентининг 2022 йил 28 январдаги «2022-2026 йилларга мўлжалланган Янги Ўзбекистоннинг тараққиёт стратегияси»да белгиланган вазифалардан келиб чиқиб, тўқимачилик корхоналари фаолияти самарадорлигини бошқариш жараёнида қўлланилаётган усуллар долзарб ҳисобланади.[1]

Хўжалик юретишнинг бозор талабларига мослашиши соҳа ва тармоқлар бошқариш тизимининг қайта қурилиши шаклланаётган механизмда ўзгараётган мулк муносабатлари ва ташкилий – ҳудудий манбалар мужассамлаштириб борилаётганлигида намоён бўлмоқда.

Ишлаб чиқариш воситалари, ишчи кучи ва ўз меҳнат натижаларига эгалик қилаётган ижтимоий-иқтисодий тузилмалар, давлатнинг бошқариш ваколатига эга идоралари иқтисодий тамойилларига таяниб, турлича муносабатлар ўрнатишга киришмоқда.

Демак, бошқариш тизимининг вазифаларини таркибан ўзгартириш, ҳар бир тузилмада такрорий ишлаб чиқаришни йўлга қўйиш ва уни кенгайтириш хусусиятлари аниқланади, хўжалик юретиш услубларнинг бозор

муносабатларига мослашиш зарурлиги кўзда тутилади. Бошқарув цикли босқичларига мувофиқ тўқимачилик корхонаси ўзининг ривожланиш мақсадларини белгилаб беради, улар ликвидлик, рентАбеллик ва харажатларнинг аниқ молиявий жиҳатидан ифодаланади. Улар мақсадларга эришиш учун режалаштирилган барча қарорларни амалга ошириш мумкин бўлса, корхонанинг ҳолатини акс эттиради.

Тўқимачилик корхонаси ўз мақсадларига ташкилий тузилманинг бевосита ижрочилари — бўлинмалари орқали эришади. Мақсадлар эса ўз навбатида бюджетларда ўз аксини топади.

Адабиётлар шарҳи.

Тўқимачилик корхоналари фаолияти самарадорлигини бошқариш жараёнида хорижий ва маҳаллий олимлар томонидан тадқиқ қилинган. Жумладан:

Америкалик олимлар М.Х. Мескон, М. Альберт, Ф. Хедоурилар вазифавий хусусиятлардан келиб чиқиб, қуйидаги таърифни берадилар: «Бошқариш – бу ташкилот мақсадини аниқлаш ва унга эришиш учун зарур жараёнларни режалаштириш, такомиллаштириш, фаоллаштириш ва назоратдир» деб таъриф берганлар: «Бошқариш – мақсадга эришишни таъминлашга йўналтирилган режалаштириш, ташкил этиш, раҳбарлик қилиш, ташкилот ходимларини назорат қилиш жараёнидир» [2.].

Илмий бошқарув таълимининг асосчиси америкалик муҳандис Ф.Тейлор ҳисобланади. Бошқарув тизимини яратиш масалалари унинг «Саноат корхоналарини маъмурий техника ташкилоти», «Бошқарувни илмий ташкил қилишнинг усули ва принциплари», «Корхона бошқарувини принциплари» номли китобларида келтирилган [3].

Ф.Тейлор ишлаб чиққан тизимнинг асосини меҳнатни тўғри ташкил қилиш; бошқарувни расмий таркибини яратиш; бошқарувчи ва ишчиларни бирга меҳнат қилиш чора-тадбирларини белгилаш кабилар ташкил қилади.

А.Файоль томонидан ишлаб чиқилган бошқарув назарияси ҳақидаги иккинчи муҳим қоида, бу йирик корхонада ишловчи кишилардан ташкилотчилик (маъмурий), техник қобилиятлар ва билимларининг ишбодидир. Бундан ташқари, у бошқарувда асосий эътиборни ишлаб чиқаришдаги ижтимоий масалаларга қаратди.

П.Ф. Друкер менежмент соҳасида бир қанча муҳим ғояларни илгари суради. Унинг таърифига кўра: «Бошқариш – бу тармоқ жамоа фаолиятини мақсадли йўналтириш ва гуруҳ меҳнатининг унумли бўлишига эришишдир. Бошқариш ижтимоий ўзгаришларни рағбатлантирувчи элемент ва нуфузли ижтимоий ўзгаришлар намунасидир»[4]. Унинг таъминоти марказида уддабурон фаол менежерлар туради. Унинг фикрича, бошқарув элитаси тадбиркорликнинг асоси саналади ва улар замонавий бизнес ҳамда жамият ривожига етакчи ролни ўйнаши лозим. Ушбу ғояга таянган ҳолда, Друкер ўзининг илмий асарларида асосий эътиборни бошқариш тизимининг муҳим хусусияти сифатида тез ўзгарувчанликка менежерлар мосланувчанлиги ёндашувига, усуллариغا ҳамда механизмига қаратади.

Хўжалик субъектларида бошқариш механизмини такомиллаштириш борасида республикамиз иқтисодчи олимлари ҳам бир қатор тавсияларни келтиришган. Жумладан, Р.И.Нуримбетов ва С.И.Ахмедовларнинг қайд этишича, «бошқарувчи тизимда менежментни ташкил этишни такомиллаштиришнинг асосий йўналишлари сифатида бошқарув функциялари ва ташкилий структурани такомиллаштириш; бошқарув техникаси ва технологияси, бошқарув аппаратида ишни ташкил қилиш; бошқарув ишини механизациялаш ва автоматлаштириш; бошқарувнинг ахборот базаси, маълумотларни рўйхатга олиш тизими, уларни бошқарув аппаратида узатиш шакл ва усуллари такомиллаштириш; қарорларни тайёрлаш, қабул қилиш ва уларни бажарилишини ташкил этиш жараёнини такомиллаштириш; бошқарув ишининг шарт-шароитларини яхшилаш; бошқарув аппарати ходимларини иш вақтидан фойдаланишини тартибга солиш; бошқарув усуллари тартибга солиш; бошқарув аппаратидаги турли бўлимларнинг фаолиятини уйғунлаштириш; жамоада барқарор ижтимоий-руҳий муҳитни яратиш кабилар ажратилади» [5].

С.С.Ғуломов эса, «Бошқарув – бу ташкилотнинг ўз олдига қўйган мақсадига эришиши учун йўналтирилган жараёндир. Бу бошқарув фаолияти ҳаракатининг кетма-кет бажариш жараёни бўлиб, фирманинг бир қатор ишлаб чиқариш ва ижтимоий масалаларини ечиш ва уларни амалга ошириш учун зарур. Бу ҳаракат бошқарув вазифаларини бажариш деб аталади», деган фикрни билдиради [6].

Ахмедов И.А иқтисодчи олимнинг асарларида эса корхонани бошқариш механизмини такомиллаштиришда маркетингни режалаштириш, маркетинг стратегиясини ишлаб чиқиш каби жиҳатлар тадқиқ этилган [7].

Қ.Х.Абдурахмонов, Имамов В.А каби олимлар эса, кўпроқ персонални бошқариш, хусусан кадрларни режалаштириш, персонални бошқариш стратегиясини ишлаб чиқиш, стрессни бошқариш, кадрлар тизимида янгиликларни бошқариш каби йўналишларда тадқиқотлар бажаришган [8].

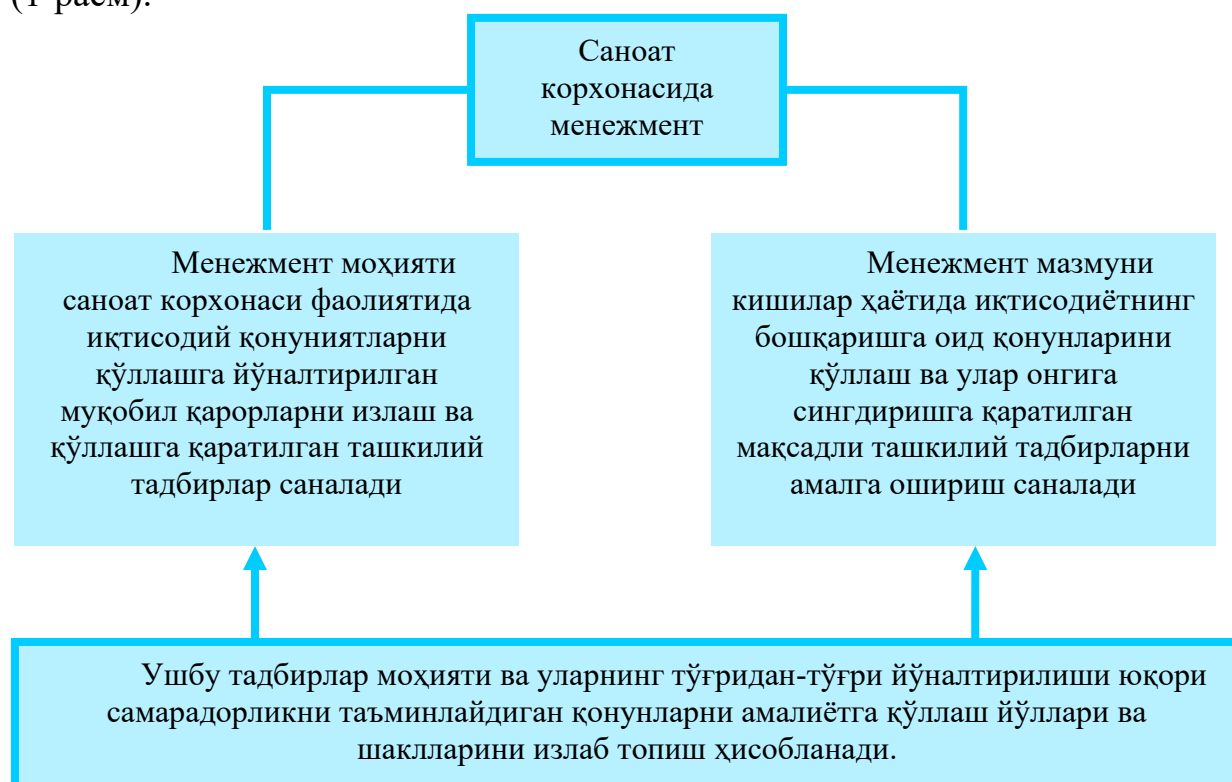
Тадқиқот методологияси.

Тўқимачилик корхоналарини бошқаришда олимлар ва соҳа вакиллари билан суҳбат, уларнинг ёзма ва оғзаки фикр-мулоҳазаларини таҳлил қилиш, эксперт баҳолаш, жараёнларни кузатиш, иқтисодий ҳодиса ва жараёнларга тизимли ёндашув, муаллиф тажрибалари билан қиёсий таҳлил ўтказиш орқали тегишли йўналишларда хулоса, таклиф ва тавсиялар берилган.

Таҳлил ва натижалар муҳокамаси.

Бошқарув узлуксиз ва мақсадли жараён сифатида аниқ бир хўжалик юритишнинг фаолияти билан чамбарчас боғлиқ бўлади. Менежмент мазмуни ва моҳияти ҳаётга иқтисодий қонунларни тадбиқ этишга йўналтирилган муқобил қарорларни излаб топиш ва уларни амалга оширишга қаратилган ташкилий тадбирларда мужассамлашгандир. Маълумки, иқтисодий қонунлар билан кишилар хўжалик фаолиятида уларни қўллаш ўртасида менежмент моҳиятини ташкил этадиган ташкилий тадбирлар пайдо бўлишига зарурат туғилади. Ушбу тадбирлар моҳияти ва уларнинг қўлланилиши қонунларни

амалиётга қўллаш йўллари ва усуллари (шакллари) излаб топишда ётади (1-расм).



1-расм. Саноат корхонаси фаолиятида менежментни ташкил этувчилар модели

Маълумки, жамоавий (кооперациялашган) меҳнат алоҳида вазифаларни бажарувчилар ҳаракати билан ўзаро уйғунлашишни талаб этадики, бу эса менежмент тамойилларидан фойдаланишни тақозо этади. Бу эса шу хулосага олиб келадики, менежмент асосан меҳнатнинг тақсимланиши жараёнида вужудга келган ва ўзига қуйидагиларни танлайди:

-ўзаро жамоавий меҳнат жараёнидаги қатнашчиларга ташкилий таъсир этишни;

-ўзаро қўшилиш ва муросага келиш йўли билан улар ҳамкорлик меҳнат жараёнида онгли мақсадли фаолият амалга оширилишини таъминлайдиган масалаларни;

-кишилар томонидан амалга ошириладиган ҳаракатларни мувофиқлаштиришни.

Шундай қилиб, менежмент – бу ишлаб чиқариш жараёни ижтимоий – уйғунлашган жараён кўринишини оладиган ишлаб чиқаришнинг ҳар қандай услубининг зарурий лаҳзаси саналади.

Бизнинг фикримизча, юқорида «бошқарув» ва «менежмент» атамаларига келтирилган барча таъриф ва талқинлар етарлича асосга эгадир. Ҳар бир муаллиф ўз билим даражаси, савияси, қарашлари, тадқиқотлари натижаларига таяниб, бу борадаги ўз фикрларини баён этишган.

Бу соҳадаги олиб борилган илмий-тадқиқот ишлари натижаларига таянсак, бошқарув – бу корхона фаолиятини доимий равишда изга солиб

туриш, уни келгусида ривожлантириш борасига оид қарорлар қабул қилиш ва уларнинг ижросини назорат қилишни амалга оширувчи бўғин ҳисобланади.

Бошқариш эса, корхона фаолиятининг алоҳида йўналишлари (ишлаб чиқариш, сотиш, ривожлантириш)да самарадорликни таъминлаш борасидаги услуб ва воситалари йиғиндисидир.

Ишлаб чиқариш икки турдаги бошқариш орқали амалга оширилади [9]:

- 1) меҳнат воситасини бошқариш;
- 2) одамларни (ишловчиларни) бошқариш.

Меҳнат воситасини бошқариш жарёнида ишчилар моддий бойлик олиш мақсадида меҳнат буюмларига таъсир кўрсатади. Бу бошқариладиган объектни ифодалайди. Шундай қилиб, ишлаб чиқаришни бошқариш ишловчиларни бошқаришдан иборат бўлиб, улар ўз навбатида меҳнат воситаларини бошқарадилар. Бу эса, ўз навбатида бошқариш субъектини ифодалайди.

Менежмент эса – бу алоҳида фан йўналиши ҳисобланиб, ўзининг усуллари асосида хўжалик субъектида бошқарув тизимини мукаммаллаштириш ва бўлимлараро оқилона бошқаришни ташкил этиш механизмини ўрганади. Ҳозирда алоҳида фан сифатида шаклланган менежмент, ўзининг бир қанча йўналишлар бўйича таркибий тизимларига эгадир. Уларнинг асосийлари қуйидагилардир:

-ишлаб чиқаришни бошқариш, ходимларни бошқариш, жараёнларни бошқариш, молияни бошқариш, компаниянинг сиёсатини бошқариш, умумий масалаларни бошқариш, маркетинг ва савдони бошқариш, ўқитишни бошқариш, ахборотни бошқариш ва ҳоказолар.

Шундай қилиб, бошқарув тафаккури жараёни бошланган бўлиб, у ўзида амалиёт (тажриба), «Ноу-хоу» илмини мужассам этган.

Бинобарин, бошқарув тафаккурига кўплаб фанлар эришган ютуқлар таъсир қилади, бошқарувдаги эволюцияси эса ўз навбатида ушбу ютуқлардан асосий муаммони – саноат маҳсулотлари ишлаб чиқаришда ҳар хил ресурслардан фойдаланувчи кишилар гуруҳлари ўзаро ҳамкорлиги асосида кутиладиган натижага қандай эришиш муаммосини ҳал этишни ўзида акс эттиради.

Кишилар амалий фаолиятида эҳтиёж, яъни талаб, зарурат пайдо бўлдики, у эса ўз навбатида фикрлаш соҳаси (бошқарув тафаккури) шаклланишига туртки берди.

Кишилиқ жамияти ривожининг барча босқичларида ҳар бир жамият аъзоси кўпроқ мулкка, бойликка эга бўлишга интилиб яшаб келмоқда. Ҳозир вақтда жамият ва табиат ўртасидаги муносабат ҳамда табиат ресурсларидан оқилона фойдаланиш муҳим вазифа ҳисобланади.

Фаолият самарадорлигини бошқариш бўйича дастлабки мурожаатлар Сун Цзынинг «Уруш санъати» рисоласида келтирилган. Сун Цзынинг таъкидлашича, урушда ғалаба қозониш учун император ўзининг кучли ва заиф томонлари ҳамда рақибларининг кучли ва заиф томонлари ҳақида тўлиқ

маълумотга эга бўлиши керак. Бизнес ва уруш вазифалари ўртасидаги боғлиқлик ўз ичига қуйидагиларни олади [10]:

- * маълумотларни йиғиш - ҳам ички, ҳам ташқи;
- * маълумотларни таҳлил қилиш (тизимлар, тузилмалар, моделлар ва маълумотлар қийматларини аниқлаш);
- * таҳлил натижаларига мувофиқ қарорлар қабул қилиш ва таъсирларни шакллантириш.

СРМ - ахборотнинг «юқоридан пастга» ва «пастдан юқорига» «ҳаракатини» ўз ичига олувчи тескари алоқанинг бошқарув циклидир.

ЮҚОРИДАН ПАСТГА: раҳбарият ишни айрим бажариладиган (режалаштириш босқичи) стратегияни белгилаб олишдан бошлайди. Ўз навбатида уни фаолият муҳити тушунчаларига мослаштириш керак, яъни қандай ҳаракатлар қилиш керак, қанчалик тез-тез ва ҳоказо. Бу бюджетлаштириш жараёни орқали амалга оширилади. Шундай қилиб, бюджетлаштириш стратегиянинг «жараёнлаштирилиши» дир.

ПАСТДАН ЮҚОРИГА: натижаларни реал харажатлар ва рентабелликни баҳолаш учун ўзгартириш ва ниҳоят ушбу натижаларни қўйилган мақсадларга эришиш нуқтаи назаридан талқин қилиш учун ижродан сўнг раҳбарият бошқарув натижаларини кўриши керак..

Хулоса ва таклифлар

Шундай қилиб, фаолият самарадорлигини бошқаришнинг ҳозирги ҳолатини ўрганиш шу хулосага олиб келадики, ҳозирги шароитда глобаллашув жараёнининг чуқурлашуви ҳамда рақобатнинг кучайиши ишлаб чиқарувчилардан ўзгаришларга мосланувчан бошқарув усуллари излаб топиш ва амалиётга қўллаш талаб этмоқда.

Корхона фаолияти самарадорлигини бошқаришни амалга оширишда услуб ва усуллардан фойдаланилади. Уларни қўллаш компанияларга режалаштириш ва бажаришни, стратегия ва тактикани, корхона ва унинг таркибий бўлинмаларининг мақсадларини боғловчи тузилма (юқоридан пастга йўналтирилувчи декомпозиция) ни беради. Ушбу услуб ва усуллардан қуйидагилар корхона фаолияти самарадорлигини бошқаришни амалга оширишда қўлланилмоқда: «олти сигма» стратегияси, баланслаштирилган кўрсаткичлар тизими (balanced scorecard), жараёнга асосланадиган таннархни ҳисоблаш усули (activity-based costing, ABC), умумий сифат бошқаруви (Economic value added), иқтисодий қўшилган қиймат, интеграциялашган стратегик баҳолаш (integrated strategic measurement) ва чекловлар назарияси (Theory of Constraints, TOC).

