

ICEST 2021**II International Conference on Economic and Social Trends for Sustainability of Modern Society****USE OF INNOVATIONS AND MODERN METHODS IN THE
LOGISTICS NETWORK**

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Abstract

The modernization of production in the Republic of Uzbekistan requires not only the modernization of technologies and technological processes used at enterprises, but also an innovative approach to management. In this context, it is extremely important to study some of the aspects that are applied in practice when evaluating the products produced by the enterprise. The article indicates the importance of creating and operating a modern transport and logistics infrastructure. These transport and logistics centers and complexes provide free access for products to the Uzbek and foreign markets, they are an important issue at the current stage of development of Uzbek transport. Innovations lead to early obsolescence of the elements of the production system while maintaining their normal physical condition, require the implementation of innovations in related areas, which violates stability and the established "status quo". The article analyzes the costs of technological, marketing and organizational innovations by funding sources in the regions of the republic. The paper proposes a classification of logistic innovations, in which it is possible to highlight the main directions of innovative logistic systems, as well as to identify the main objects of logistic activity. The conclusions show the main problems of the development of logistics in Uzbekistan. These include instability in the economy, the economy lagging behind the level of the world economy, the transport infrastructure does not meet world standards, the insufficient level of development of the production and technological base, the complexity of the development of industry in certain sectors.

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Keywords: Macroeconomic stability, investments, investment policy, investment climate, economic growth



1. Introduction

The importance of transport infrastructure in the globalization processes taking place in the world is growing. The tasks of improving the activities of this area are carried out by the World Transport and Logistics System. According to the World Bank Group, global transportation services account for 4.2 trillion of GDP. Estimated in US dollars per year (6.8%). In one year, 110 billion tons of cargo and more than one trillion were transported. passengers as well as 100 million employees were employed in the transport infrastructure (<http://data.worldbank.org/indicator>).

The creation and operation of a modern transport and logistics infrastructure, consisting of transport and logistics centers (TLC) and complexes that provide free access for products to Uzbek and foreign markets, is becoming an important issue at the current stage of development of Uzbek transport.

In the 21st century, models of the formation and use of the state innovation system are developing as complex organizational and technical objects designed to unite enterprises on the basis of flexible information technologies and highly efficient supply chains. In this regard, the issue of interaction with various sectors of the economy is relevant in terms of improving the efficiency of management and ensuring its sustainable functioning in the transport system of Uzbekistan, its infrastructure, and the system of multimodal transportation (Umarov, 2021).

2. Problem Statement

The procedures for reforming railway transport, providing for the application of fundamentally new approaches to corporate based on the innovative principle of using resources, are an important part of the development of the transport system.

The most priority direction for the implementation of this task is the activation of innovative activities in railway transport, taking into account the industry specifics, regional capabilities and resources of the railways. In a market economy, innovation becomes a specific asset of the enterprise, requiring a special approach. Conditions must be created for the implementation of the normal life cycle of the transport innovation process.

This requires an objective theoretical analysis of the essence and trends in the development of innovative activities, clarification of contradictions that negatively affect economic results and the speed of innovative transformations of railways, as well as a detailed assessment of the effectiveness of the innovation process as an activity aimed at achieving the strategic goals of the company.

3. Research Questions

The study of economic relations in the use and application of innovative processes and technologies in the field of logistics.

4. Purpose of the Study

The aim of the study is the use and application of innovative processes and technologies in the field of logistics.

5. Research Methods

During the study, methods of observation, methods of induction and deduction, time series, economic statistics, analysis and synthesis, statistical grouping, research monograph, structural analysis, comparative analysis and other methods were used.

6. Findings

Innovation in a broad sense means the profitable use of innovations in the form of new technologies, types of products and services, organizational, technical and socio-economic solutions of a production, financial, commercial, administrative or other nature (Asqarov, 2021).

The period of time from the birth of an idea, creation and dissemination of an innovation to its use is commonly called the life cycle of an innovation. Taking into account the sequence of work, the life cycle of innovations is considered as an innovation process.

With the development of international standards of commodity circulation in Uzbekistan, the need for high-quality logistics services also increases. Modern conditions require an integrated, innovative approach to the storage and processing of products.

Innovation is a process of scientific and technical activity, the result of which are innovations of a technical, technological, organizational or managerial nature.

Technically, innovations are manifested in the emergence of new products or services, in particular in the field of road transport, both for industrial and consumer purposes, with higher technical, economic and operational characteristics - quality, reliability, power, productivity, efficiency, environmental friendliness.

From the standpoint of technology, innovation is the manufacture of products and services using more advanced, in comparison with existing, technological processes that reduce the labour intensity of production operations and reduce production costs in the Republic of Uzbekistan (Umarov & Begbutova, 2017).

