# MECHANISM FOR APPLYING INNOVATIVE LOGISTICS IN OPTIMIZING BUSINESS PROCESSES OF SMALL OIL AND FAT ENTERPRISES

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**Abstract.**

This thesis highlights the role and application mechanisms of innovative logistics in optimizing business processes of small oil and fat enterprises. In particular, the classification of logistics innovations and their significance in procurement, transportation, warehousing, production, and sales processes are analyzed.

**Keywords:**

logistics innovations, supply chain, business processes, small oil and fat enterprises, logistics system

At present, the increasing complexity of global supply chains, rising logistics costs, disruptions in transport infrastructure, and instability in the global food market are intensifying the need to optimize business processes in oil and fat industry enterprises. According to international analytical studies, logistics costs account for up to 20–30 percent of product costs in some developing countries. Therefore, developed countries are paying significant attention to the integration of procurement, production, warehousing, and transportation processes through the implementation of innovative logistics technologies based on ERP, WMS, TMS, SCM, and digital monitoring systems.

In Uzbekistan, the role of small oil and fat enterprises is steadily increasing in ensuring food security, developing the oil and fat industry, and expanding export potential. However, seasonal fluctuations in raw material supply, high transport and logistics costs, underdeveloped warehouse infrastructure, and inefficient inventory management negatively affect the efficiency of business processes in these enterprises. According to statistical data, the share of small businesses in the manufacturing sector reached 24.5 percent in 2025, which further strengthens the necessity of introducing innovative logistics mechanisms in small industrial enterprises. Moreover, under the Resolution of the President of the Republic of Uzbekistan No. PQ-28 dated January 27, 2025, “On Measures for the Further Development of the Transport and Logistics System of the Republic of

Uzbekistan," large-scale reforms aimed at digitalizing the transport and logistics system, improving supply chain efficiency, and modernizing logistics infrastructure are being implemented. Under these conditions, the application of innovative logistics technologies in small oil and fat enterprises to optimize procurement, production, warehousing, transportation, and sales processes, reduce logistics costs, and enhance enterprise competitiveness has become an important scientific and practical issue.

Innovative logistics is considered one of the key factors in optimizing business processes in small oil and fat enterprises, and its effective implementation requires the systematic organization of logistics processes, methods, and supply chain elements. Accordingly, the classification of logistics innovations includes innovative solutions aimed at improving procurement, production, warehousing, transportation, inventory management, and sales activities within enterprises. The logistics system of small oil and fat enterprises consists of interconnected subsystems, while innovative logistics technologies ensure the continuity and efficiency of these processes. In particular, the seasonal nature of raw material supply, high logistics costs, and problems related to transport and warehouse infrastructure make the implementation of innovative logistics mechanisms essential.

In these enterprises, logistics innovations are manifested in the form of local, sectoral, intersectoral, and system-wide innovations according to their scope of application. Local innovations are aimed at improving warehouse, transportation, or inventory management systems within a specific enterprise, whereas sectoral and intersectoral innovations strengthen integration among oil and fat enterprises, suppliers, and distributors. System-wide innovations enable the integration of all business processes into a unified management system through the application of digital logistics technologies such as ERP, WMS, TMS, and SCM. Furthermore, according to the level of application, logistics innovations appear as operational, functional, and comprehensive innovative solutions, contributing to the reduction of logistics costs, efficient utilization of resources, and enhancement of enterprise competitiveness in small oil and fat enterprises.

**Table 1**

**Classification of Logistics Innovations**

| № | Classification Criteria | Types of Logistics Innovations |
|---|---|---|
| 1 | Logistics Areas | – Procurement (supply) activities – Warehousing operations – Transport operations – Resource allocation in production – Production processes – Inventory management – Sales activities |
| 2 | Goods Movement Group | – Functional logistics chains – Micrologistics chains – Macrologistics chains |

| | | |
|---|---|---|
| 3 | Scope of Application | – Local – Sectoral – Intersectoral – System-wide |
| 4 | Level of Utilization | – Operational – Procedural – Functional |
| 5 | Type of Business Processes | – Technological – Organizational – Managerial |

In small oil and fat enterprises, logistics innovations serve as an important strategic tool for optimizing business processes and improving the efficiency of logistics systems. Logistics innovations within business processes are classified into technological, organizational, and managerial innovations. Technological innovations ensure the continuity of material resource flows through the improvement of transportation, warehousing, and loading-unloading operations. Organizational innovations are aimed at enhancing the efficiency of logistics processes and strengthening integration among supply chain participants. Managerial innovations contribute to the development of planning, monitoring, and coordination systems in procurement, production, inventory management, transportation, and sales activities, thereby enabling enterprises to make prompt and effective managerial decisions.