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«AYOLLAR SALOMATLIGI»

BACHADON RAKINING MORFOLOGIK JIHATLARI

Anotatsiya : Ushbu ilmiy maqolada bachadon rakining morfologik va klinik xususiyatlari tahlil qilingan. Tadqiqot Samarqand davlat tibbiyot universitetining 1-klinikasida so'nggi 10 yil davomida to'plangan 227 nafar bemorning operatsion va biopsiyaviy materiallari asosida olib borilgan. Tahlillar natijasida bachadon bo'yni raki ko'proq yosh ayollar orasida, bachadon tanasi raki esa yoshi katta ayollar orasida uchrashi aniqlangan. Gistologik jihatdan bachadon tanasida asosan adenokarsinoma, bachadon bo'ynida esa yassi hujayrali rak kuzatilgan. Kasalliklar ko'pincha prekasallik holatlari — displaziya, hiperplaziya, polipoz va surunkali yallig'lanishlar fonida rivojlangan. Ushbu tadqiqot bachadon rakining erta diagnostikasi va profilaktikasi bo'yicha muhim ma'lumotlar beradi.

Kalit so'zi: Bachadon raki, morfologiya, adenokarsinoma, yassi hujayrali rak, biopsiya, klinik tahlil, preinvaziv kar'sinoma, displaziya, hiperplaziya, onkoginekologiya.

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"WOMEN'S HEALTH"

MORPHOLOGICAL ASPECTS OF UTERINE CANCER

Abstract: This scientific article analyzes the morphological and clinical features of uterine cancer. The study was conducted based on operational and biopsy materials of 227 patients collected over the past 10 years at the 1st clinic of

Samarkand State Medical University. The analysis revealed that cervical cancer occurred more frequently in younger women, while endometrial (uterine body) cancer was more common among older women. Histologically, adenocarcinoma was more frequently found in the uterine body, whereas squamous cell carcinoma was predominant in the cervix. The disease often developed against a background of precancerous conditions such as dysplasia, hyperplasia, polyposis, and chronic inflammatory processes. This research provides important insights for early diagnosis and prevention of uterine cancer.

Keywords: Uterine cancer, morphology, adenocarcinoma, squamous cell carcinoma, biopsy, clinical analysis, preinvasive carcinoma, dysplasia, hyperplasia, oncogynecology.

Dolzarbligi.

Bachadon raki — dunyo miqyosida, shuningdek, O'zbekistonda keng tarqalgan patologiyalardan biridir. Butun dunyo bo'yicha tibbiyot xodimlarining e'tibori aynan saratonning invazivgacha bo'lgan bosqichida erta aniqlanishiga qaratilmoqda.

Garchi bu patologiyaning klinik-morfologik xususiyatlariga oid adabiyotlar yetarli bo'lsa-da, bachadon rakiga oid har qanday statistik va morfologik lokal tadqiqotlar klinik onkologiya uchun katta ilmiy va amaliy ahamiyatga ega.

Tadqiqot maqsadi.

Biz tomonidan so'nggi 10 yil davomida SamDTU 1-klinikasiga tushgan bachadon raki bilan bog'liq operatsion va biopsiyaviy materiallar o'rganildi. Tadqiqot klinik-morfologik tahlil asosida, bachadon rakining muayyan gistologik shakllari va lokalizatsiyasiga qarab olib borildi.

Tadqiqot materiallari va usullari.

Tahlilga 29-79 yoshdagi jami 227 nafar bemorning materiali kiritildi. Ulardan 78 nafari operatsiya orqali olib tashlangan bachadonlar, 149 nafari esa nishonli biopsiyalar orqali aniqlangan rak o'smalariga to'g'ri keladi. Operatsiya qilingan bemorlar yoshi 29-79 yil orasida, biopsiya olinganlar esa 29-69 yosh oralig'ida edi. Preparat kesmalari gematoksilin-eozin bilan bo'yalgan.

Tadqiqot natijalari.

Olingan natijalar shuni ko'rsatdiki, operatsiya qilingan bemorlar orasida 47 nafarida bachadon tanasining rak kasalligi, 31 nafarida esa bachadon bo'yni rakı aniqlangan. 11 bemorda invaziv bo'lmagan, 20 nafarida esa invaziv shakldagi bachadon bo'yni rakı aniqlangan.

Bachadon bo'yni rakı, asosan, 29-51 yoshdagi ayollarda, bachadon tanasi rakı esa yoshi 41-79 oralig'idagi ayollarda uchragan.

Gistologik tuzilishiga ko'ra 7 bemorda xorionepitelioma aniqlangan, bu bemorlar 27-44 yosh oralig'ida bo'lgan.

Operatsion materiallar asosida eng ko'p uchragan shakl — bachadon tanasidan o'suvchi adenokarsinoma (49 holat).

Bachadon bo'ynida esa asosan yassi hujayrali rak kuzatilgan. Kamroq hollarda bachadon tanasida adenoakarsinoma (9 bemor) va differensiyalanmagan karsinoma (5 bemor) qayd etilgan.

Biopsiya materiallari asosida esa 149 bemorda rak tashxisi qo'yilgan. Ulardan 27 nafari (29-44 yosh oralig'ida) preinvaziv kar'sinoma (carcinoma in situ) bilan aniqlangan.

Klinik materiallar tahlili shuni ko'rsatdiki, bachadon rakiga ko'p hollarda quyidagi holatlar zamin yaratgan:

takrorlanuvchi yallig'lanish jarayonlari, endometriy gipertrofiyasi, displaziya, endometriy polipozi, adenomioz, atipik bezli gipertrofiyalar, bachadon bo'yni leykoplakiya va eroziyalar.

Xulosa.

227 nafar ayol materiallari tahlili shuni ko'rsatdiki, bachadon bo'yni rakı ko'proq 29-51 yoshdagi ayollarda kuzatilgan.

Ular anamnezida uzoq davom etgan disgomonal kasalliklar, surunkali servitsit, displaziya va leykoplakiya holatlari bo'lgan.

Bachadon tanasida asosan adenokarsinoma, bachadon bo'ynida esa yassi hujayrali rak uchragan.

Bachadon rakı ko'pincha obliyat yoki fakultativ prekasallik holatlari fonida rivojlangan.

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БРОНХОЭКТАЗИЯ КАСАЛЛИГИ МАВЖУД БОЛАЛАРДА БРОНХ ДЕВОРИ ВА ЎПКА ТЎҚИМАЛАРИНИНГ ПАТОМОРФОЛОГИК ВА МОРФОМЕТРИК ЎЗГАРИШЛАРИ

Аннотация: Бронхоэктазия – бу бронхларнинг аномал кенгайиши ва уларнинг структуравий бузилиши билан кечадиган сурункали касаллик бўлиб, кўп ҳолларда респиратор инфекциялар, ёт жисмлар ва тўқималарнинг фиброзга учраши билан боғлиқ бўлади. Патоморфологик текширишлар бронх деворларининг қалинлаиши, эпителий қаватининг атрофияси, шиллиқ ости қаватдаги безларнинг гиперплазияси ва халқасимон тўқималарнинг фиброзга учрашини кўрсатади. Морфометрик таҳлиллار бронхларнинг диаметри, девор қалинлиги ва тўқималарнинг морфологик таркибини аниқлаш орқали касалликнинг ривожланиш даражасини баҳолаш имконини беради. Ушбу тадқиқот бронхоэктазиянинг патогенезини тушуниш, унинг даволаш ва олдини олиш усуллариини такомиллаштиришига йўналтирилган. Натижалар бронх деворлари ва ўпка тўқималарининг структур ва функционал бузилишларини аниқлаш, шунингдек, касалликнинг келиб чиқишида яллигланиш жараёни ва фибрознинг ўрнини аниқлашга ёрдам беради.

Калит сўзлар: бронхоэктазия, бронх деворлари, ўпка тўқималари, патоморфология, морфометрия, фиброз.

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PATHOMORPHOLOGICAL AND MORPHOMETRIC CHANGES IN BRONCHIAL WALL AND LUNG TISSUES IN CHILDREN WITH BRONCHIECTASIS

Abstract: *Bronchiectasis is a chronic disease characterized by abnormal dilation and structural damage of the bronchi, often associated with respiratory infections, foreign bodies, and fibrosis of tissues. Pathomorphological studies reveal thickening of the bronchial walls, atrophy of the epithelial layer, hyperplasia of the submucosal glands, and fibrosis of the circular tissues. Morphometric analysis allows for the assessment of the disease progression by determining the diameter of the bronchi, wall thickness, and the morphological composition of the tissues. This research is aimed at understanding the pathogenesis of bronchiectasis and improving methods for its treatment and prevention. The results help identify structural and functional disorders of the bronchial walls and lung tissues, as well as clarify the role of inflammation and fibrosis in the development of the disease.*

Keywords: *bronchiectasis, bronchial walls, lung tissues, pathomorphology, morphometry, fibrosis.*

Кириш: Бронхоэктаз – бу бронх деворининг маҳаллий қайтмас кенгайиши билан кечадиган жараён бўлиб, яллиғланишли ўзгаришлар ва бронх атрофидаги тўқималарда фиброз ривожланиши билан характерланади. Уларни келиб чиқишида кўпгина факторлар – бронх деворининг туғма структур ўзгаришлари, бронх деворининг турли сабаблар натижасида босилиши, яллиғланиш натижасида унинг эластик ва тоғай соҳаларининг деформацияси туфайли юзага келиши мумкин [1,4].

Ривожланган мамлакатларда яшовчи 0-14 ёшдаги болаларнинг ўртасида бронхоэктаз билан касалланиш даражаси паст деб ҳисобланади масалан, Финляндияда 100000 болага 0,5 дан, Янги Зеландияда 100 000 болага 3,7 гачани ташкил қилса, бу кўрсаткич Марказий Австралиядан келган абориген болалар орасида касалланиш даражаси юқориғи яъни, 100000 болага 200 га тўғри келиши қайд этилган [5,10]. Ҳиндистонда пневмониядан кейин 4 ёшгача бўлган болаларга тиббий ёрдам кўрсатишнинг қониқарсиз даражаси туфайли йилига 1 миллион боладан 212-2646 та бронхоэктатик касаллик ташхиси қўйилади [11,14]. Россия Федерациясида болаларда бронхоэктатик касалликнинг тарқалиши бўйича тадқиқотлар ўтказилмаган. ХКТ-10 Ж44 (бошқа сурункали обструктив ўпка касаллиги) ва Ж47 (бронхоэктатик касаллик) кодларига мос келадиган нозологик шаклларнинг тарқалиши бўйича статистик маълумотлар мавжуд, 0 дан 14 ёшгача бўлган болалар: 2010 йилда 100 000 кишига 98,3 болага, 2011 йилда эса бу кўрсаткич 89,3 болага тўғри келган [6,15]. Шундай қилиб, бронхоэктатик касаллиги ижтимоий жиҳатдан ночор гуруҳларга, айниқса аҳолининг ҳаддан ташқари кўплиги, ёмон гигиена ва тиббий ёрдамдан фойдаланиш имконияти чекланган ривожланаётган мамлакатларда яшовчи болаларга таъсир қилувчи муҳим муаммо бўлиб қолмоқда [2,3,13].

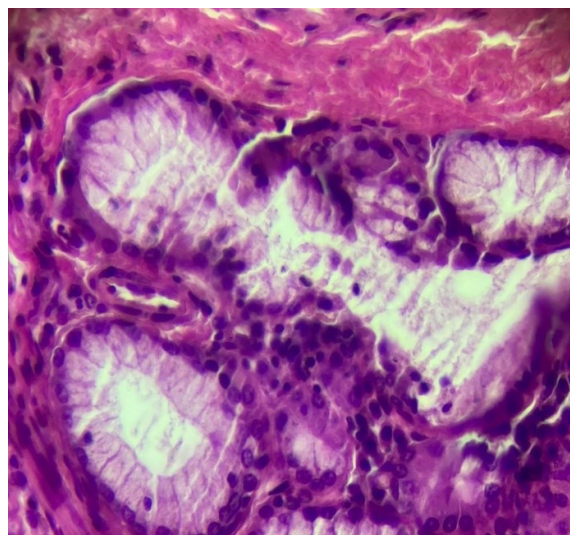
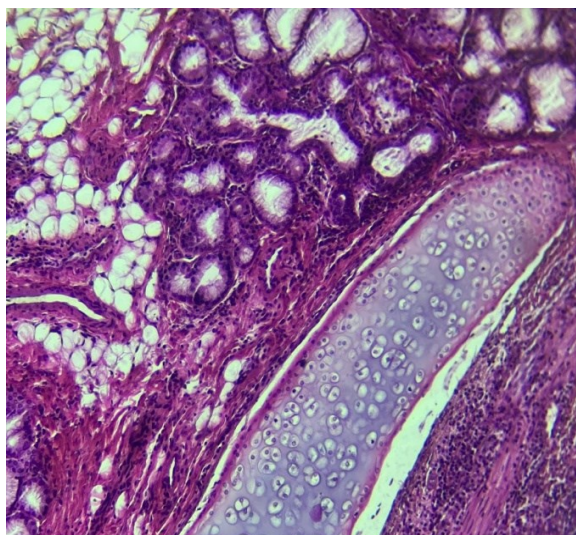
Болалар орасида бронхоэктатик касаллиги бронхопулмонер патологиянинг тузилишида муҳим ўрин тутди. Шу муносабат билан ушбу касалликнинг турли томонларини, жумладан, этиопатогенезини ўрганишга эътибор тўхтовсиз давом этмоқда. Муаллифлар томонидан ўтказилган инсон геном тузилиши, бронх девори структуравий ва функционал ҳолатларини тузилиши шуни кўрсатдики, нафас йўллари шиллиқ қавати эпителиал қатлами ва ўпка тўқимасининг эпителийси инсонларда иммунитет реакциясининг асосий ташкилотчиларидан бири эканлиги ҳамда бундан ташқари, агарда нафас йўллари эпителийси дисфункцияси кузатилса нафас олиш тизими аъзоларида яллиғланишли касалликларининг ривожланишида иштирок этиши ҳақида аниқ аниқ маълумотлар келтириб ўтилган [9,12]. Юқоридаги маълумотларга таъниб шу айтиш мумкинки болаларда кузатиладиган бронхоэктатик касалликларда юқори ва пастки нафас олиш тизими аъзоларида кузатиладиган морфометрик ўзгаришлар кўрсаткичлари охиригача ўрганилмаган.

Тадқиқот мақсади: Болаларда бронхоэктатик касаллик туфайли жарроҳлик амалиёти орқали олинган бронх девори ва ўпка тўқимасидаги ўзгаришининг морфофункционал хусусиятларини ўрганишдан иборат.

Тадқиқот материал ва методлари: Бронхоэктатик касалликдан бир неча йиллар давомида азият чекиб жарроҳлик амалиёти орқали зарарланган 24 нафар беморларни бронх ва ўпка тўқимасини олиб ташланган фрагментлар олинди. Ушбу касалликдан кейин гистологик текширув учун йўлланма асосида юборилган материалларни таҳлил қилганда уларни ёши 4 ёшдан 12 ёшгача бўлгани ўғил болалар 14 нафар, қиз болалар 10 нафар ташкил қилади. Гистологик текширувга юборилган бўлакчалар 10% нейтралланган формалин эритмасига солинди ва 72 соат давомида қотирилди. Оқар сувда 4 соат давомида ювилди ва 70, 80, 90, 96, 96 даражали спиртлардан ва хлоформдан ўтказилиб сувсизлантирилди, мум қўшилган парафин сингдирилиб, улардан бўлакчалар тайёрланди. Тайёрланган парафин-шамли бўлаклардан ратацион микротом орқали қалинлиги 5-6 мкмдаги гистологик кесмалар олиниб, ксилолда парафини эритилиб, тўқималардага кузатиладиган умумий ўзгаришни аниқлаш учун гематоксилин ва эозин бўёқи билан, тўқима тузилмаларида кузатиладиган ўзгаришларни ўрганиш мақсадида шунингдек қуйидаги гистокимёвий усуллардан - бириктирувчи тўқима ривожланиб, коллаген толаларнинг кўпайишини Ван-Гизон ва Массон усулларида, эластик толалар морфологик ҳолатини резорцин-фуксин (фукселин) билан Вейгерт усулида, бронхлардаги безларини секрециясини аниқлаш учун Алциан кўки бўяш усулларидан фойдаланилди. Микропрепарат ойначалари "Leyka" фирмасининг бинокуляр ёруғлик микроскопида 10, 20, 40 объектларида ўрганилиб, керакли соҳаларидан микрофотографиялар олинди. Бронх девори қатламларидаги тўқима тузилмаларнинг эгаллаган нисбий майдони Г.Г. Автандиловнинг «кўп нуқтали тест» тизимидан фойдаланиб ҳисобланди, яъни тест тизимдаги 200 та нуқталардан нечтаси бронх девори қатламларининг барча структур тузилмаларига тўғри келиши, улардан, ҳар бир тўқима

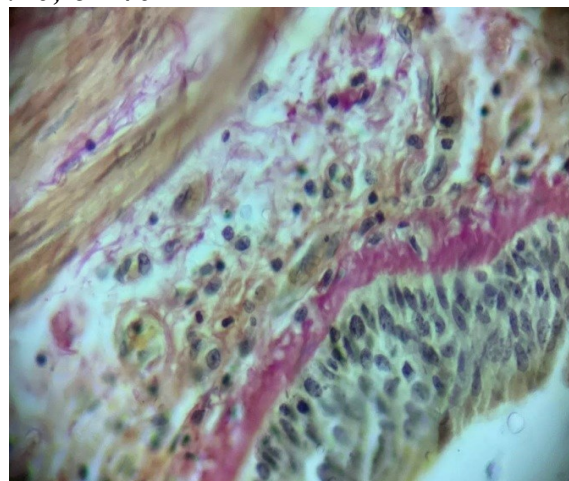
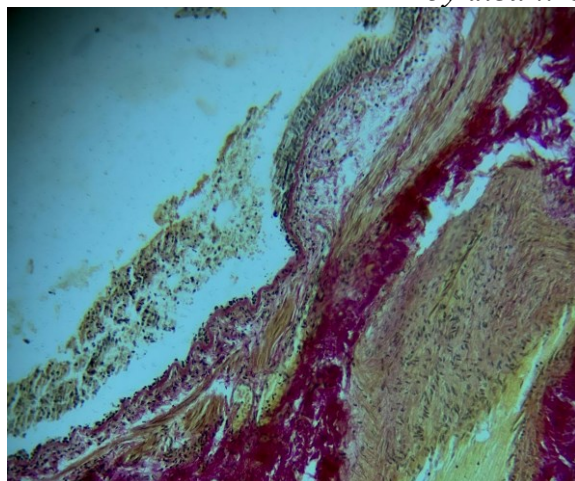
тузилма қатламига қанча нуқталарнинг тўғри келиши алоҳида-алоҳида саналди. Статистик муҳокама MS Office Excel 2007 ва STATISTICA for Windows 10 намунадаги дастурли таъминот асосида статистик таҳлил усулларига мувофиқ ўтказилди. Орадаги фарқларнинг аҳамиятлилиги даражасидан фойдаланилди: $p < 0,05$. Муҳокама учун танлаб олинганлар меъёрий тақсимланиб, гуруҳлар ичидаги ҳамда аҳоли орасида динамикадаги ўзгаришларни ўрганишда Студентнинг t-мезонидан фойдаланилади. Корреляцион таҳлил ўтказишдаги меъёрий тақсимотларда Пирсон коэффиценти; тақсимот учун бўлса Спирман коэффиценти ишлатилди.

