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## **THE IMPORTANCE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE DEVELOPMENT OF THE DIGITAL ECONOMY**

**Annotation:** The relevance of the article is explained by the fact that information and communication technologies are currently an important basis for the development of the knowledge economy. The article discusses the main directions of organizational and economic development in the transition to a post-industrial society. The role of information technologies in the development of the digital economy is revealed. The article describes measures to increase the rate of economic growth and innovative development of society through the introduction of information technology.

**Key words:** innovation; digital economy; Information Systems; information technology infrastructure; information and communication technologies.

The transition to a post-industrial society allowed information and communication technologies to become one of the main components of the development of the knowledge-based digital economy. The dynamic growth of the technical and economic characteristics of high-tech innovative products helps to significantly increase the computing power and intellectual potential of products, and to quickly change outdated standards and technological platforms of information and communication systems and networks [1]. At the same time,

the operation of ultra-high-speed networks, mobile devices and information systems is aimed at improving the quality of multimedia content and a wide range of services for the population.

Currently, new types of products and services produced by innovative industries play a special role in enabling management of all stages of the economy.

Replacement of some technologies with others. Demand for new and modified types of high-tech products and services. The rapid development of information and communication technologies is also associated with their rapid obsolescence, which leads to a change in the life cycle.

The spread of cloud technologies, the exponential growth of data volumes, significant changes in the architecture and organization of computing systems, the development of enterprise development strategies and the digital economy in general have led to changes in business models and infrastructure solutions and the emergence of innovations in most industries. causes to be. [2].

The special role of information and communication technologies in the development of the digital economy is related to the global problems faced by the state economy, for example:

- radical new transformation of information and communication technologies (ICT) markets (convergence of nanotechnologies, genetic engineering, nano-bio, information and cognitive technologies) in the context of changes in the technological structure of the national economy;
- creation of new composite materials, development of photonics and optoinformatics, robotics and artificial intelligence;
- strengthen control over information on the Internet;
- the growth of cybercrimes and the growing gap between the requirements for information, economic security and individual freedom;
- increase in the number of independent developers;

- slow down of digitization of components of the national economy in case of changes in the capacity of information technology markets and lagging behind in the development of new information and communication technologies.

In this regard, it should be noted that at present, the potential for prospective development of information and communication technologies is significantly increasing based on: the transition to the knowledge economy, which is one of the main factors of the development of the digital economy; creation of information and communication technologies and relocation of production centers of new types of products and services to the eastern and southern regions of the republic; development of electronic government and socially important services for the population; cooperation of innovative business entities with universities, production laboratories, technology parks, business incubators, which allows to create radically new types of products and services; development of electronic business and formation of new legal and technological mechanisms of electronic transactions; cost optimization in the development of information technology infrastructure models [3].

The organizational and economic factor of strengthening the role of information and communication technologies in ensuring the effective functioning of the state and municipal management system is one of the priority conditions for the development of the digital economy in our country today. A special place should be given to the development of the IT outsourcing market, mobile devices and applications, together with the widespread use of social network technologies and advanced cloud infrastructure used to solve complex analytical problems. Cloud solutions, big data, mobile and social technologies encourage mutual development in these situations. In addition, due to the increase in the use of mobile devices, the activity of users on social networks is increasing. The content collected in them becomes an important source for data analysis and retrieval using big data technologies.

The use of information and communication technologies in the digital economy will make it possible to: improve the quality of life of people, have a beneficial effect on social processes; change in the nature and method of providing employment to the population; expanding the possibilities of using information and communication technologies in environmental protection.

Scientific and technological research conducted by a number of authors in the field of communication infrastructure shows that the protection of computer data and software is carried out within the framework of new information systems based on the principles of biometric identification, as well as through the implementation of content.

Creating compact energy sources to provide long-term and continuous energy to digital devices, the emergence of new forms of interaction between people and the digital environment, reducing energy costs in information transmission and storage, high-speed data communication technologies, creating virtual enterprises, increasing their efficiency, using collective intelligence, as well as developing new effective forms of information, content and knowledge presentation and processing, today's priority is the development of information and communication technologies used in all sectors of the national economy. is gaining importance in the activities of organizations [4].

At the same time, in our opinion, the emergence of the evolution of the Internet, the development of robotic devices and the production of supercomputers, the adoption of new principles of organization such as cloud and convergent technologies, modern IT infrastructure, serve the development of the digital economy.

Thus, the creation of information networks that provide high-speed access to the network infrastructure, the creation of new models and processes for the automated operation of high-performance computing platforms, the development of sound recognition technologies, photo, video and other types of images, the development of quantum technologies and the development of technologies in

micro and nanoelectronics. the use of new approaches in creation will become organizational, economic and innovative measures that will help the introduction of infrastructure and industrial innovations, economic and innovative growth in the field of information and communication technologies.

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