The effectiveness of implementing logistics innovations in small oil and fat enterprises is determined by their methodological support, namely by economic mechanisms and methods designed for evaluating, planning, and managing innovations. The primary objective of innovative logistics in these enterprises is to optimize logistics costs, ensure the efficient utilization of raw materials and material resources, increase labor productivity, and strengthen enterprise competitiveness. In the process of implementing innovations, external environmental factors such as market demand, legislation, logistics infrastructure, and cooperation among supply chain participants play a significant role. At the same time, internal factors including strategic objectives, production capacities, scientific and technical potential, and employee qualifications are also of critical importance.

Furthermore, the effectiveness of logistics innovations in small oil and fat enterprises is evaluated across procurement, transportation, warehousing, production, inventory management, and sales logistics. In procurement logistics, innovations contribute to stabilizing raw material supply and optimizing supplier activities. In transportation logistics, they are directed toward improving routes and increasing the efficiency of transport utilization. Automated management systems in warehouse logistics accelerate material storage and order-picking processes. In production logistics, innovations support the rational allocation of resources and reduction of production cycle duration, while inventory management innovations

facilitate the rapid identification of excessive and insufficient stock levels. In sales logistics, customer service quality is enhanced through the timely delivery of finished products, as well as improvements in packaging and labeling processes. Consequently, the application of innovative logistics mechanisms represents a key factor in optimizing business processes, improving supply chain efficiency, and ensuring long-term economic sustainability in small oil and fat enterprises.

**Table 2**

**Content of Evaluation Systems for Assessing the Results of Logistics Innovation Implementation**

| № | Type of System | Description |
|---|---|---|
| 1 | Cost-Oriented System | Based on determining technological costs for each area of the logistics system and evaluating their share in total logistics costs within the product movement process. |
| 2 | Profit-Oriented System | Serves to evaluate factors directly and indirectly influencing enterprise profit as a result of implementing logistics innovations and to determine the contribution of innovations to the profit gained during the planned period. |
| 3 | Multi-Purpose System | Combines the advantages of cost-oriented and profit-oriented evaluation systems, enabling a comprehensive assessment of innovation results across different areas of logistics activities. |
| 4 | Simplified System | Focused on evaluating the overall results of logistics innovation implementation based on generalized indicators without dividing logistics activities into separate functional areas. |

In small oil and fat enterprises, methods for evaluating the results of logistics innovation implementation are developed based on the functional areas of logistics activities and provide opportunities for comprehensive analysis of economic, organizational, and technological efficiency. In scientific literature, these methods are generally classified into productivity, cost, and service approaches. Productivity methods evaluate the impact of innovations through natural indicators such as the volume of raw material resources, transported cargo, inventory levels, and processed products. Cost-based methods analyze changes in logistics costs related to procurement, storage, warehousing, transportation, and delivery processes in order to determine the achieved economic effect. Service methods assess customer service quality, the level of cooperation among supply chain participants, and the enterprise's ability to satisfy resource requirements. These approaches make it possible to compare logistics performance before and after the implementation of innovations and thereby evaluate logistics system efficiency.

The effectiveness of logistics innovations in small oil and fat enterprises is assessed through general and specific indicators. General indicators include labor productivity, efficiency of transportation vehicles and equipment utilization, profitability, timely order fulfillment, and information capacity coefficients. The information capacity coefficient characterizes the level of digitalization within the logistics system. Specific indicators are evaluated according to individual logistics areas. In procurement logistics, the main criteria include resource consumption and supply rationality; in warehouse logistics, cargo turnover and warehouse space utilization; in transportation logistics, cargo loading intensity and transport utilization efficiency; in production logistics, return on assets and production cycle duration; and in sales logistics, finished goods inventory levels and the degree of fulfillment of delivery schedules.

Furthermore, the methodological support for implementing logistics innovations in small oil and fat enterprises includes modern approaches such as selecting optimal suppliers, determining the renewal period of technical and technological equipment, optimizing warehouse resource allocation through ABC and XYZ analyses, calculating cargo flow centers, and optimizing transportation routes. These approaches contribute to the efficient organization of raw material and material resource flows, minimization of logistics costs, acceleration of inventory turnover, and обеспечение continuity of supply chains. At the same time, these methodologies improve coordination between production and distribution processes, enhance the efficiency of transportation and warehouse infrastructure utilization, and strengthen the competitiveness of enterprises in both domestic and foreign markets.

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