Тадқиқот натижалари: Беморлардан олинган бронхларда халтасимон, цилиндрик кенгаймалар бўлиб, уларнинг бўшлиғи йирингли-шилликли экссудат билан тўлган, шиллик қавати шишинган, қизариб кетган, майда некроз ўчоқлари борлиги, бронх девори консистенцияси нисбатан қаттиқ, ўпка тўқимаси консистенцияси нисбатан қаттиқроқ, унинг баъзи соҳаларида кўп нуқтали кичик ўчоқли эмфизематоз кенгаймалар, баъзи соҳаларида эса оқимтир рангли ўчоқлар аниқланади. Бронх девори шиллик қаватини микроскопик текширувда базал ҳужайралар гиперплазияси, гиперхромли ҳужайралар тўпланиш, кўп қаторли киприксимон эпителийси юзасида фибриноз-йирингли қоплама пайдо бўлганлиги кузатилади. Кўп қаторли киприкли эпителийнинг кўп жойларида йирингли-деструктив жараёнлар, уларни десквамацияси, йирингли масса билан имбибицияси, қадахсимон ҳужайралари гиперплазияси ва уларнинг гиперсекрецияси кузатилади. Призматик ҳужайраларнинг киприклари бир бирлари билан ёпишганлиги, баъзи жойларда эса киприксиз пикнотик ҳужайралар мавжудлиги, айрим соҳаларда кўп қаторли киприксимон эпителийни кўп қаторли ясси эпителийга метаплазияланиши, кўп қаторли киприксимон эпителий остидаги хусусий пластинканинг шишиниши, фибрин ва яллиғланиш ҳужайралардан ташкил топган йирингли-фибринозли инфилтратлар тўпланиши кузатилади. Бронх деворининг айрим соҳаларининг хусусий пластинкасида чегараланган ҳолатда йирингли -деструктив ўзгаришлар тарзида микроабсцесс ўчоқлари кузатилади. Кичик қон ва лимфа томирларининг тўлақонлиги ва қоннинг турғунлиги яъни, стаз ҳолати, ушбу қон томирлар атрофида лимфоцитлар, плазмоцитлар, макрофаг ва гранулоцит ҳужайраларни тўпланганлиги, шу билан биргаликда кўплаб капиллярларда эритродиapedез шаклидаги қон қуйилишлар аниқланади.



1-расм. Бронхоэктаз касаллиги туфайли олинган катта калибрли бронх девори тузилишининг структуравий кўриниши. Гематоксиллин эозин билан бўялган. Об.10, ок 20.

2-расм. Бронхоэктаз касаллиги туфайли олинган катта калибрли бронх девори тузилишининг структуравий кўриниши. Гематоксиллин эозин билан бўялган. Об.10, ок 40

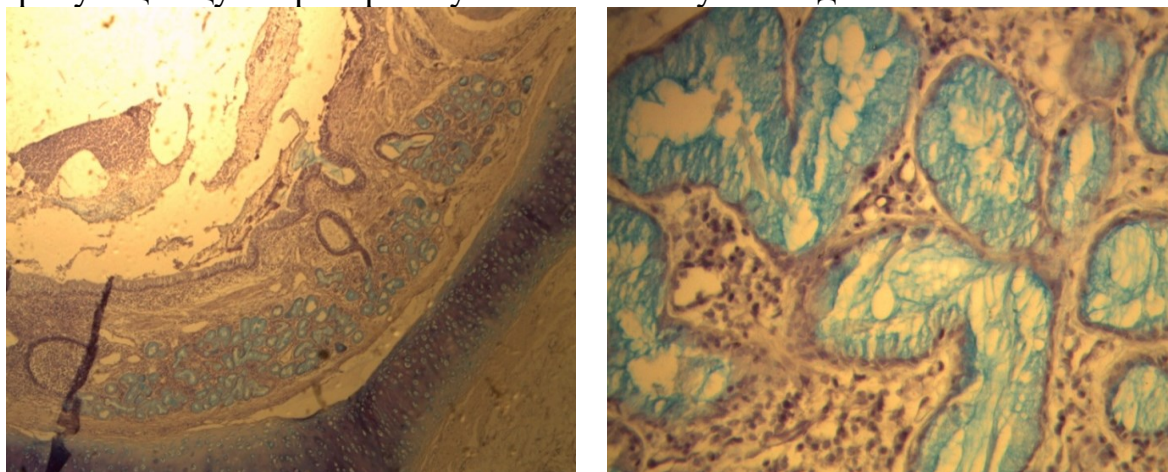


3-расм. Бронхоэктаз касаллиги туфайли олинган катта калибрли бронх деворида коллаген толаларни қалинлашуви, фуксинофиллияси. Ван Гизон усули билан бўялган. Об.10, ок 10.

4-расм. Бронхоэктаз касаллиги туфайли олинган катта калибрли бронх деворида коллаген толаларни қалинлашуви, фуксинофиллияси. Ван Гизон усули билан бўялган. Об.10, ок 20.

Хусусий пластинка ва тоғай усти пардасидаги эластик толалар қалинлашган, уларнинг дезориентацияси ва фрагментацияси қайд этилади. Майда қон томирлар атрофидаги периваскуляр шишиниш туфайли коллаген толаларни толаланиши, хусусий пластинка ва тоғай усти пардасида эса ушбу толаларни қалинлашуви фуксинфиллик хусусиятининг ошиши ва маҳаллий деструкцияси, мушак толалар шишинганлиги, баъзиларини фрагментацияга

учраганлиги кузатилади. Шиллик ости қаватдаги бронхиал безлардаги секретор ҳужайралар гипертрофияланган, безларда кўпиксимон маҳсулотлар тўпланган, баъзи секретор ҳужайралари эса пикнотик ўзгаришга учраган, безларнинг чиқарувчи каналларининг йўллари кистасимон кенгайиши, уларнинг атрофида лимфоцитлар, плазматик ҳужайралар, макрофаглар ва гранулоцит ҳужайраларни тўпланганлиги кузатилади.



5-6-расм. Бронхоэктаз касаллигини бронх девори тузилиши бронхиал безларни гипертрофияси ва гиперсекрецияси, кистозли ўзгариши. Алциан кўки билан бўялган. Об.10, ок 20 ва 40.

Жадвал № 1. Бронхоэктаз касаллигидан азият чекган беморлар бронх девори шиллик ва шиллик ости қаватлари қалинлиги (мкм), (n -10)

Гуруҳ	Бронх девори калибри	Шиллик қават қалинлиги	Шиллик қаватнинг хусусий пластинкаси қалинлиги	Бронх девори шиллик ости қаватнинг қалинлиги
Назорат	Катта	47,3±0,6	12,2±0,3	78,4±0,6
	Ўрта	35,3±0,3	8,4±0,3	64,3±1,2
гуруҳ	Катта	76,7±0,4***	24,2±0,68***	114,7±0,89***
	Ўрта	60,7±0,6***	19,4±0,63***	89,6±0,87***

Изоҳ * ишончли фарқ (* – $p < 0,05$; ** – $p < 0,01$; *** – $p < 0,001$).

Тажрибанинг бу даврида бронхларнинг фиброз тоғай қаватида қуйидаги ўзгаришларни кўринади: тоғай усти пардасининг шишиниши, коллаген толаларининг толаланиши, уларнинг аморф моддасида йирингли диструктив ўзгаришлар, яъни хондроцит ҳужайраларни некрози, нейтрофил, лимфоцит, макрофаг ҳужайралар билан инфильтрацияси, тоғай тўқимасининг кўплаб соҳаларида суякланиш оҳақланиш ўчоқлари ва ҳужайраларни вакуолизацияси кузатилади. Бронхларнинг ташқи адвентициал қавати шишинган, бўшашган, уларнинг толалар орасида макрофаг, гранулоцит ва лимфоцитлардан ташкил топган инфилтратлар кузатилади.

Ўпка тўқимаси морфологик кўриниши қуйидаги тасвирга эга бўлди: маълум соҳаларда деформацияга учраган алвеолалар бўшлиғида экссудат ва фибрин, сегмент ядроли лейкоцитларни, маълум соҳаларда эса деформацияга учраган ядро тутувчи алвеолоцитларни қипиқланиши, кариорексис ҳолати, ҳамда алвеолалар бўшлиғида фрагментацияга учраган ва бутун эритроцитлар, гемосидерин доналари тўпланганлиги, алвеолалар орасидаги тўсиқнинг қалинлашгани, ўпка тўқимасида ўчоқли тарзда фиброз ва склерозли соҳаларни мавжудлиги, алвеолалар орасида кўплаб фиброцит ва фибробласт хужайралардан ташкил топган инфилтратлар кузатилади.

Терминал бронхиолалар деворида оптик жиҳатдан зич экссудат, кўп сонли сегмент ядроли лейкоцитлар ва десквамацияланган бронхиоляр эпителий элементлари мавжуд. Перибронхиал соҳаларда ва алвеолалар орасидаги тўсиқларда шиш, кам миқдордаги аралаш хужайрали инфилтрация – сегмент ядроли лейкоцитлар, макрофаглар ёки лимфоцитлар аниқланади. Плевра варақлари қон томирларининг шишиниши ва тўлақонлиги қайд этилади.

Бронхоэктатик касалликда йирик калибрли бронхларнинг шиллиқ қавати эпителий қатламининг умумий ўртача қалинлиги 76,7 мкм ташкил қилса, бу кўрсаткич ўрта калибрли бронхларда эса 60,7 мкм ташкил қилди. Йирик калибрли бронхнинг шиллиқ қаватининг хусусий пластинка қалинлиги 24,2 мкмни, ўрта калибрли бронхларда ушбу морфометрик кўрсаткич ўз навбатида 19,4 мкмни ташкил қилганлиги аниқланди. Морфометрик таҳлил давомида йирик калибрли бронхларнинг шиллиқ ости қаватининг қалинлиги 114,7 мкм, ўрта калибрли бронхларда эса 89,6 мкмни ташкил қилганлиги, бу кўрсаткичлар назорат гуруҳидаги натижаларга нисбатан катта калибрли бронхлар шиллиқ қават, хусусий пластинка ва шиллиқ ости қаватнинг қалинлиги, ўртача 43,1 мкм га, ўрта калибрли бронхлар эса 26,1 мкм га қалинлашгани аниқланади (1 жадвал). Ушбу ўзгаришлар бронхоэктатик касалликда таъсир этувчи омилни доимий равишда таъсири туфайли адаптацион компенсатор жараёни ишга тушиши ҳамда энг муҳими яллиғланиш жараёнини сурункали тарза кечиши туфайли юзага келиши инкор этилмайди.

Тадқиқотнинг муҳокамаси: Кўп ҳолларда оғир асоратлар ва болаликдан ногиронликнинг ривожланишига олиб келадиган нафас аъзолари касалликларининг тарқалиши, уларнинг ривожланиши ҳамда юзага келадиган морфологик ўзгаришларни қўшимча ўрганиш зарурлигини тақозо этади. Кўпгина тадқиқотларнинг аксарияти ушбу туридаги касалликларни клиник тадқиқотларига ёки уларни ёшга доир ўзгаришларига бағишлаган [1,9]. Шу билан бирга маълум касалликлар яъни бронхоэктазияда бронх деворидаги структуравий ўзгаришларга оид тадқиқотлари камроқ даражада [8] олиб борилган ва улар асосан шиллиқ қаватдаги ўрганишга бағишланган [11].

Бронхоэктазиядаги бемордан олинган бронхларида халтасимон, цилиндрик шаклдаги кенгаймалар бўлиб, уларнинг бўшлиғи йирингли-шилликли экссудат билан тўлган, бронх девори деформацияланган,

консистенцияси нисбатан қаттиқ, бронх девори шиллиқ қавати шишинган, кизарган, майда некроз ва метаплазия соҳалари мавжудлиги, ўпка тўқимаси консистенцияси нисбатан қаттиқроқ, унинг баъзи соҳаларида кичик ўчоқли эмфизематоз кенгаймалар, баъзи соҳаларида эса оқимтир рангли ўчоқлар аниқланади. Бу маълумотлар қуйидаги олимлар [2,10] фикрига мос келади яъни, бронхоэктаз – бу бронх деворининг маҳаллий қайтмас кенгайиши билан кечадиган жараён бўлиб, яллиғланишли ўзгаришлар ва бронх атрофидаги тўқималарда фиброз ривожланиши, яллиғланиш натижасида унинг эластик ва тоғай соҳаларининг деформацияси туфайли юзага келиши мумкин.

Хулоса: Бронх шиллиқ қаватидаги ҳужайралар ва хусусий пластинкаси тузилишининг ўзгариши бронхоэктаз касаллигида чуқур характерга эга бўлиб, киприксимон ҳужайраларни метаплазияси, шиллиқ қаватдаги қадахсимон ҳужайралар гипертрофия ва гиперплазияси билан бирга уларни кистозли кенгайиши, атрофик ҳамда склеротик ўзгаришлар фонида яллиғланиш инфильтратлари тўпланиши кузатилди.

Использованные источники:

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МОРФОЛОГИЧЕСКИЕ И МОРФОМЕТРИЧЕСКИЕ ОСОБЕННОСТИ БРОНХОВ ЛЕГКОГО У ДЕТЕЙ ОТ 4 ДО 7 ЛЕТНЕГО ВОЗРАСТА

Аннотация. В статье представлены результаты морфометрического исследования бронхов легких у детей в возрасте 4-7 лет. Установлены возрастные особенности строения слизистой и мышечной оболочек главных и долевого бронхов. Отмечено утолщение слизистой главного бронха за счет собственной пластинки и более выраженное развитие эпителия, собственной и мышечной пластинок в нижнедолевом бронхе по сравнению с верхнедолевым в данном возрастном периоде.

Ключевые слова: бронхи, легкие, дети, морфометрия, гистология, возрастные особенности, собственная пластинка, мышечная пластинка, бронхи лёгкого, морфология, морфометрия.

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MORPHOLOGICAL AND MORPHOMETRIC FEATURES OF THE LUNG BRONCHI IN CHILDREN AGED 4 TO 7 YEARS

Abstract. *The article presents the results of a morphometric study of the lung bronchi in children aged 4-7 years. Age-related features of the structure of the mucous and muscular membranes of the main and lobar bronchi were established. Thickening of the mucous membrane of the main bronchus due to the lamina propria and a more pronounced development of the epithelium, lamina propria, and muscularis propria in the lower lobe bronchus compared to the upper lobe bronchus in this age period were noted.*

Keywords: *bronchi, lungs, children, morphometry, histology, age-related features, lamina propria, muscularis propria, lung bronchi, morphology, morphometry.*

Актуальность проблемы. Особенности структурной организации легких обеспечивают выполнение ими основной газообменной функции. В то же время колоссальное по площади сосудистое русло осуществляет образование и разрушение ряда биологически активных веществ, транспортирует и метаболизирует липиды и т.д. Кроме основной — газообменной, легкие осуществляют чрезвычайно важные нереспираторные функции. Обеспечивая многообразные и жизненно важные функции, эпителий и соединительная ткань воздухоносных путей на разных этапах постнатального онтогенеза имеют определенное строение, соответствующее пластической и трофической организации органа и организма в целом. Однако эти исследования в постнатальном онтогенезе также проведены фрагментарно, без учета физиологических особенностей организма в различные периоды постнатального онтогенеза. (2,3).

Исходя из вышеизложенного, **целью** настоящей работы является установление в постнатальном онтогенезе у человека закономерностей формирования и инволюции бронхиальной систем, эпителиосоединительнотканых взаимоотношений в воздухоносном и респираторном отделах легкого (1,4).

Цель: Оценить морфометрического строения бронха легких у детей в возрасте от 4 до 7 лет.

Материал и методы исследования: Эксперименты и исследования проводились в Республиканском центре патологической анатомии.

Изучение вне- и внутриорганных бронхов легких и гистологических их особенностей проведено на 12 трупах детей в возрасте от 4 года рождения до 7 лет, погибших от травм или заболеваний, не связанных с патологией легкого или сердца. Учитывая расположение главных бронхов вне паренхимы легкого, а также начальных разветвлений и конечных слияний соответственно легочной артерий и вен, лимфатических сосудов и узлов легкое препарировалось после его выделения совместно с сердцем. Проведено гистологическое и морфометрическое исследование патологоанатомического материала, полученного от частей всех больных (легких, бронхов, сердца, почек, печени, головного мозга).

Для изучения морфологии, взаимоотношений эпителиальных соединительно-тканых и мышечных образований, разветвлений бронхов фиксация легкого осуществлялась 10% формалине, который вводился в главный (правый, левый) бронх и легочную артерию, под давлением 25-30 мм РТ. ст. После этого легкое погружалось в такой же раствор формалина на 5-7 дней. После промывки в проточной воде осуществляли препаровку последовательно главных, долевого, сегментарных и последующих разветвлений бронхов. Кусочки для исследования вырезались на протяжении вышеуказанных бронхов, а также участков разделения их на последующие генерации. После проводки по спиртам возрастающей концентрации и заливки в парафин, срезы толщиной 5-7 мкм окрашивались толуидиновым синим, гематоксилин-эозином, фуксилином по Ван-Гизону, проводили серебрение и ШИК-реакцию. На основании просмотра препаратов, окрашенных вышеуказанными методами, осуществлялось изучение морфологии соединительной ткани и мышц слизистой и подслизистой оболочек, их изменения в динамике возраста, локальные изменения бронхиального дерева.

С помощью окуляр-микрометра МОВ х15 измеряли диаметр бронхов, толщину оболочек, вычисляли коэффициент развития мышечной пластинки и эластических структур в собственной пластинке слизистой оболочки.

Результаты исследования:

Период первого детства (4-7 лет после рождения) характеризуется дальнейшим ростом структур легкого. Главный бронх достигает диаметра 3950 ± 58 мкм (min 3500, max 4200). Толщина всех слоев стенки бронха при этом варьирует от 1300 до 1850 мкм в мембранозной и хрящевой соответственно частях. Эпителий многорядный, реснитчатый с бокаловидными клетками достоверно не утолщается $28,4 \pm 1,4$ мкм при рождении и в возрасте 4-7 лет соответственно ($P > 0,05$). Собственная пластинка достигает толщины $74,1 \pm 6,3$ мкм, состоит из рыхлой соединительной ткани, где наряду с коллагеновыми и ретикулярными клетками выявляются плазмциты эозинофильные, тучные клетки, лимфоциты, фибробласты, макрофаги, кровеносные капилляры. Мышечная пластинка слизистой оболочки отчетливо различается как слой циркулярно расположенных овальной формы гладких миоцитов. Ее толщина в среднем равна $116,2 \pm 5,7$ мкм. В мембранозной части главного бронха она сливается с мышцами, расположенными между хрящами и достигает толщины $320 \pm 17,5$ мкм. В этой части бронха наряду с циркулярными пучками мышц имеются и продольно ориентированные (рис. 1.).

Подслизистая основа главного бронха у детей 4-7 летнего возраста состоит из сплетений сосудов рыхлой соединительной ткани, концевых отделов альвеолярно-трубчатых смешанных (белково-слизистых) желез. Волокна коллагеновые и ретикулярные оплетают концевые отделы желез и выводные их протоки в виде нежной сети. Клеточных элементов по

сравнению с собственной пластинкой относительно меньше. В основном они представлены фибробластами, лимфоцитами.

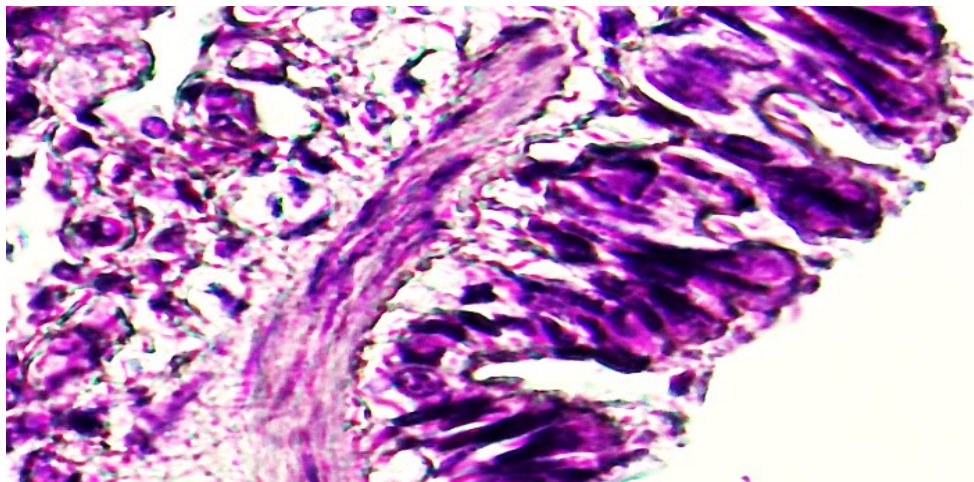


Рис. 1. Циркулярно и продольно ориентированные пучки мышц в мембранной части главного бронха ребенка первого детства. Окраска: фукселин + Ван-Гизон. Ув. ок. 10, об. 20.

Фиброзно-хрящевая оболочка состоит из незамкнутых гиалиновых хрящевых полуколец, которые заключены в фиброзную оболочку, состоящую из тяжёлых коллагеновых волокон. В мембранозной части главного бронха концы хряща соединены циркулярными и продольными пучками гладких мышц. В этой же части бронха определяется пучок коллагеновых и эластических волокон, соединяющие отдельные хрящи между собой. Кроме того, ряд волокон этого пучка направляется в подслизистую и адвентициальную оболочки, вплетаясь в расположенные в них волокна. Адвентициальная оболочка состоит из коллагеновых и эластических волокон, кровеносных и лимфатических сосудов.

Главный бронх делится справа на 3, слева на 2 долевого бронха. Просвет каждого из них колеблется от 2600 до 3250 мкм (в среднем верхнедолевой 2710 ± 63 мкм, нижнедолевой - $3050 \pm 42,5$ мкм). Толщина стенки долевого бронхов колеблется от 1310 мкм до 1600 мкм (верхнедолевой); 1350-1670 мкм (нижнедолевой). Если высота эпителия в слизистой оболочке верхнедолевого и нижнедолевого бронхов одинакова и равна в среднем $27,1 \pm 1,4$ мкм, то собственная пластинка и мышечная пластинка слизистой оболочки нижнедолевого бронха толще, чем в верхнедолевом на 12,6 и 14,1 % соответственно. Эпителий, как и ранее, многорядный, реснитчатый с бокаловидными клетками. Собственная пластинка слизистой оболочки также существенных отличий по сравнению с предыдущим сроком исследования не имеет. Мышечная пластинка слизистой оболочки образована циркулярными мышечными пучками. Подслизистая оболочка состоит из рыхлой соединительной ткани, в которой группами располагаются концевые отделы альвеолярно трубчатых, белково-слизистых желез. В фиброзно-хрящевой оболочке округлые пластинки хряща заключены в фиброзную оболочку из

коллагеновых и эластических волокон. Эти же волокна видны в межхрящевых промежутках. Волокна уходящие в подслизистую и адвентициальную оболочки, связывают их в единое образование. Адвентициальная оболочка рыхлая, богата сосудами, содержит единичные жировые клетки, нервные волокна.

Сегментарный бронх верхней и нижней доли имеет почти одинаковый просвет при диаметре $1670 \pm 52,0$ мкм и $1720 \pm 30,9$ мкм соответственно ($P < 0,05$). Если эпителий имеет высоту $21,2 \pm 1,2$ и $20,7 \pm 1,7$ мкм ($P < 0,05$), то собственная пластинка и мышечная пластинка при однотипности строения, толще в верхней доли. Железы подслизистой основы немногочисленны, располагаются небольшими группами, сохраняют альвеолярно-трубчатое строение клетки концевых отделов низкопризматические, содержат белково-слизистый секрет. Фиброзно-хрящевая оболочка состоит из мелких хрящевых пластинок, заключенных в фиброзную оболочку из коллагеновых и эластических волокон. Они в межхрящевых участках вплетаются в волокна подслизистой и адвентициальной оболочек.

Адвентициальная оболочка тоньше, чем области долевых бронхов, однако имеют аналогичное строение.

Субсегментарные бронхи верхней и нижней доли имеют однотипное строение (рис. 2.), различаясь достоверно лишь толщиной мышечной пластинки ($48,4 \pm 4,8$ мкм и $25,8 \pm 2,4$ мкм, $P < 0,05$). При этом просвет их колеблется в пределах от 850 до 1450 мкм, толщина стенки от 450 до 650 мкм.

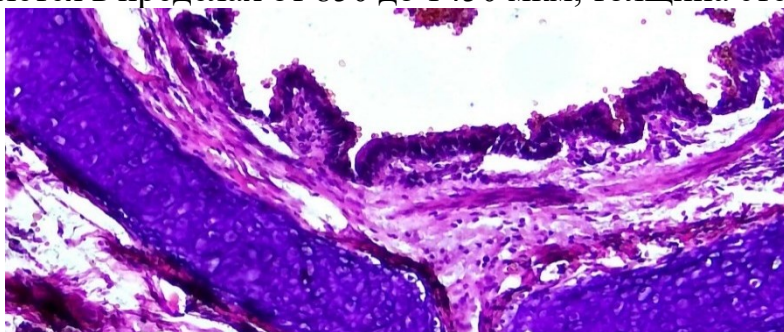


Рис. 2. Многорядный эпителий пучки эластических волокон в собственной пластинке субсегментарного бронха у ребенка 7 лет. Окраска: фукселин + Ван-Гизон. Ув. ок. 10, об. 10.

Мембранозные бронхи рассматриваемых бронхов имеют просвет 200-400 мкм (в среднем $270 \pm 17,4$ и $367 \pm 28,1$ мкм соответственно в верхней и нижней доле). Толщина эпителия 11-12 мкм, бокаловидные клетки, реснитчатые клетки единичны. Собственная пластинка почти не определяется, гладкомышечные клетки, располагаясь циркулярно, образуют пластинку толщиной 26-28 мкм. Эластические волокна располагаются продольно, оплетая мышечные клетки и другие клетки соединительной ткани, образуют наружную и внутреннюю мембрану.

Таким образом, в возрасте 4-7 лет наблюдается дальнейший рост бронх, Утолщение его оболочек на протяжении его генерации. В собственной

пластинке встречаются наряду с клетками соединительной ткани, иммунциты, по видимому, осуществляющие барьерно - защитную функцию.

Выводы

1. В период первого детства, слизистая оболочка главного бронха утолщается за счет собственной пластинки. В собственной пластинке встречаются наряду с клетками соединительной ткани, иммунциты, по видимому, осуществляющие барьерно-защитную функцию. Мышечная пластинка, находящаяся на границе слизистой и подслизистой оболочек утолщена в мембранозной части главного бронха. Отдельные пучки гладких мышц окружены коллагеновыми и эластическими волокнами.

2. С 4 до 7 лет жизни в нижнедолевом бронхе эпителий, собственная пластинка и мышечная пластинки более выражены, чем в верхнедолевом. собственная пластинка и мышечная пластинка слизистой оболочки нижнедолевого бронха толще, чем в верхнедолевом на 12- 14 %

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ГИПОТЕРИОЗ ФОНИДА ТЎҒИЛГАН АВЛОД ПОСТНАТАЛ ОНТОГЕНЕЗИ ДИНАМИКАСИДА ТУХУМДОН СТРОМА-ТОМИР ТУЗИЛМАЛАРИНИНГ ИММУНОГИСТОКИМЁВИЙ ЖИҲАТЛАРИ

Аннотация. Гипотериоз фонида туғилган авлод тухумдонларида постнатал ривожланишининг ўзига хос морфологик жиҳатларидан бири, морфологик чалалик бўлиб, тухумдон пўстлоқ ва мағиз қаватларининг тўлиқ шаклланмаган эмбрионал даврдаги хўжайраларнинг бўлиши билан характерланади. Айнан, иммуногистокимёвий жиҳатдан ушбу ўзгаришларни аниқлашда, Ki-67, ER-α, PR-α маркерлари орқали гормонга қарам бўлган эпителий хўжайраларини жавоб реакцияси ва экспрессияланиш даражасини ўрганиш имконини беради.

Калит сўзлар: гипотериоз, иммуногистокимёвий ўзгаришлар, тухумдон, постнатал онтогенез.

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IMMUNOHISTOCHEMICAL ASPECTS OF STROMA-VASCULAR STRUCTURES OF THE OVARIES IN THE DYNAMICS OF POSTNATAL ONTOGENESIS OF OFFSPRING BORN TO MOTHERS WITH HYPOTHYROIDISM

Abstract. One of the specific morphological aspects of the postnatal development of the ovaries in offspring born to mothers with hypothyroidism is morphological immaturity, characterized by the presence of incompletely formed embryonic period cells in the cortical and medullary layers of the ovary. In particular, the immunohistochemical determination of these changes using Ki-67, ER-α, and PR-α markers allows for the study of the reaction and expression level of hormone-dependent epithelial cells.

Keywords: hypothyroidism, immunohistochemical changes, ovary, postnatal ontogenesis.

Муаммонинг долзарблиги: Ҳозирги кунда қалқонсимон безнинг касалликлари қандли диабетдан кейин иккинчи ўринда туради. Жаҳон соғлиқни сақлаш ташкилоти (ЖССТ) мутахассислари ҳар йили қалқонсимон без касалликларини қайд этишади, сайёрамизнинг ҳар ўнинчи инсони қалқонсимон без касаллигининг турли шаклларида бири учрайди [3,4]. Қалқонсимон безнинг дисфункцияси полиэтиологик бўлиб, ривожланиш аномалиялари, генетик патология, қалқонсимон без тўқималаридаги яллиғланишлар, стресслар, микроэлементлар етишмовчилиги ва туғма нуқсон билан боғлиқ бўлиши мумкин[5-8]. Сўнги пайтларда қалқонсимон без касалликларининг кўпайиши, без гормонларнинг организмда етишмаслиги кўпгина функциялари, жумладан ривожланиш, ўсиш ва асосий метаболизм тезлигини пасайишини келтириб чиқаради [9-15].

Юқорида айтилганларнинг барчаси она организмда қалқонсимон без функциясининг пасайиши натижасида туғилган наслларда тухумдон қон томир ва тўқималаридаги иммуногистокимёвий ўзгаришларини постнатал онтогенезда макроскопик ва микроскопик тадқиқотларни ўрганиш долзарб муаммо эканлиги ҳақида ҳулоса қилиш имконини беради [1,2].

Тадқиқот мақсади: гипотериоз фонида она каламушлардан туғилган 7 ва 14 кунлик авлод тухумдон қон томир тузилмаларининг иммуногистокимёвий жиҳатларини ўрганишдан иборат.

Тадқиқот материали ва усуллари. Экспериментимиз 30 та оқ зотсиз каламушларда 2 та гуруҳда олиб борилди. Биринчи гуруҳимиз назорат гуруҳи (15), 2-чи гуруҳимиз гипотиреоз фонида туғилган (15) авлодларда олиб борилди. Гипотиреозни келтириб чиқариш учун каламушларга 0,5 мг мерказолил таблеткаси физиологик эритмада эритилиб зонд орқали 30 кун давомида берилди. Кейин эса каламушларнинг думидан қон олиниб текширилди. Она каламушлардан туғилган авлодлар 7 ва 14 кунлик даврларда декапитация қилиниб, репродуктив аъзолари ажратиб олинди ва 10% ли нейтрал формалин эритмасида фиксация қилинди, сўнгра концентрацияси ошиб боровчи спиртларда сувсизлантирилиб, парафинга қуйилди. Депарафинлангандан сўнг гематоксилин ва эозин бўёғи билан бўялган кесмалар морфологик ва иммуногистокимё усуллари ёрдамида ўрганилди. Тадқиқотда, тухумдон тўқимаси хужайраларнинг ривожланишида кўпайиш фаоллигини кўрсатадиган Ki-67 маркери ва тухумдон хужайраларининг морфофункционал ҳолатини баҳолашда эстроген (ER- α) ва прогестерон (PR- α) рецепторларни намоён қиладиган маркерларининг экспрессияланиш даражалари ўрганилди.

Тадқиқот натижалари ва уларнинг муҳокамаси: Тадқиқотда, 7,14 суткалик давридаги авлод каламушларининг тухумдонлари олинди. Гипотериоз фонида туғилган авлод тухумдонларининг постнатал онтогенезида ривожланиши, такомил топишининг морфологик ва морфометрик жиҳатларини аниқлаш билан бирга иммуногистокимёвий текширишлар ўтказилди. Тадқиқотда, тухумдон тўқимаси хужайраларнинг ривожланишида кўпайиш фаоллигини кўрсатадиган Ki-67 маркери ва

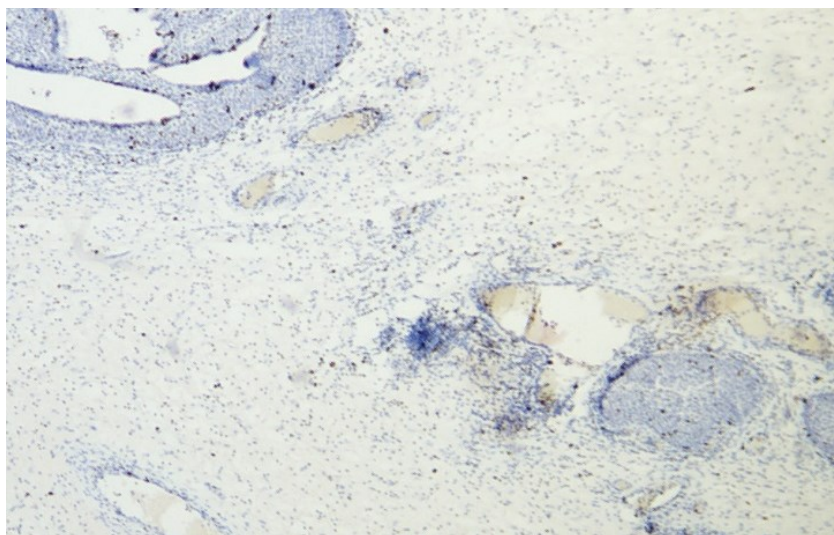
тухумдон хужайраларининг морфофункционал ҳолатини баҳолашда эстроген (ER- α) ва прогестерон (PR- α) рецепторларни намоён қиладиган маркерларининг экспрессияланиш даражалари ўрганилди.

Ki-67 хужайралар пролиферацияланиш маркери бўлиб, хужайранинг барча фаол даврларида, G₁, S, G₂, Mда ҳар хил даражада экспрессияланади. Хўжайра фаоллашуви дастлабки фазаси G₁дан M фазасигача бу маркер юқори экспрессияланиб, митознинг метафазасида яққол тасвирланади. G₁ дастлабки фазасида Ki-67 маркер сателлит ДНКнинг центрамида ва хромосоманинг теломерида жойлашади. Хўжайра фаоллашувининг ўрта фазаларида Ki-67 маркер интрануклеар кўринишда ядрода аниқланса, G₂ фазасига келиб, ядрода ва кариоплазмада экспрессияланади. Хужайра митоздан кейинги G₀га ўтганда Ki-67 маркер протеосомалар ёрдамида деградиацияланиб, тўлиқ катализмга учрайди ва интерфазадаги хўжайраларда экспрессияланмайди.

Натижада, иммуногистохимёвий маркер хужайранинг пролиферацияланиш кўрсаткичи намоён қилганлиги учун, ўзгаришларга фақат ўсмали жараёнлар эмас, балки хужайралар кўпайиши билан давом этадиган аъзо ва тўқималарнинг постнатал онтогенезида такомил топиши, дифференциалланишини ҳам англатади.

Иммуногистохимёвий текшириш эстроген ва прогестеронга сезувчан хўжайралар юзасида жойлашган оқсил табиатли рецепторлар, яъни антигенларни махсус белги қўйилган антитаначалар ёрдамида аниқланади.

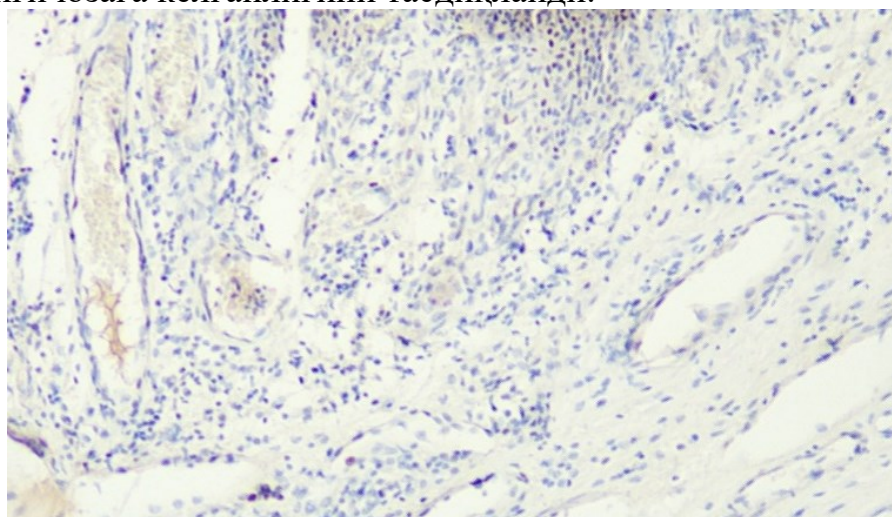
Тухумдон тўқима эпителийси целемик эпителийдан пайдо бўлганлиги сабабли, жинсий гормонлар миқдори даражасига боғлиқ равишда, уларга таъсир кўрсатиб, махсус эстроген ва прогестерон гормонларига сезувчан рецепторлар пайдо бўлади. Тухумдон тўқимаси таркибидаги эстроген (ER- α) ва прогестеронга (PR- α) рецепторларнинг суст, ўртача ва юқори даражада экспрессияланиши бўйича фоизларда аниқланди. Постнатал даврнинг 7 суткаларида тухумдон оралиқ тўқимасининг бириктирувчи тўқима мезенхимал хужайраларининг иммуногистохимёвий маркери Ki-67 пролиферативланиш индекси назорат ($33,15 \pm 1,03$ га тенг) гуруҳига нисбатан юқорилиги ($41,13 \pm 0,98$) кузатилди. Морфологик жиҳатдан тухумдон фолликулалари атрофидаги гистиоцитар хўжайралар аксариятининг ядроларида Ki-67 маркер тўқ жигар ранг кўринишида экспрессияланганлиги аниқланди (1-расм). Бунда эпителий хужайралари ядроларининг ҳам кариоплазмасида, ядрочасида экспрессияланиши хужайралар фаол фазаси G₂ фазаси паст кўрсаткичда кечаётганлигини тасдиқлайди.



1-расм. 7 кунлик тухумдон тўқимасида Ki-67 эпителий ҳужайраларида паст, строма ҳужайраларида юқорироқ экспрессияланган. Бўёқ: дабхромоген. Кат: 10×20.

Гипотериоз фонида тўғилган авлодда, постнатал онтогенез даврининг морфодинамикасининг 7 кунлик авлод тухумдон тўқимасининг эпителий ҳужайраларининг назорат гуруҳига нисбатан секин ривожланиши, оралик бириктирувчи тўқиманинг эса тезроқ ривожланиши маълум бўлди.

Тухумдон ривожланишининг 14 кунлик давридаги постнатал онтогенези даврида тўқима таркибида эпителий ва мезенхимал ҳўжайраларнинг пролифератив фаоллигини кўрсататувчи иммуногисто-кимёвий маркери бўлган Ki-67 экспрессияси, тухумдон фолликулалари эпителийси таркибида фокусда позитив экспрессияланганлигини кўрсатди. Натижада ривожланаётган фолликулаларда эпителий ҳўжайраларининг пролифератив кўрсаткич даражасини назорат гуруҳига нисбатан пасайганлиги юзага келганлигини тасдиқлайди.



2-расм. 14 кунлик даврда тухумдон, фолликулалар эпителийсида Ki-67 маркерининг экспрессияланиш даражаси. Бўёқ: дабхромоген. Кат: 10×40.

Шуни алоҳида таъқидлаш мумкинки, ушбу маркернинг экспрессияланиш даражаси ҳам тухумдон фолликулалари эпителийси, ҳам строма хужайраларида кузатилди.

Строма хужайраларидан асосан қон томирлари атрофидаги ва фолликулалар атрофидаги хўжайраларда мавжудлиги аниқланди. Фолликуляр эпителий хужайраларида эса Ki-67 маркерининг экспрессияланиш даражаси олдинги даврга нисбатан сезиларли даражада пасайганлиги кузатилди. Фақат фолликуляр эпителий қатламининг базал хужайралари орасида айримларида мусбат экспрессияланганлиги кузатилди. Яна шуни кўрсатиш мумкинки, ушбу маркер тухумдон тўқимаси таркибидаги нафақат фолликуляр эпителийда, балки, строма тузилмалари қон томирлари девори ва атрофидаги хужайраларда мусбат даражада экспрессияланганлиги аниқланди.

Тухумдон тўқимаси фолликулалар эпителийси 14 кунлик авлодда гистологик текширувлар шуни кўрсатдики, асосий эпителийнинг пролиферацияланиши фолликула базал қисмида ривожланганлиги аниқланди. Бунда, фолликуляр эпителий ҳар хил даражада гиперплазияга учраганлиги: ҳам бўйи узунлашиб, ҳам эни ҳар хил даражада йўғанлашганлиги кузатилди. Ki-67 маркери бўйича иммуногистохимёвий текширув шуни кўрсатдики, гиперплазияланиб, бетартиб жойлашган фолликуляр эпителий хужайралари таркибида сезиларли микдордаги хужайралар ядросида тўқ жигар ранг кўринишида экспрессияланганлиги аниқланди. Бунда, айрим ядролар йириклашиб, ҳам кариоплазмасида, ҳам ядрочасида ушбу маркернинг экспрессияланганлиги аниқланди (2-расм). Бошқа хужайралар ядролари ҳажми нисбатан кичик ва унда нисбатан оч жигар рангли кўринишида намоён бўлганлиги аниқланди. Бундай ҳар хил даражада Ki-67 маркернинг экспрессияланиши бу хужайраларнинг митотик ва пролифератив ҳар хил даражада фаоллашганлигидан далолат беради. Бу маркернинг пролифератив индекси эпителий хужайраларида $11,37 \pm 1,06\%$ яъни ўртача фаоллик даражада, строма хужайраларида $4,86 \pm 0,07\%$ жуда паст даражада экспрессияланиши аниқланди.

Тухумдон строма-томир тузилмалари хужайраларида эстроген (ER- α) рецепторининг экспрессияланиш даражаси 14 суткалик даврда ҳам ҳар хил бўлганлиги кузатилди, яъни 56,8% ҳолатда кучли экспрессияланиш, 28,7% да ўрта даражада экспрессияланиш ва 14,5% да суст экспрессияланиш аниқланди. Тухумдон фолликулалар эпителийсида нисбатан кучлироқ экспрессияланганлиги кузатилди. Тухумдон строма тузилмаларини ўрганиш шуни кўрсатдики, гистиоцитар хужайраларнинг аксариятининг цитоплазмасида, айримларининг ядроларида ҳам ER- α рецептор яхши даражада экспрессияланганлиги аниқланди.

Хулоса

1. Тухумдон тўқимасида ўтказилган иммуногистохимёвий текшириш натижасига кўра эстроген (ER- α) ва прогестерон (PR- α) рецепторларининг ҳам фолликулалар эпителий хужайралари, ҳам строма тузилмаларидаги

экспрессияланишининг ҳар хиллиги, бу тўқима тузилмаларининг постнатал онтогенез даврида ривожланиш жараёнида гормонларга нисбатан сезувчанлиги ва махсус оксил таркибли рецепторларнинг пайдо бўлиши ҳар хил даражада эканлигидан далолат беради.

2. Строма тузилмаларига нисбатан фолликулалар эпителий хужайраларида ER- α рецепторнинг экспрессияланиш даражаси PR- α рецепторга нисбатан юқорилиги тухумдон тўқимасида фолликулалар эпителийсининг ривожланиш механизмида эстроген гормонининг ўрни юқори даражада аҳамиятли эканлигини кўрсатади.

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МОДЕЛИ ПРИНЯТИЯ УПРАВЛЕНЧЕСКИХ РЕШЕНИЙ В ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЯХ

Аннотация. В данной статье анализируются модели принятия управленческих решений в высших учебных заведениях. Авторы подчеркнули необходимость наличия эффективной системы управления высшими учебными заведениями, раскрыли роль моделей управления в стратегическом развитии вузов, внедрении инноваций, повышении качества образования. В статье рассматриваются две основные модели принятия управленческих решений – централизованные и децентрализованные системы управления, обсуждаются их преимущества и недостатки. Также даны научно-практические рекомендации по совершенствованию процесса принятия решений в высших учебных заведениях.

Ключевые слова: высшие учебные заведения, управленческие решения, стратегическое развитие, централизованное управление, децентрализованное управление, инновационное образование, управление университетом, качество образования, модель принятия решений, научно-практические рекомендации.

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MODELS OF MAKING MANAGEMENT DECISIONS IN HIGHER EDUCATION INSTITUTIONS

Annotation. *This article analyzes the models of managerial decision-making in higher education institutions. The authors emphasized the need for an effective management system for higher education institutions, revealed the role of management models in the strategic development of universities, the introduction of innovations, and improving the quality of education. The article discusses two main models of managerial decision-making-centralized and decentralized management systems, discusses their advantages and disadvantages. Scientific and practical recommendations on improving the decision-making process in higher education institutions are also given.*

Keywords: *higher education institutions, management decisions, strategic development, centralized management, decentralized management, innovative education, university management, quality of education, decision-making model, scientific and practical recommendations.*

Любое современное высшее учебное заведение должно иметь эффективную систему принятия управленческих решений. Модели управления служат для стратегического развития университетов, внедрения инноваций и повышения качества образования. Процесс принятия управленческих решений в современных высших учебных заведениях опирается на две основные модели: 1) централизованную и 2) децентрализованную модели управления.

В модели централизованного управления решения принимаются вышестоящей структурой управления (руководством). Такой подход позволяет обеспечить единообразие стандартов в Академическом процессе высших учебных заведений и сформулировать стратегию и стратегические цели университета, которые являются едиными.

Модель централизованного управления – это система принятия решений в высших учебных заведениях, таких как университеты и институты, в центральном звене управления, обычно органами более высокого уровня, такими как ректор, проректор и Совет. В этой модели решения по основным стратегическим, финансовым и административным вопросам формулируются и реализуются в одном направлении с соблюдением одних и тех же стандартов.

В централизованной модели высшее руководство высшего учебного заведения играет ключевую роль в принятии решений. Ректор, проректоры и Совет определяют стратегические вопросы, такие как стратегический план университета, направления исследований и разработок, финансовая и кадровая политика. Общие цели и стратегия высшего учебного заведения определяются в одном направлении, и эти решения принимаются единообразно во всем учебном заведении. Поэтому все факультеты и кафедры

функционируют в соответствии с общей стратегией высшего учебного заведения.

В централизованной модели процесс принятия решений основан на традиционных нормах, правилах и стандартах и обеспечивает прозрачность перед преподавателями и студентами высшего учебного заведения. Поскольку общая стратегия и миссия высшего учебного заведения четко определены центральным органом, все кафедры и факультеты работают согласованно и в одном направлении. Это обеспечивает институциональный порядок и стандартизацию в учреждении. Через центральную модель управления финансовые, трудовые и технологические ресурсы контролируются из одного центра. Это обеспечивает оптимальное распределение ресурсов, мониторинг и стратегическое планирование. Высшее руководство стремится поддерживать общий порядок путем оценки и аудита результатов, принимая на себя общую ответственность за принятие решений и их реализацию. В централизованной модели принятия решений высший руководящий орган будет обладать оперативной и единой способностью принимать решения, что влияет на оперативность принятия решений по важным стратегическим вопросам.

Принятие решений на основе централизованной модели в некоторых случаях может привести к усилению бюрократических процессов, замедлению работы системы и ограничению широких возможностей для инновационных предложений. В результате функционирования факультетов и кафедр на уровне, жестко привязанном к центральным решениям, происходит снижение порога быстрой адаптации к текущим условиям и потребностям. Поскольку решения принимаются центральным руководящим органом, это приводит к сокращению предложений по новым идеям и инновационным подходам. Такая академическая среда ограничивает возможность творческого мышления и внедрения новых решений. Теоретические основы модели централизованного управления опираются на классические теории управления, такие как учения Минцберга и Вебера. Таким образом, эти теории обеспечивают строгую иерархическую структуру, порядок и соблюдение стандартов в организациях. Кроме того, в централизованной модели эффективное принятие решений основано на принятии решений с помощью данных высокого уровня и анализа.

В ведущих университетах США и европейских стран модели централизованного управления широко используются в важных стратегических вопросах, таких как финансы, исследования и стратегическое планирование. Эти модели обеспечивают одинаковую важность и равенство всех решений в соответствии с общими целями университета. Но в отдельных случаях наблюдаются некоторые недостатки в широком развитии инноваций и внедрении отечественных специализированных решений. Централизованная модель управления обеспечивает единый стратегический и оптимальный распределение ресурсов, согласованный и стандартизированный подход к принятию решений в высших учебных

заведениях. Его основные преимущества заключаются в том, что он позволяет централизованно управлять общей стратегией организации, быстро принимать оперативные решения, а также контролировать ее.

Процесс принятия решений в высших учебных заведениях сложен и многогранен, его эффективность зависит от организационной структуры образовательного учреждения и моделей управления. Децентрализованная модель управления предполагает принятие решений не от центрального звена управления, а на уровне факультетов, кафедр и подструктур управления. Такая модель дает возможность каждому подразделению высшего учебного заведения принимать необходимые решения исходя из своей специальности и сложившихся условий. В децентрализованной модели каждый факультет или кафедра принимает решения, основываясь на своих конкретных потребностях, учебных программах, специализации и направлении научной деятельности. Это позволяет структуре создавать оперативные решения, соответствующие ее специальности. Преподаватели, студенты и другие заинтересованные стороны полностью участвуют в управлении факультетами и кафедрами. Это способствует формированию более демократичного и основанного на широких консультациях подхода. Независимые единицы управления будут иметь свободу предлагать новые идеи и инновационные решения в своих областях. Такая модель стимулирует творческую инициативу, а нестабильность процессов повышает шансы на быстрое реагирование.

В децентрализованной модели факультеты и кафедры принимают свои решения независимо, что делает их свободными от бюрократических процессов и барьеров со стороны руководящего органа высшего учебного заведения, а также повышает возможность принятия быстрых решений. Децентрализованные модели управления основаны на принципах децентрализации и местной автономии, описанных в классических теориях управления (например, Минцберг, Саймон). Согласно этим теориям, принятие решений на местном уровне улучшает внутреннюю сложность организации и увеличивает инновационный потенциал.

В ведущих международных университетах, особенно в высших учебных заведениях стран Европы и Восточной Азии, доминирует децентрализованная модель управления принятием решений. Например, в нидерландских и скандинавских университетах на факультетах и кафедрах внедряется независимая система управления, которая служит для повышения возможностей инноваций и быстрого принятия решений на более низком уровне. Факультеты и кафедры, принимая самостоятельные решения в отношении своей академической деятельности, создают необходимость обеспечения согласованности с общей университетской стратегией. В децентрализованном управлении каждый факультет и кафедра самостоятельно реализуют свою стратегию, что создает определенные трудности в обеспечении равномерного распределения имеющихся ресурсов. Независимость, действующая между факультетами и кафедрами в

децентрализованной модели, требует необходимости укрепления общей системы сотрудничества и коммуникации (табл.1).

Таблица 1

Централизованные и децентрализованные модели принятия решений в высших учебных заведениях

Аспекты моделей	Модель централизованного управления	Децентрализованная модель управления
Структура	Решения принимаются через единый центральный орган (ректор, проректоры, академический совет).	Факультеты, кафедры и подразделения принимают решения на основе своей специализации и условий.
Метод принятия решений	Планы и общие вопросы решаются центральным органом; опирается на те же стандарты и стратегии.	Каждый отдел и кафедра принимает самостоятельные решения, исходя из собственных потребностей и специализации. Реализуется на основе более демократического подхода.
Скорость (Оперативность)	В некоторых случаях процесс принятия решений может замедлиться из-за бюрократических этапов.	На более низком уровне принимаются быстрые и динамичные решения, бюрократические барьеры сведены к минимуму.
Инновации и творчество	Зависит от генерального плана; инновации в основном планируются высшим руководством.	Благодаря автономной специализации и творчеству новые идеи, инновационные решения предлагаются и внедряются более широко.
Распределение ресурсов	Материальные, финансовые, трудовые и технологические ресурсы распределяются централизованно; централизованно управляются на основе общей стратегии.	Ресурсы распределяются в соответствии с потребностями специальности; каждый факультет и кафедра принимают решения на своих условиях.
Координация и гармония	Обеспечивается гармонизация и стандартизация реализации общих планов и целей вуза.	Каждый отдел работает независимо, но создает некоторые проблемы при согласовании общей стратегии.
Мотивация и ответственность	При принятии решений требуется высокий уровень центральной ответственности, но широкое участие заинтересованных сторон может быть ограничено.	Повышается самостоятельность участия, активная обратная связь и ответственность каждого отдела и специалиста, что повышает мотивацию.
Общая конкурентоспособность	На основе общего стратегического подхода обеспечивается престиж и прозрачность университета перед обществом.	Он служит для повышения конкурентоспособности за счет специализации и быстрого принятия решений.

Следовательно, децентрализованная модель принятия решений в высших учебных заведениях очень эффективна для стимулирования принятия решений и инноваций, специфичных для частных условий и специализации, за счет увеличения институциональной автономии факультетов и кафедр. Эта модель расширяет свои возможности, такие как скорость, творческая инициатива и гибкость на уровне специализации. Однако это также порождает такие недостатки, как несогласованность общей стратегии в

учебном заведении и неравномерное распределение ресурсов. Кроме того, эффективная реализация децентрализованной модели порождает необходимость разработки эффективных механизмов внутренней коммуникации и координации общей стратегии в учреждении.

Эта модель обеспечивает динамичный и интерактивный подход к принятию стратегических решений в высших учебных заведениях, позволяя эффективно использовать специализацию и опыт каждого факультета, кафедры и факультета, одновременно играя важную роль в повышении общего качества образования и инновационного потенциала.

На практике процесс принятия решений осуществляется на основе традиционных и инновационных подходов. Традиционный подход к принятию решений основан на стандартных правилах, критериях и формальных процессах. При таком подходе приоритет отдается бюрократическим механизмам, вызывающим бюрократические барьеры при принятии решений и затягивание и задержку процесса.

Процесс принятия решений в высших учебных заведениях формировался на протяжении многих лет на основе традиционных методов. Эти подходы важны для координации организационной, академической и административной деятельности образовательного учреждения. Основными типами традиционного подхода к принятию решений являются:

1. Иерархический (управляемый) подход;
2. Коллегиальный (коллективный) подход;
3. Подход, основанный на опыте и традициях;
4. Нормативно-правовой подход.

1. В системе управления, основанной на иерархическом подходе, основная ответственность при принятии решений лежит на руководителе, решения принимаются в звеньях более высокого уровня и передаются для исполнения нижестоящим звеньям. В принятии решений:

ректор, проректоры, деканы факультетов и заведующие кафедрами высшего учебного заведения будут иметь основную компетенцию в принятии решений;

решения подтверждаются официальными документами посредством бюрократических процессов;

при принятии решений опираются на рекомендации государственных и местных высших организаций (например, министерств, комитетов, агентств, хокимиятов).

Принятие управленческих решений на основе иерархического подхода:

1) обеспечение строгого порядка и системного управления в высшем учебном заведении;

2) в сочетании с такими преимуществами, как повышение ответственности и подотчетности на основе формальной документации, принятие решений имеет свои недостатки, такие как замедление процесса принятия решений, меньший упор на творческий и инновационный подход к принятию решений.

2. При коллегиальном (коллективном) подходе важные решения обсуждаются коллективно и принимаются на консультативной основе. При принятии решений решения обсуждаются через советы университетов и факультетов, а также на заседаниях кафедр, при принятии решений учитывается мнение различных категорий специалистов и экспертов, а также профессорско-преподавательского состава, студентов и их представителей. На основе такого подхода обеспечивается прозрачность и активное участие в системе. Каждая проблема позволяет принимать качественные решения путем широкого и глубокого обсуждения. Однако это приводит к более длительному процессу принятия решений. При принятии решения расходятся во мнениях.

3. Процесс принятия решений на основе опыта и традиционалистского подхода осуществляется с учетом многолетнего опыта и традиций наставников. Каждый факультет или отдел использует свои предыдущие успехи и опыт при принятии решений. Решение принимается на основе личного опыта и знаний педагогов. Традиционные методы обучения и управления сохраняются. При принятии решения используются проверенные и надежные методы. При принятии решений, опираясь на опыт, полученный в ходе предыдущей деятельности, совершается меньше ошибок. Однако новые инновационные подходы будут иметь ограничения, а адаптация к современным технологиям и процессам цифровой трансформации будет медленной.

4. Принятие решений на основе нормативно-правового подхода осуществляется в соответствии с национальным законодательством, международными стандартами и уставами университетов. При принятии решений осуществляется деятельность на основе действующих законов и подзаконных актов, постановлений Кабинета Министров, приказов Министерства высшего образования, науки и инноваций. Устав высшего учебного заведения и правила внутреннего распорядка строго соблюдаются. Решение принимается на основе формальных процессов, официальных документов и инструкций.

Обеспечивается соблюдение законодательства и международных стандартов. Создается упорядоченная и четко ориентированная система управления. Однако он не подходит для принятия быстрых и творческих решений. Это приводит к ограничению свободной инициативы студентов и преподавателей.

Традиционные подходы к принятию решений основаны на многолетней практике высшего учебного заведения и культуре управления. Хотя они в некоторой степени эффективны, сегодняшний подход к ним полностью изменился в результате бурного внедрения цифровых технологий и инноваций в процесс принятия решений. Электронное управление и цифровая трансформация в сочетании с традиционными моделями заложили основу для более эффективной и конкурентоспособной академической деятельности высших учебных заведений.

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КОПИНГ-СТРАТЕГИИ: ОСНОВНОЙ ЗАЩИТНЫЙ МЕХАНИЗМ СОВЛАДАНИЯ СО СТРЕССОМ

***Аннотация:** изучение психологических факторов адаптации показало, что непродуктивные копинг-стратегии в виде избегающего поведения или фокусировки на эмоциях резко снижают способность человека действительно разрешать трудности, участвуют в возникновении психических и соматических расстройств и выступают фактором их течения.*

***Ключевые слова:** стресс, копинг-стратегии, психологические установки.*

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COPING STRATEGIES: THE MAIN DEFENSE MECHANISM FOR COPING WITH STRESS

***Abstract:** the study of psychological adaptation factors has shown that unproductive coping strategies in the form of avoidant behavior or focusing on emotions dramatically reduce a person's ability to effectively resolve difficulties, are involved in the occurrence of mental and somatic disorders and act as a factor in their course.*

***Keywords:** stress, coping strategies, psychological attitudes.*

За возникновение адаптивной реакции на стресс отвечают такие структуры мозга и нервной системы, как вегетативная нервная система, лимбическая система, гипоталамо-гипофизарная система и лобная кора головного мозга. Эмоции человека, который находится в состоянии стресса, будут зависеть от того, как сложилось развитие вышеперечисленных систем у человека, насколько в принципе развиты эмоциональные и физиологические отклики организма на разные эмоции и факторы воздействия.

В заднем мозге имеется голубое пятно, которое отвечает непосредственно за адаптационные стрессовые реакции, и как раз эта зона управляет выработкой гормонов стресса, а также в целом за то, как реагирует организм на острый и хронический стресс и воздействие разных стрессовых факторов и ситуаций [3]. Также к структурам, которые управляют стрессом, относят такую, как паравентрикулярное гипоталамическое ядро. Оно

способствует выработке такого вещества, как кортиколиберин, который как раз отвечает за систему адаптационных реакций на стрессовые факторы, события и ситуации.

Человек имеет индивидуальный набор реакций на стресс и стрессовые факторы, поскольку его условия развития отличаются от любого другого человеческого организма, соответственно, несмотря на общий характер адаптивных реакций и их неспецифичность, у каждого человека реакция на стресс будет проявляться немного по-разному. Кто-то, например, реагирует на стресс агрессией, кому-то свойственно пытаться избегать стрессовых ситуаций, соответственно, исследователи говорят о том, что то, как человек справляется со стрессом – это проявление копинг-стратегии, то есть того, как человек испытывает стресс, на какие системы организма он воздействует у конкретной личности, и как человек в итоге со стрессом справляется.

Копинг-стратегия как термин появилась несколько десятилетий назад, когда точно была установлена физиологическая и психологическая взаимосвязь адаптивной реакции организма на стрессовые факторы и того, что каждый организм индивидуально реагирует на разные стрессоры. Копинг-стратегия является индивидуальным способом управлять организмом при воздействии на него стрессовых факторов.

Есть взаимосвязь между тем, в каком возрасте находится человек, каковы особенности его характера, темперамента, стрессовые реакции и реакции их преодоления зависят от эмоционального состояния, от социального положения и окружения, от физиологического состояния, и от конкретного события и стрессора, который воздействует в данный момент на организм человека [1]. Копинг-стратегии, как выявили исследователи, можно разделить на более эффективные, которые позволяют организму с меньшими последствиями и истощением адаптационных ресурсов преодолеть стрессовую ситуацию, и менее эффективные и продуктивные.

Эффективное, продуктивное или активное копинг-поведение и копинг-стратегия представляет собой такое поведение, при котором личность стремится восстановить хотя бы часть психологического и эмоционального комфорта, а в идеале устранить воздействие стрессового фактора, обычно это попытка убежать от стрессового фактора, или переждать его, или перейти в наступление.

Такая стратегия повторяется в течение жизни человека несколько раз, что закрепляет его определенные реакции на разные стрессовые события и факторы, и, как правило, копинг-стратегия является обобщенной на все случаи стресса, но, опять же, исходя из индивидуального социального опыта некоторые стрессовые события и факторы могут вызывать инициацию разновидности основной копинг-стратегии или вызывать совершенно другую, обычно несвойственную конкретному человеку. Если стресс был успешно преодолен, то такая стратегия поведения закрепляется и в дальнейшем используется до тех пор, пока человек не столкнется с качественно новой

ситуацией, где выбранная стратегия окажется непродуктивной, и ему придется осваивать новый паттерн поведения [5].

При преодолении стресса, таким образом, происходит следующее.

Человек стремится сначала нивелировать воздействие на себя и свой организм стрессового фактора. Если это боль или переохлаждение – выпить болеутоляющее, обратиться к врачу, одеться теплее, если это психологические факторы – постараться снизить степень воздействия, например, перестать общаться с человеком, с которым возник конфликт и стрессовая ситуация. Также личность может постараться изменить психологические установки, чтобы преодолеть собственные психологические факторы напряжения и эмоционального дискомфорта, например, пересмотреть свое поведение, постараться найти позитивные стороны в ситуации и так далее.

Постараться сделать воздействие стрессора как можно менее интенсивным с помощью попыток воздействия на организм внешними веществами, например, заменить эмоциональное воздействие тренировкой, алкоголем, никотином, другими психоактивными веществами или новыми впечатлениями. Копинг-поведение человека «демонстрирует со стороны человека определенное сочетание эмоциональных, когнитивных и поведенческих реакций и усилий, с помощью которых человек старается снизить эмоциональное напряжение, редуцировать воздействие эмоциональной стороны стрессовой ситуации, чтобы предотвратить развитие дистресса» [2].

Таким образом, копинг-стратегия – это то, как человек в совокупности способен оценить ситуацию, справиться или не справиться с текущей проблемой, изменить свое эмоциональное и психологическое отношение к стрессору или нет. Поэтому копинг-стратегия может быть ориентирована на стрессор, то есть на проблему, а может быть ориентирована на эмоцию. Также следует понимать и учитывать тот факт, что копинг-стратегия может быть разной для разных стрессоров и сфер возникновения стрессовых ситуаций, так, в межличностном конфликте человек может проявлять один тип поведения, во внутриличностном конфликте другой, реагировать на воздействие физических стрессоров совсем по-другому [4].

Аналогично и проявление действий человека может быть направлено больше на когнитивный компонент – обсудить проблему, наметить пути решения, понять, что делать, так и на эмоциональные проявления, например, проявление агрессии, горя или раздражения, или попытки сделать ситуацию более позитивной, чем она реально является. Также могут быть и реакции, которые провоцируют человека чувствовать свою вину в случившемся, или человек может пытаться переложить эмоциональные переживания и ответственность на других участников сложной стрессовой ситуации.

Соответственно и поведение личности будет продиктовано тем, какие физиологические, психологические и эмоциональные ресурсы есть у личности, какие социальные и гендерные роли он выполняет, каковы его

устойчивые и временные личностные конструкты и качества характера и многое другое, в том числе социальная поддержка или отвержение, принятие или непринятие со стороны близких, наличие или отсутствие дополнительных хронических или острых стрессоров и многое другое.

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**ПСИХОЛОГИЯ ОНЛАЙН-ПОКУПКИ ОБРАЗОВАТЕЛЬНЫХ УСЛУГ:
КАК МОТИВИРОВАТЬ СТУДЕНТОВ К ПОКУПКЕ
ОБРАЗОВАТЕЛЬНЫХ ПРОДУКТОВ**

Аннотация. В статье рассматриваются актуальные вопросы, связанные с принятием студентами решения относительно совершения онлайн-покупок различных образовательных услуг. В современных условиях онлайн-продажи значительно выросли и приобрели статус основного элемента маркетинговой политики. Маркетологам все труднее влиять на потребительское поведение людей, т.к. традиционно принятые способы воздействия на принятие решений постепенно теряют свою актуальность и значимость. Для успешной реализации стратегии продаж важнейшим критерием становится мотивационная составляющая потребителей, актуализация у них желания приобрести образовательный продукт. В настоящее время для повышения маркетинговых усилий важен гораздо более глубокий анализ психологии потребителя, его поведения, движущих мотивационных и потребностных факторов. Одним из таких механизмов для исследования покупательского поведения считается мотивационный анализ. Студенчество является такой социальной группой, в которой ведущими мотивами считаются учебные и познавательные. В силу этого молодые люди становятся одной из главных и приоритетных групп потребителей образовательных услуг. Их психологические особенности соответствуют, с одной стороны, высокой заинтересованности в получении таких услуг, а, с другой стороны, в низкой материальной обеспеченности. Для решения данной проблемы предлагается устанавливать баланс между покупательной способностью студентов и стоимостью образовательных продуктов.

Ключевые слова: общество потребления, самообразование, онлайн-покупки, студенты, мотивация, образовательные продукты, высшее образование

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PSYCHOLOGY OF ONLINE-BUYING OF EDUCATIONAL SERVICES: HOW TO MOTIVATE STUDENTS TO BUY EDUCATIONAL PRODUCTS

Abstract. *The article discusses topical issues related to students' decision-making regarding online purchases of various educational services. In modern conditions, online sales have grown significantly and acquired the status of the main element of marketing policy. It is increasingly difficult for marketers to influence people's consumer behavior, because traditionally accepted ways of influencing decision-making are gradually losing their relevance and significance. For the successful implementation of the sales strategy, the most important criterion is the motivational component of consumers, the actualization of their desire to purchase an educational product. Currently, a much deeper analysis of the psychology of the consumer, his behavior, driving motivational and need factors is important to increase marketing efforts. Motivational analysis is considered one of these mechanisms for researching purchasing behavior. Students are such a social group in which educational and cognitive are considered the leading motives. Because of this, young people become one of the main and priority groups of consumers of educational services. Their psychological features correspond, on the one hand, to a high interest in obtaining such services, and, on the other hand, to low material security. To solve this problem, it is proposed to establish a balance between the purchasing power of students and the cost of educational products.*

Keywords: *consumer society, self-education, online shopping, students, motivation, educational products, higher education*

Современное общество обязано своему интенсивному развитию только благодаря широкому распространению в нем сферы потребления или покупательского спроса. В результате такой социальной стратегии в социуме постоянно увеличивается число, как потребителей, так и производителей. Их взаимодействие друг с другом предполагает реализацию каждой из сторон своих насущных потребностей и желаний [3]. Возможность их удовлетворения непосредственно определяется самим фактом существованием человека, важностью и приоритетностью для него различных продуктов, качества товара. Чем выше их значимость для индивидов, тем сильнее мотивационная сторона поведения покупателей, а значит и эффективность производителей, продавцов [9]. На этот социально-психологический, экономический и маркетинговый феномен обращали внимание ученые, изучающие сферу потребления людей. К данной группе можно отнести, как философов, психологов, социологов, экономистов, маркетологов, рекламистов [1,3,10]. Все они, в совокупности, указывали на тот факт, что поведение людей в области потребления во многом определяется мотивационными критериями и показателями.

В психологии исследователем мотивации поведения, причин совершения индивидом тех или иных поступков, стал американский психолог

А.Маслоу [6]. Он обратил внимание на своеобразный характер действий человека, которые соотносились с его мотивационными показателями и стратегиями их достижения. А.Маслоу стоял у истоков гуманистического понимания личности, ее процесса развития и самоактуализации. При этом данный процесс предполагает последовательность, поэтапность способов удовлетворения насущных потребностей. Автор обратил внимание на тот факт, что жизнь большинства людей заключается в постоянном стремлении к реализации своих наиболее важных желаний, т.к. их достижение позволяет им испытывать внутреннее чувство удовлетворения, гармонии и баланса [6].

Благодаря целенаправленным действиям и поступкам происходит самоактуализация личности, которая предполагает переход с одного уровня потребностей на другой, более высокий, в психологическом плане, уровень. Успешная деятельность по реализации мотивационной задачи, позволяет говорить о личностном росте и психологическом развитии человека. Таким образом, он добивается успеха в достижении поставленных целей и задач. В соответствии с таким поведением определяется иерархия мотивов или «пирамида» потребностей, которая раскрывает общую структуру значимости и удовлетворенности для индивида тех или иных областей его жизни [16].

В результате постоянное стремление субъекта к достижению и удовлетворению насущных потребностей становится главным мотивационным фактором, лежащим в основе такого поведения [3]. Именно данная особенность впоследствии позволит производителям товаров и услуг, управлять его поведением, стимулировать. В совокупности такая деятельность раскрывает потребительский характер действий большинства людей, создавая у них дух соревнования и приобретения [9]. Таким образом, мотивация достижения и обладания становится важным отражением бытия человека, критерием его существования.

В отличие от персонологического подхода, определяющего мотивационные потребности отдельной личности, социально-психологический подход устанавливает совершенно иные критерии понимания поведения человека в области потребления товаров и услуг [13]. Развитие массового производства, а значит и массового потребления непосредственно связано с созданием различных теорий и концепций, которые тем или иным образом будут трактовать феномен потребительского поведения, накопления, приобретения населением различных продуктов, товаров и услуг [9].

Потребительское поведение населения стало объектом исследования в маркетинге и предполагало понимание причин реагирования человека, когда он принимает решение о совершении покупки [13]. В основе такого решения, принято считать, лежат сложные интеллектуальные или когнитивные размышления, которые во многом приводят к совершению соответствующего действия (приобретение товара), а могут инициировать и прямо противоположный результат [11]. В маркетинге выделяют отдельные этапы деятельности индивида, которые позволяют установить и понять весь процесс

принятия им решения о совершении покупки [13]. Существуют пять этапов, каждый из которых позволяет установить стратегии поведения покупателя, а также выявить маркетинговые критерии и систему управления приобретением товара.

На первом этапе индивид осознает свою потребность, которая в данный момент времени должна быть реализована. Процесс выделения потребности из общего пространства существующих раздражителей занимает некоторый промежуток времени, который включает в себя их распознавание, анализ и актуализацию [11]. Ценность той или иной потребности определяется как внутренними психологическими факторами, так и внешними – социальными стимулами [3]. Именно на этом этапе огромную маркетинговую роль играет реклама продукта, товара или услуги, которая ставит своей целью актуализацию у субъекта значимой, т.е. выбранной потребности.

На следующем этапе потенциальный покупатель осуществляет структурированный поиск необходимой информации о продукте, товаре или услуге. Здесь происходит когнитивный процесс, непосредственно связанный с изучением различных источников, которые позволяют удовлетворить насущную потребность [11]. Первоначально человек проводит детальный анализ своего прошлого опыта, т.е. изучает те источники, которые раньше позволяли ему успешно реализовывать возникавшую нужду. Однако в данном случае велика вероятность того, что потребителю могут понадобиться новые информационные источники знаний, которые будут способны удовлетворить сформировавшуюся потребность. Для достижения этой цели он начинает изучать и анализировать информационное пространство, содержащее другие источники знаний, которые помогут ему восстановить внутреннюю гармонию и баланс. Именно в этот момент времени маркетинговая стратегия видоизменяется и начинается активное воздействие на покупателя в виде его просвещения, информирования относительно предлагаемых продуктов, товаров или услуг.

Далее процесс принятия решения потребителем о совершении покупки состоит в качественной или количественной оценке различных вариантов, способов приобретения. В данном случае происходит сравнение товаров и услуг с их различными характеристиками, которые раскрывают преимущества, достоинства покупки, ее значимость и ценность в жизни покупателя. Таким образом, оценивая предлагаемые товары и услуги, человек предопределяет собственную стратегию поведения, т.е. он совершает покупку продукта или отказывается от данного действия. В этой ситуации покупатель совершает оценку, сравнение и анализ, сформированных на предыдущем этапе вариантов и стратегий деятельности. В результате у него отмечается активная мыслительная работа, результатом которой становится принятие индивидом окончательного решения относительно покупки товара, приобретения той или иной услуги [16].

Деятельностный этап в потребительском поведении обусловлен самим фактом совершения покупки. Приобретение товара или услуги, является

доказательством, что было произведено конкретное действие, позволяющее говорить о серьезности намерений покупателя. В этом случае можно говорить только о том, что мыслительная, интеллектуальная деятельность индивида преобразовалась в поведенческий акт, указывающий на приобретение товара или отказ от него [4]. Для данного этапа характерным становится осознанность поступка личности, который показывает не только ее намерения, но и возможности их реализации. В соответствии с этим успешность действий покупателя оказывается обусловленной важнейшими потребительскими показателями, которые играют основную роль в приобретении товара. К ним относятся: качество покупаемой вещи, ее стоимость и ценность, прошлый опыт, значимость в жизни индивида. Таким образом, поведенческая реакция св виде покупки товара или услуги становится отражением множества факторов, которые легли в основу данного действия [1].

На завершающем этапе, важными оказываются переживания индивида, его эмоциональная реакция на покупку, которые окрашивают сам факт совершения покупки, факт приобретения товара. Таким образом, эмоциональное отреагирование личности на обладание тем или иным продуктом отражает ее чувство удовлетворения или характеризует – разочарование. Все это в совокупности предопределяет у покупателя соответствующий потребительский опыт в отношении покупки, позитивный или негативный образ купленного товара или услуги, а также реализацию его ожиданий от совершенного действия. В том случае если ожидания не совпадают с реальностью, то потребитель будет либо разочарован от совершения покупки, а в случае совпадения – будет счастлив и доволен [9].

В маркетинге данный подход к анализу поведения покупателя, этапы принятия решения о покупке позволяет маркетологам прогнозировать его действия и поступки, создают предпосылки для успешности и эффективности предпринимательской деятельности [13]. В то же время он ограничивает свободу анализа поступков участников замкнутым пространством потребительского поведения, где все действия заранее запланированы и предустановлены. В соответствии с такими ограничениями возникает необходимость построения общепсихологической модели, которая смогла бы объяснить поведение потребителей с точки зрения их массового характера реагирования.

Разработанная французским философом и социологом Ж.Бодрийяром теоретическая модель «общества потребления», раскрывала накопительный характер действий и поступков большинства людей, которые ставили перед собой цель по приобретению как можно большего количества вещей [2]. В силу этого такое желание населения как обладание и владение наибольшим объемом различных товаров и услуг, как в «зеркале» отражало уровень общего социального настроения. Таким образом, в обществе начинают формироваться и преобладать «ложные ценности, потребности», которые на

самом деле создаются и инициируются средствами массовой информации и коммуникации [9].

В настоящее время большинство людей уже активно реализуют свое потребительское поведение, которое теперь почти полностью соответствует теории «общества потребления» Ж.Бодрийяра. Их внутренние стереотипы, связанные с реализацией и удовлетворением насущных желаний, выполнением неких социальных требований, определяющих покупательскую направленность, стремление к достижению модных тенденций и инноваций. В результате устанавливается относительно новый вариант социального поведения, который видоизменился и трансформировался. Он из простейшего варианта покупки товара преобразовался в своеобразное потребительское реагирование.

В данном контексте деятельность большинства людей, связанная с приобретением тех или иных товаров и услуг, стала соотноситься с самим процессом покупки вещей и услуг. Именно он (процесс) стал объектом для получения удовольствия от приобретения того или иного товара, услуги [13]. Таким образом, можно говорить о том, что модификация потребительской активности населения заключалась в его изменении отношения к покупкам. Теперь они были направлены на реализацию внутренней установки индивида на сам процесс покупки, т.е. потребление стало осуществляться не ради обладания той или иной вещью, услугой, а ради самого процесса приобретения.

В соответствии с этим вопрос, возникающий относительно практического использования предмета покупки по назначению благополучно исчезает, т.к. удовольствие от самого обладания вещью, товаром или услугой смещается в сторону получения наслаждения от деятельности, от покупательской активности субъекта. Именно поэтому, по мнению Ж.Бодрийяра «современное общество находится на той стадии эволюции, когда «потребление» охватывает всю его жизнь, когда все роды деятельности комбинируются одним и тем же способом, когда русло удовольствий прочерчено заранее, час за часом.....» [2, С.9-10].

Такая поведенческая установка создает существенную экономическую базу для всего общества «потребления», которая теперь характеризуется важным показателем «изобилие» вещей, товаров и услуг. Именно изобилие становится определяющим моментом для соответствующих действий и поступков населения, которые теперь регулируются интенсивным насыщением и даже пресыщением рынка товаров и услуг [4]. Все они поступают в полное распоряжение и владение индивида, указывая, таким образом, на тот факт, что общество «потребления, изобилия и достатка» в полной мере реализует свой потенциал.

В соответствии с этим в социуме возникает иллюзорное впечатление о некоем равенстве между людьми, когда каждый гражданин может обладать любым предметом, вещью, или в крайнем случае, он может ее арендовать, взять в кредит [16]. Все это создает предпосылки для искусственного

принуждения человека к покупкам, приобретению им всевозможных товаров и услуг, которые оказываются ненужными, но при этом становятся частью его жизнедеятельности, включаются в социальные и межличностные отношения [1].

Как известно, система высшего образования считается непосредственным отражением социальной жизни общества и, поэтому, устанавливает точно такую же схему и иерархию взаимодействия между преподавателями и студентами. Это приводит к тому, что в системе высшего образования точно также осуществляется предоставление образовательных услуг потребителям, в данном случае студентам [7]. На самом деле происходит формирование устойчивого взаимодействия между потребителями знаний и их производителями, между студентами и преподавателями. При этом качество знаний продуктов в основном отражает требования государственных образовательных стандартов, а также в той или иной мере должно учитывать отдельные пожелания студентов.

Однако в последнее время в образовательной деятельности фиксируется несоответствие и рассогласование между учебными потребностями студентов и шаблонами государственных стандартов, которые значительно отстают от требований современности. Данная ситуация отражает естественный результат ригидности всей системы высшего образования, его высокой бюрократизации. Если раньше разрыв не настолько ощущался, т.к. техническое развитие общества было стабильным и прогнозируемым, то, в настоящее время, дисбаланс резко увеличился. Это привело к тому, дистанция между прошлым опытом, который в системе высшего образования должен структурироваться, систематизироваться и современной цифровизацией, индустриализацией значительно возросла [8]. В соответствии с данным положением в обществе стали развиваться тенденции к приведению в соответствие образовательных стандартов с современными критериями, их адаптация под актуальные потребности студентов.

Одним из таких вариантов оказывается онлайн-обучение, которое в последнее время играет ведущую роль и приобретает приоритетное значение в высшем образовании. Если раньше такое обучение считалось вынужденной мерой в связи с распространением пандемии Covid-19, то теперь оно получает все большую популярность и распространение [5]. В результате онлайн-образование становится осознанным выбором множества людей, стремящихся получить знания, информацию, образование. Все это непосредственно касается и студентов, которые благодаря онлайн-обучению могут развивать свои навыки, повышать уровень компетентности. В контексте данного социального явления формируется социальная установка, целью которой является разработка и реализация учебных онлайн-продуктов [14].

Одним из важных факторов, определяющих распространение онлайн-образования в обществе, является наличие у человека какого-либо электронного гаджета, а также доступ в интернет. Это приводит к тому, что человек, имеющий компьютер, планшет, ноутбук, смартфон автоматически

приобретает статус пользователя или потребителя онлайн-услуг. В результате всех этих манипуляций качественно видоизменяется образовательное онлайн-пространство, в котором происходит активный процесс приобретения, усвоения и переработки учебных знаний [15].

Данная студенческая онлайн-деятельность создает благоприятные возможности для личностной реализации студента, а также удобного получения учебной информации. При этом онлайн-продукты характеризуются высокой доступностью, мобильностью, индивидуальным характером обучающего контента [12]. Все это в совокупности позволяет им решать различные по сложности учебные задачи, удовлетворять свои познавательные потребности, а также развивать индивидуально-личностные характеристики.

Психологическое своеобразие онлайн-покупок образовательных услуг состоит в том, что их покупатель становится полноправным владельцем обучающего продукта, который позволит ему в будущем решать множество учебных задач, личных и социальных проблем [1]. Благодаря такой покупке он приобретает особый статус пользователя, получает некие преимущества перед однокурсниками, которые еще не владеют данным продуктом. Кроме этого, у него появляется возможность с помощью этого продукта реализовывать свои актуальные потребности. К ним относятся потребности в безопасности, в признании в группе, развитием межличностных отношений, а также решением индивидуальных проблем, обусловленных личностным развитием, повышением самооценки [6].

Кроме этого, владея онлайн-учебным продуктом, у молодых людей появляется возможность развивать свои познавательные потребности, связанные с получением новых знаний, овладением новыми навыками и умениями; коммуникативные потребности, определяющие реализацию студентами проблем с эффективностью их взаимодействия с однокурсниками, поддержание статусности в группе, своего престижа и авторитетности [7]. Также важнейшей причиной приобретения образовательного продукта становится возможность его использования в любое свободное и удобное для пользователя время, персонализация предлагаемого материала, а также индивидуальная поддержка и помощь со стороны преподавателя.

Однако всеобщее и повсеместное распространение онлайн-обучения в высшем образовании сталкивается с возникновением социально-психологических проблем, которые создают барьеры и препятствия на пути успешной реализации онлайн-продуктов. Одной из актуальных проблемных задач с целью активизации онлайн-продаж является эффективность механизмов потребительской мотивации у студентов [12]. В современном мире, когда цифровизация и коммерциализация приобретают особую значимость, мотивационная ценность обучающего образовательного продукта становится объектом серьезного анализа [8]. И, поэтому, переход от бесплатных онлайн-услуг к оплачиваемым образовательным товарам и продуктам приобретает особую актуальность. Именно вовлеченность

студентов в совершение онлайн-покупок и образовательного контента характеризуется их мотивационными критериями, раскрывает их некоторую заинтересованность в приобретении.

Рассмотрим один из важнейших мотивационных факторов, который во многом играет решающее значение в совершении онлайн-покупок студентами. Это соотношение между ценой и качеством онлайн-продукта. Большинство молодых людей ориентированы на бесплатное приобретение или скачивание онлайн-продукта. При этом они прекрасно понимают, что адекватные онлайн-услуги стоят денег и, поэтому, им важно их приобрести по доступной цене, т.е. оплата которых будет соответствовать их внутреннему содержанию.

Следующим мотивационным показателем приобретения онлайн-образовательного продукта становится привлекательность покупки, точнее те или иные бонусы, поощрения, скидки, пробные периоды использования. Они в совокупности позволяют молодым людям проверить обучающий продукт, сформировать и выработать отношение к нему и впоследствии со скидкой приобрести. Современная бонусная система в маркетинговой сфере является одним из значимых показателей в успешности продаж [16].

Также повышает доверие покупателей и определяет их покупательную активность различные положительные отзывы относительно той или иной онлайн-услуги, а также рекомендации друзей, знакомых и преподавателей. Это создает благоприятные условия для совершения успешной сделки.

Ценность любой образовательной услуги во много раз повышается, если обучающиеся устанавливают устойчивую взаимосвязь между получением учебных знаний, приобретением навыков и умений, а также их практическим применением. Все это в совокупности формирует предметное пространство, где обучающиеся будут приобретать и эффективно накапливать опыт для будущей профессиональной деятельности. Именно этот показатель предопределяет высокую ценность и значимость онлайн-продукта, его покупательную способность.

Еще одной мотивационной характеристикой, определяющей эффективность и ценность онлайн-покупки, становится поддержка у молодых людей уверенности в овладении учебным материалом. Понимание ими структуры и методологической направленности образовательного продукта, умение грамотно справляться с поставленными задачами, постепенное усложнение материала устанавливают эмоциональное целеполагание относительно будущей покупки.

В качестве заключения необходимо указать на тот факт, что глубокое понимание и знание психологии студенчества, его мотивационной составляющей позволяет успешно реализовывать многие образовательные онлайн-продукты для удовлетворения у них учебных потребностей. Таким образом, если образовательный продукт, который предлагается для онлайн-продаж, дает обучающимся максимум индивидуального подхода, т.е. в нем присутствует обязательная обратная связь, внедрены элементы

игротехнологий, бонусы и поощрения, то такая программа будет привлекательной для молодых людей.

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РОЛЬ РУССКОЙ ЛИТЕРАТУРЫ В СТАНОВЛЕНИИ ЛИЧНОСТИ КУРСАНТА

Аннотация: В данной статье исследуется влияние классической русской литературы на формирование личности курсантов военного вуза в Узбекистане. Актуальность работы обусловлена потребностью в духовно-нравственном воспитании будущих офицеров, сочетающем профессиональную подготовку с развитием моральных качеств.

Ключевые слова: русская литература, нравственное воспитание, развитие личности, курсанты, военное образование, патриотизм.

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THE ROLE OF RUSSIAN LITERATURE IN THE FORMATION OF A CADET'S PERSONALITY

Abstract: This article explores the influence of classical Russian literature on the formation of the personality of cadets in military higher education institutions in Uzbekistan. The relevance of this work is determined by the need for spiritual and moral education of future officers, combining professional training with the development of moral qualities.

Keywords: Russian literature, moral education, personality development, cadets, military education, patriotism.

Введение

Формирование личности будущего офицера включает развитие не только профессиональных навыков, но и высоких нравственных качеств. Современные исследования подчёркивают, что от моральной подготовки военнотружущих могут зависеть их решения в условиях боя и экстремальных ситуаций [1]. В Узбекистане данному вопросу уделяется особое внимание на государственном уровне — так, Указ Президента Республики Узбекистан № PQ-3898 от 4 августа 2018 года нацелен на кардинальное совершенствование системы духовно-просветительской работы с военнотружущими, укрепление у них преданности Родине и нравственности [4]. Соответственно, военные вузы страны внедряют программы воспитания

курсантов на основе национальных и общечеловеческих ценностей, опираясь на богатое культурное наследие [3].

Одним из эффективных средств духовно-нравственного воспитания традиционно выступает художественная литература. Классические литературные произведения позволяют читателю пережить широкий спектр ситуаций и эмоций, тем самым способствуя развитию эмпатии и социального интеллекта [2], [8]. Психологи установили, что чтение художественной литературы повышает уровень сопереживания и способность понимать чужую точку зрения [5], [7]. Например, чтение литературной прозы улучшает показатели теории разума (понимания мыслей и чувств других людей) и связано с ростом эмпатии у читателей [3], [8]. Литература воздействует на ценностно-смысловую сферу личности: регулярное чтение в юности коррелирует с развитием таких качеств, как доброжелательность, воображение и стремление к познанию [2], [9].

В системе подготовки кадров силовых структур использование литературы имеет свои традиции. В условиях Узбекистана, где исторически сложилось двуязычие и русская культура оказала значительное влияние на образование, изучение русской литературы продолжает играть заметную роль в воспитательном процессе. При этом важно учитывать национальные особенности: идеи чести, долга, мужества, присутствующие в произведениях русских классиков, созвучны традиционным ценностям узбекского народа (уважение к старшим, верность долгу, патриотизм). Таким образом, обращение к русской литературе в воспитании курсантов представляет собой мост между общечеловеческими и национальными ценностями, обогащая культурный кругозор будущих офицеров.

Основная часть.

Цель данного исследования – эмпирически проверить вклад чтения и обсуждения произведений русской классики в становление личности курсантов в Узбекистане. В качестве материала выбраны три знаковых произведения о судьбе солдата и офицерской чести: повесть А.С. Пушкина «Капитанская дочка» (1836), рассказ М.А. Шолохова «Судьба человека» (1957) и поэма А.Т. Твардовского «Василий Тёркин» (1946). Эти тексты включены в образовательную программу и богаты нравственными уроками, потенциально значимыми для молодых военных. Мы предположили, что целенаправленная работа с указанными произведениями будет способствовать развитию у курсантов таких личностных качеств, как чувство долга, честь, эмпатия и патриотизм, а также укреплению их ценностных ориентиров.

Изучение поэмы А. Твардовского «**Василий Тёркин**» вызвало у курсантов живой отклик и чувство гордости. 80% отметили, что образы Василия Теркина – простого солдата, преодолевающего тяготы войны с юмором и отвагой – усилили их уважение к рядовым бойцам и чувство сопричастности к славной истории защитников Отечества. Многие признались, что юмористические эпизоды из поэмы помогли им взглянуть на

трудности военной службы оптимистичнее, а сцены мужества – укрепили готовность служить Родине с полной самоотдачей. Например, один курсант отметил на семинаре, что *«Тёркин учит не падать духом: даже в самых тяжёлых ситуациях надо сохранять веру и товарищество»*.

Обобщая, можно сказать, что **литература стала зеркалом**, в котором курсанты увидели идеалы, к которым следует стремиться. Работа с эмоционально насыщенными текстами (такими как «Судьба человека») действительно могла повысить у участников уровень эмоциональной отзывчивости – что подтвердило увеличение баллов по шкале эмпатии. Аналогично, возрастание ценности чести и долга соотносится с теми нравственными ориентирами, которые задавали выбранные произведения (особенно «Капитанская дочка» [11]).

Как отмечают исследователи, именно глубокое “погружение” в историю и идентификация с персонажами являются механизмом развития социальных и моральных навыков через литературу [2], [9].

Через судьбы героев – участника Великой Отечественной войны Андрея Соколова [9], солдата Василия Тёркина [11], офицера Гринева [10] – курсанты прочувствовали, какой ценой завоёван мир и что значит служить Отечеству честно. Кроме того, стоит обратить внимание на подбор материала: литература военной тематики оказалась особенно близкой аудитории курсантов, что облегчило идентификацию с героями. Вероятно, включение произведений не только русской, но и узбекской литературы о героях-национальных лидерах (например, об Амине Темуре или Джалолиддине Мангуберды) могло бы ещё более усилить воспитательный эффект за счёт апелляции к собственно национальной гордости. Это направление требует дальнейших исследований.

Литература, как часть гуманитарного знания, привносит в подготовку курсантов гуманистическое измерение, необходимое для становления ответственного и нравственно зрелого защитника Отечества.

Выводы.

Включение в образовательный процесс чтения и обсуждения литературных произведений, богатых патриотическими и нравственными идеалами, способствовало развитию у курсантов важных личностных качеств: укрепились чувство долга, сознание офицерской чести, эмпатия к окружающим и любовь к Родине. Практическая реализация может включать разработку специальных курсов или модулей по военной литературе, проведение конкурсов эссе, литературных вечеров и других форм творческой активности, которые обогащают духовный мир курсантов.

В заключение подчеркнём, что развитие высоконравственной, всесторонне развитой личности офицера – залог укрепления и армии, и общества. Как показал опыт, **слово писателя дополняет строй армейской жизни**, воздействуя на сердца и умы будущих командиров. Поэтому поддержание традиций чтения и обсуждения классики в стенах военного вуза – важная задача воспитателей. Опыт работы показал, что обращение к

лучшим образцам литературы является неотъемлемой частью подготовки кадетов, призванных стать офицерами, *для которых честь и совесть – не пустой звук.*

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СОВРЕМЕННЫЕ ТЕХНОЛОГИИ УПРАВЛЕНИЯ ОРГАНИЗАЦИЕЙ

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ИНТЕГРАЦИЯ ESG - ФАКТОРОВ В КОРПОРАТИВНОЕ УПРАВЛЕНИЕ: СПОСОБСТВУЮЩИЕ И СДЕРЖИВАЮЩИЕ ФАКТОРЫ

Аннотация: *Исследование посвящено анализу факторов, способствующих и препятствующих интеграции ESG-принципов в корпоративное управление. В работе обоснована актуальность внедрения ESG-практик, представлены методы анализа и результаты исследования влияния внутренних и внешних факторов на раскрытие ESG-информации, выделены драйверы устойчивого развития и основные барьеры ESG-реализации. Особое внимание уделено роли технологий, корпоративного управления и социально-экономических характеристик компаний. Сделан вывод о стратегической значимости ESG для долгосрочной устойчивости и инвестиционной привлекательности бизнеса. Полученные данные могут быть использованы для повышения эффективности устойчивого развития бизнеса.*

Ключевые слова: *ESG, управление, устойчивость, отчетность, прибыльность, раскрытие, корпоративное управление*

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INTEGRATION OF ESG - FACTORS INTO CORPORATE MANAGEMENT: ENABLING AND CONSTRAINING FACTORS

Abstract: *The study is devoted to the analysis of factors that facilitate and hinder the integration of ESG principles into corporate governance. The paper substantiates the relevance of implementing ESG practices, presents the methods used and the results of examining the impact of internal and external factors on ESG disclosure, the research identifies the drivers of sustainable development and*

the main barriers to ESG implementation. Special attention is paid to the role of technologies, corporate governance, and the socio-economic characteristics of companies. The study concludes that ESG integration is a strategic imperative for long-term business resilience and investment attractiveness. The findings can be used to enhance business sustainability strategies.

Keywords: ESG, management, sustainability, reporting, profitability, disclosure, corporate governance

ВВЕДЕНИЕ

В условиях растущего внимания к устойчивому развитию компании сталкиваются с необходимостью интеграции экологических, социальных и управленческих (ESG) факторов в бизнес-практики. Такой шаг может способствовать долгосрочной устойчивости компании, снижению рисков и улучшению репутации. Вместе с тем, существует ряд ограничений, препятствующих эффективному внедрению ESG-инструментов, включая институциональные барьеры, слабую нормативную базу и ограниченность данных.

ОСНОВНАЯ ЧАСТЬ

Методологической основой исследования стал системный анализ научной и отраслевой литературы, посвящённой внедрению ESG в управление. Были использованы сравнительный подход, контент-анализ международных отчетов и эмпирических исследований, а также обобщение данных международных консалтинговых компаний (PwC, EFA, Bloomberg, ESG Investment Series и др.). Также применялся факторный анализ для выявления ключевых внутренних и внешних переменных, влияющих на качество ESG-раскрытия.

На основе проведенного анализа был сделан вывод, что на интеграцию ESG влияет широкий спектр факторов, условно разделённых на внешние (политика, технологии, социальная ответственность) и внутренние (структура совета директоров, прибыльность, рентабельность, экономическая устойчивость).

Внешние факторы

1. Технологии. Они оказывают большое влияние на ESG-интеграцию. Развитию обязательств ESG будет способствовать использование инновационных продуктов, процедур и практик, которые опираются на новые технологии. Новые технологии и цифровизация способствуют более точному учету воздействия на окружающую среду, автоматизации отчетности, а также формируют новые формы взаимодействия со стейкхолдерами¹⁴⁶.

2. Политика. В разных странах также оказывает огромное влияние на инвестиции в ESG и политический вектор. Европа, являющаяся родиной инвестиций в ESG, является лидером в этом направлении. Он окажет широкое

¹⁴⁶ Аппухами С. Технологии и ESG: вектор цифровой трансформации // Экономика и управление. – 2021. – № 4. – С. 55–62.

влияние на глобальные финансовые институты, включая китайские институты, которые привлекают капитал, выпускают продукты или предоставляют услуги финансовым институтам и инвесторам, а также поднимут тревогу в связи с практикой «greenwashing»¹⁴⁷.

3. Инвестиционная эффективность. На инвестиционные решения ESG всегда напрямую влияет эффективность инвестирования. Высокий ESG-рейтинг способствует снижению стоимости капитала, повышению прозрачности и доверия со стороны инвесторов¹⁴⁸. Кроме того, компания может получить конкурентные преимущества за счет повышения репутации в обществе. Хотя действия ESG могут стоить дорого, а инвестиции сопряжены с некоторыми рисками.

4. Социальная ответственность. Представители нового поколения ценят социальную ответственность выше, и они проявляют все большую склонность поддерживать предприятия, которые занимаются социальными вопросами, честной торговлей, устойчивым развитием и т.д., ведь важной частью инвестиций ESG является и социальная ответственность. Генерация позитивной репутации и доверия общественности обеспечивает лояльность клиентов и улучшает финансовые показатели компаний¹⁴⁹.

В глобальном масштабе структурные и систематические изменения, включая изменение климата, нехватку ресурсов, проблемы регулирования, а также ценность человеческого капитала и разнообразия, создают все большее число существенных бизнес-рисков, а также открывают возможности для эмитентов и инвесторов. В результате количество факторов, включаемых в анализ финансовой устойчивости, быстро увеличивается.

Основываясь на быстро растущем объеме исследований, можно выделить несколько условно «внутренних» факторов, которые повлияли на корпоративную отчетность ESG во всем мире, таких как размер компании, состав совета директоров, ESP, прибыльность и т.д.

Внутренние факторы

1. Размер компании. Согласно глобальному опросу, проведенному PricewaterhouseCoopers, менее одной пятой (18%) руководителей небольших компаний оценили опыт своих советов директоров в области ESG как отличный или удовлетворительный¹⁵⁰. Крупные корпорации чаще внедряют ESG-отчетность по сравнению с малыми и средними предприятиями, что обусловлено большей публичностью и вниманием инвесторов. Малые предприятия могут в меньшей степени подвергаться общественному контролю и давлению акционеров в отношении своей практики ESG.

¹⁴⁷ Силиник И. Европейская политика ESG и ее влияние на глобальные рынки // Международная экономика. – 2022. – № 6. – С. 38–44.

¹⁴⁸ ESG Investment Series. ESG Performance and Investment Efficiency. – London: ESG Research Group, 2021. – 48 р.

¹⁴⁹ Соболева А. Социальная ответственность как актив компании // Управление корпоративными финансами. – 2023. – № 2. – С. 21–29.

¹⁵⁰ Деникола Л. Исследование PwC: ESG и размер компаний // Финансовый анализ. – 2022. – № 3. – С. 12–17.

2. Финансовый рычаг. Компании с высоким уровнем долговой нагрузки чаще подвергаются проверкам со стороны кредиторов, что побуждает их к расширенному ESG-раскрытию¹⁵¹. Кредитных инвесторов интересуют такие темы, как соблюдение трудовых норм и прав человека, раскрытие информации о выбросах парниковых газов, информация о внебалансовых обязательствах по охране окружающей среды и структура вознаграждения руководства.

3. Полномочия совета директоров. Независимость, размер и международный состав совета директоров положительно коррелируют с уровнем ESG-отчетности. Наличие специализированных комитетов также усиливает контроль за реализацией ESG¹⁵². Все чаще исследователи приходят к выводу, что внутренние механизмы корпоративного управления должны быть тщательно определены, чтобы обеспечить точный отбор членов совета директоров. Кроме того, было установлено, что доля иностранных директоров в совете директоров оказывает влияние на раскрытие информации о ESG. Это объясняется тем, что они могут быть использованы в качестве посредника для интернационализации деловой активности, что, как правило, требует более сложных стандартов отчетности и оборудования. Также у иностранных членов совета директоров меньше шансов быть заинтересованными в совершении правонарушений, поскольку международные советы директоров, как правило, в меньшей степени подвержены прямому влиянию руководства внутри страны.

4. Гендерное разнообразие. Присутствие женщин в совете директоров способствует улучшению корпоративной культуры, повышает уровень социальной ответственности и раскрытия информации¹⁵³. Это объясняется тем, что женщины-директора играют важную роль в процессах коммуникации и принятия решений о том, следует ли раскрывать информацию в годовых отчетах.

5. Показатели экономической устойчивости (ESP). Согласно теории легитимности, предприятия, которые добиваются лучших результатов с точки зрения ESP, должны быть более прозрачными в отношении своей практики ESG. Компании с высоким уровнем устойчивости чаще добровольно раскрывают ESG-данные, оправдывая свою деятельность перед обществом и регулируемыми органами. Устойчиво ответственная практика может повлиять на финансовые показатели и корпоративную стоимость. Таким образом, если компания намерена добровольно выполнять свои социальные обязательства, это может помочь ей избежать правительственных санкций, повысить производительность, а также снизить стоимость рассмотрения жалоб.

¹⁵¹ Хо Т. Влияние долговой нагрузки на раскрытие ESG // Корпоративные финансы. – 2020. – № 5. – С. 33–40.

¹⁵² Bolognesi S. Corporate Boards and ESG Reporting Standards. – Milan: Bocconi University Press, 2023. – 60 p.

¹⁵³ Rahman A., Al-Sayegh M. Gender Diversity and Voluntary Disclosure // Journal of Business Ethics. – 2022. – Vol. 179(2). – P. 345–361.

6. Рентабельность. Прибыльные компании обладают большим ресурсом для внедрения и коммуникации ESG-стратегий, а также более мотивированы на сохранение легитимности через отчетность¹⁵⁴. Кроме того, прибыльные корпорации могут позволить себе инвестировать в более широкое распространение ESG среди своих сообществ, тем самым узаконивая свое присутствие, поскольку у них есть ресурсы и возможности для этого.

Таким образом, приведенная совокупность факторов может оказывать прямое влияние на формирование практики ESG и развитию данного направления в бизнесе. Проведенное исследование подтвердило мультифакторную природу влияния на ESG-интеграцию. Внешняя среда формирует институциональные стимулы и ограничения, тогда как внутренняя структура компании определяет способность и готовность к раскрытию ESG-информации. Основные препятствия заключаются в отсутствии универсальных стандартов, высоких издержках внедрения и нехватке компетенций.

Интеграция ESG-принципов в корпоративное управление становится все более актуальной задачей для компаний, стремящихся к устойчивому развитию и росту инвестиционной привлекательности. Ниже представлены основные способствующие и сдерживающие факторы.

Способствующие факторы

1. Рост значимости ESG-аналитики в инвестиционных решениях. Согласно исследованиям Ефимовой О.В., инвесторы все чаще учитывают нефинансовые ESG-показатели при оценке инвестиционного риска и устойчивости компаний¹⁵⁵.

2. Усиление роли советов директоров в вопросах устойчивого развития. По данным KPMG, почти 50% компаний формируют специализированные комитеты по устойчивому развитию на уровне совета директоров¹⁵⁶.

3. Интеграция ESG-принципов в стратегическое планирование компании позволяет получать конкурентные преимущества и выходить на новые рынки¹⁵⁷.

Сдерживающие факторы

1. Недостаток стандартов и метрик. Отсутствие универсальных методик оценки ESG-продвижения снижает сопоставимость и прозрачность отчетности.

2. Ограниченные ресурсы. Реализация ESG-инициатив требует значительных затрат, что может быть затруднительно для компаний с ограниченным бюджетом.

¹⁵⁴ Rahman A., Al-Sayegh M. Gender Diversity and Voluntary Disclosure // Journal of Business Ethics. – 2022. – Vol. 179(2). – P. 345–361.

¹⁵⁵ Ефимова О.В. ESG-факторы как элемент устойчивого развития корпораций // Экономика и управление. – 2022. – №6 (186). – С. 24–29

¹⁵⁶ KPMG. Отчет об интеграции ESG в корпоративное управление. – 2023. – URL: <https://esgnews.com/ru/> (дата обращения: 12.04.2025).

¹⁵⁷ Makarova I., Plaskova N. Corporate strategies in the context of implementing ESG principles // ResearchGate. – 2023. – URL: <https://www.researchgate.net/publication/382761036> (дата обращения: 12.04.2025).

3. Сложности в изменении корпоративной культуры. Переход к ESG-управлению требует внутренней перестройки и может встретить сопротивление¹⁵⁸.

В условиях глобальных вызовов — от климатических до социоэкономических — становится очевидным, что ESG уже перестал быть модным трендом и превращается в необходимый элемент стратегического управления. Успешное внедрение ESG возможно лишь при системном подходе, институциональной поддержке и трансформации корпоративной идентичности. Именно в этом контексте развитие ESG-повестки становится не просто условием устойчивости, но и фактором выживания бизнеса в будущем.

ЗАКЛЮЧЕНИЕ

Проведённый анализ подтвердил, что интеграция ESG-принципов в корпоративное управление представляет собой сложный, многоуровневый процесс, зависящий как от внешней институциональной среды, так и от внутренних характеристик компаний. ESG-интеграция способна усиливать репутационные и инвестиционные позиции компании, снижать регуляторные и операционные риски, а также способствовать росту долгосрочной устойчивости бизнеса. В то же время, устойчивое развитие не может быть реализовано в корпоративной практике исключительно декларативно — приоритетной задачей остаётся переход от формального к содержательному исполнению ESG-принципов.

Среди внешних драйверов ESG-интеграции были выделены технологическое развитие, политико-регуляторные инициативы, общественный запрос на социальную ответственность, а также связь ESG с инвестиционной эффективностью. Внутренние факторы, такие как размер компании, финансовое положение, структура совета директоров, гендерное и этническое разнообразие, а также готовность к раскрытию информации, формируют потенциал компаний к внедрению ESG-практик.

Наибольшими барьерами остаются отсутствие единых стандартов раскрытия, ограниченность финансовых и человеческих ресурсов, а также несформированная ESG-культура внутри организаций. Компании нередко ограничиваются формальной отчетностью и воспринимают ESG как реакцию на внешний запрос, а не как внутреннюю стратегию развития.

Результаты могут быть использованы как в научных исследованиях, так и в практической плоскости — для разработки ESG-стратегий, оценки инвестиционной привлекательности и формирования устойчивой корпоративной культуры. Предложения включают развитие компетенций советов директоров, цифровизацию отчетности, а также формирование регуляторных стимулов для малого и среднего бизнеса.

¹⁵⁸ Моисеев И.В. Корпоративная культура и устойчивое развитие: вызовы трансформации // Экономическая наука сегодня. – 2023. – №2. – С. 45–52.

Таким образом, ESG-интеграция становится не просто трендом, а стратегическим ориентиром для компаний, стремящихся к устойчивому развитию и укреплению своей позиции на рынке.

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РЕТРОСПЕКТИВНЫЙ АНАЛИЗ ТЕОРИЙ МЕНЕДЖМЕНТА

Аннотация: В статье осуществлена систематизация классических и поведенческих теорий управления, их принципов и научных школ менеджмента. Определено их значение для управления и развития компаний. Сделан вывод том, что в практике компаний до сих пор отсутствует широкое признание одной теории управления. Каждая из них имеет ограниченную полезность и не может быть признана универсальной.

Ключевые слова: управление компанией, теории менеджмента, научные школы менеджмента, нефтегазовые компании

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RETROSPECTIVE ANALYSIS OF MANAGEMENT THEORIES

Abstract: The research systematizes classical and behavioral theories of management, their principles and scientific schools of management. Their importance for the management and development of companies is determined. The author concluded that in the practice of companies there is still no widespread recognition of one theory of management. Each of them has limitations and cannot be directly recognized as universal.

Keywords: company management, theories of management, scientific schools of management, oil-gas companies

В современных условиях усиления конкуренции, санкций и появления новых технологий в отраслях экономики, в том числе в нефтегазовой отрасли происходят трансформационные процессы в системе менеджмента и организации труда нефтегазовых компаний и корпораций [1]. Все эти

обстоятельства требуют переосмысления актуальности классических и поведенческих теорий менеджмента, а также анализа дальнейшей возможности следования формализованным в них принципам и постулатам.

Впервые идея организации и координации труда возникла еще в XIX в. В тот период владельцы бизнеса использовали свои собственные денежные средства и ежедневно занимались бизнесом. В XX в. с появлением более крупных организаций произошло развитие экономической науки в области управления, которое продолжается и в наши дни.

Одним из выдающихся произведений в области организации труда является работа А. Смита «Богатство народов»., в котором автор подчеркивал важность разделения труда, разбиение крупных работ на множество мелких [2]. Концепция А. Смита стала первой известной в мире теорией управления, сосредоточенной на подходе к выполнению работы и организации процесса труда. Данную теорию управления в научных кругах считают классической теорией, включающей как минимум две основные научные школы: научного менеджмента и административных теорий. Данная концепция используется до сих пор многими компаниями.

Далее получили развитие теории научного менеджмента и административные теории. Теория научного менеджмента была предложена американским инженером Ф. Тейлором и направлена на повышение эффективности растущего промышленного производства [2]. Административные теории управления, в свою очередь, условно подразделяются на: бюрократическую и административно-управленческую теории. Сравнение их идей и принципов представлено в таблице 1.

Сравнение классических теорий менеджмента

Критерий	Классические школы теории управления		
Научная школа	Научные теории	Административные теории	
Теория	Теория научного менеджмента	Бюрократическая	Административно-управленческая
Представитель школы	Ф.У. Тейлор	М. Вебер	А. Файоль
Ключевые принципы	– наука для каждого элемента управления заменяет эмпирический метод – применение научных подходов при развитии сотрудничества и выполнения работ – разделение работ / ответственности между руководством и работниками	– формирование и изложение компетенций, законов / постановлений – принятие решений на основе правил, протоколов и документов – обезличенность управленческих решений – формирование компетенций для должностных лиц в соответствии с уровнем их образования – трудоустройство на основе опыта и обеспечение полной занятости – фиксирование размера заработной платы	– прогнозирование и планирование при управлении – командно-директивное управление – применение методов и инструментов координирования системой менеджмента – осуществление контроля за процессом управления

Источник: составлено автором по [2]

По мере развития бизнес-деятельности компаний, классические теории менеджмента были дополнены теориями, основанными на управлении человеческими отношениями или так называемыми поведенческими теориями. Поведенческая теория фокусируется на человеческих аспектах организаций и управления, признавая, что менеджмент — это постоянный,

динамичный процесс, то есть сотрудники должны быть активными участниками, «поддерживающими» управленческие решения.

Общепризнано создателем современного менеджмента считают американского социального работника и консультанта по менеджменту в области организационной теории и организационного поведения М.П. Фоллетт [2].

Последователями созданной ею теорией менеджмента стали А. Маслоу, Д. МакГрегор, а также Ч.И. Барнард [2]. Так, американский психолог А.Г. Маслоу стал известен созданием пирамиды потребностей Маслоу, основанной на изначальном удовлетворении врожденных человеческих потребностей, кульминацией которых является самореализация. Профессор менеджмента в Школе менеджмента Слоана Массачусетского технологического института и президент Антиохийского колледжа Д.М. МакГрегор получил всемирное признание благодаря своими Теориями X и Y об индивидуальных предположениях менеджера о человеческой природе и поведении, определяющими, как человек управляет своими сотрудниками. Американский государственный административный служащий Ч.И. Барнард стал известен, благодаря новаторским научным трудам в области теории управления и организационных исследований, включающих основы теории организации и функций руководителей в организациях.

В таблице 3 представлено сравнение поведенческих теорий менеджмента.

После Второй мировой войны классические теории менеджмента не избежали трансформации.

Сравнение поведенческих теорий менеджмента

Критерий	Поведенческие теории		
1	2	3	4
Теория	Поведенческая	Теория мотивации	Теория Х / Теория Y
Автор (ы) теории	М.П. Фоллетт, Ч.И. Барнард	А.Г. Маслоу	Д.М. МакГрегор
Ключевые принципы	– управление как динамический процесс – разделение власти (менеджерам нужна поддержка сотрудников; «власть с» или «власть над») – привлечение работников к процессу принятия управленческих решений – мотивация сотрудников осуществляется социальными потребностями – сотрудники лояльны к тем менеджерам, которые помогают удовлетворить их потребности – менеджерам целесообразно координировать работу для повышения эффективности – конфликт как возможность для достижения компромисса – признание роли «мягких» (soft) факторов	– формирование иерархии потребностей – мотивация и поведение зависят от уровня потребности в их удовлетворении – потребности никогда не удовлетворяются полностью – потребности сотрудников охватывают физиологические, безопасность, самореализацию	– ожидания топ-менеджера зависят от ситуационного анализа – сотрудники работают ради удовлетворения своих интересов, а не только материального вознаграждения

	и неформальных процессов		

Источник: составлено автором по [1;2]

Работа австрийского биолога К.Л. фон Берталанфи в области создания общей теории систем стали основополагающими. К. Берталанфи высказал предположение о том, что классические законы термодинамики применимы к закрытым системам, но не обязательно к «открытым системам», таким, как живые существа [2]. Однако до сих пор согласованная онтология теории систем отсутствует, но ее можно считать – биологической.

Итак, как видно из представленного ретроспективного анализа теорий менеджмента можно выделить 4 основных этапа эволюционного развития их научных школ: индустриальный этап (включающий теорию разделения труда как подхода к выполнению работы, а также научный и административный подходы к управлению исполнением); поведенческий этап (рассматривающий элементы управления человеческим капиталом как часть организационного поведения); биологический этап (включающий теорию систем, статические и динамические системы, а также теорию хаотических систем); эволюционный этап (включающий недетерминированные сложные системы менеджмента).

В заключении проведенного исследования основ теорий менеджмента и ключевых трудов представителей их научных школ можно сделать вывод о том, что до сих пор отсутствует широкого признания одной теории управления. Каждая из них имеет ограниченную полезность и не может быть признана универсальной. Существующие ограничения налагаемые, каждой из классических и поведенческих теорий менеджмента требуют понимания вероятных условий в отношении их релевантности и применимости в системе управления нефтегазовыми компаниями и их проектами в практике ведения бизнеса.

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