Reforms in the modernization of production in the Republic of Uzbekistan require not only the modernization of technologies and technological processes used at enterprises, but also an innovative approach to management.

In this context, it is extremely important to study some of the aspects that are applied in practice when evaluating the products produced by the enterprise.

In terms of territories, in 2020, the share of innovative products, works and services was in the city of Tashkent (48 percent), the Republic of Karakalpakstan (18.3 percent), Tashkent region (9.3 percent) and Andijan region (8.3 percent), the rest 16.1 percent falls on other regions of the republic. (see Table 1).

Table 1. Expenditures on technological, marketing and organizational innovations by funding sources, billion soums (2012-2020)

	2012y.	2013y.	2014y.	2015y.	2016y.	2017y.	2020y.
Costs of technological, marketing and organizational innovation	264.4	372.6	311.9	4634.2	3757.4	5528.3	2571.4
including by funding sources:							
own funds of the organization	184.3	263.2	213.4	2501.5	1381.5	1251.8	1180.0
foreign investment	48.3	24.9	39.9	1228.7	32.3	156.6	314.9
commercial bank loans	30.0	63.7	26.8	533.5	262.5	280.1	157.3
other funds	1.8	20.9	31.7	370.6	2081.0	3839.7	919.1

In 2010, innovations were financed mainly from the organization's own funds (69.7 percent). Since 2014, the share of other funds has increased (55.4 percent). In 2016, financing from the organization's own funds increased 6.4 times compared to 2010 (Umarov, 2018).

In 2020, the costs of technological, marketing and organizational innovations were financed from own funds 45.9 percent (1180.0 billion soums), 12.2 percent (314.9 billion soums) from foreign capital, 6.1 percent (157.3 billion soums) from commercial loans banks and 35.7 percent (919.1 billion soums) from other funds (see Table 2).

Table 2. Number of implemented innovations (2020)

	Total	On our own	Jointly with other organizations	Including developed:		Other organizations	
				Together with research institutes	Jointly with HEU		
Technological innovation	1816	1523	117	41	5	176	
Including:							
Product innovation	1118	973	73	15	4	72	
Process innovation	698	550	44	26	1	104	
Marketing innovation	51	39	-	-	-	12	
Organizational innovation	39	29	-	-	-	10	

In 2020, 893 enterprises and organizations introduced 1,816 types of technological innovations. Of the implemented technological innovations, 44 percent (799) belong to small enterprises and micro-firms.

In 2020, each innovatively active organization implemented an average of 2 innovations. In particular, each innovatively active organization introduced 3 innovations of Andijan, Fergana regions and in the city of Tashkent, on average, 2 innovations fall on Bukhara, Kashkadarya, Navoi, Samarkand, Syrdarya and Tashkent regions, in the Republic of Karakalpakstan, Jizzakh, Namargan, Surkhand Khorezm regions, on average, have 1 innovation each.

Organizational innovation is seen in two ways. The first direction is the development of organizational structures of business entities, allowing to establish an optimal balance of structures with the external environment. The second direction is associated with the development of rational options for the organization of labor - cooperation, specialization, division of labor, which can reduce costs in

organizational interaction within business entities and between them. Innovation from the standpoint of management is considered in the form of projects of planned management changes - the number of management levels, the degree of management impact, control over the management decisions made, as well as their subsequent implementation, which makes it possible to obtain a certain economic or social effect (Dorofeev, 2017).

Innovation brings some very serious problems to life. They lead to early obsolescence of the elements of the production system while maintaining their normal physical condition, require the implementation of innovations in related areas, which violates stability and the established "status quo".

Classification of innovations:

1. In terms of the scale of dissemination, innovations can be global, national, sectoral, local, associated with an enterprise or its separate subdivision.
2. According to the scope of application, innovations in production, management, market, consumption, etc. are distinguished.
3. By types of innovations are scientific, technical, technological, environmental, economic. In the latter case, for example, we can talk about the development of a new sales market, a source of resources, a method of incentives.
4. By the nature of generation and implementation, there are fast, slow, fading, uniform, abrupt, growing innovations.
5. According to the degree of progressiveness, innovations can be divided into those making breakthroughs in theory and practice (for example, a microprocessor); modifying, improving something within existing systems, ensuring the adaptation of basic innovations to a changing environment and their support; combined.
6. By the nature of the connection with previous models, innovations can open up new directions in human activity (for example, an airplane); substitute (electric and diesel locomotives instead of steam locomotives); canceling (paper instead of parchment); returnable (modern sailing ships, airships); imitating, including retrospective, returning to the original ideas, modules, designs (fashion samples).
7. According to the goals, the following types of innovations are distinguished: to restore and preserve the functions of the existing system and its basic properties; for temporary adaptation of the system to quantitative changes in the environment; for a radical restructuring of the system and the creation of a new version of it (with a change in all or most of the original properties) while maintaining the previous functional principle, which allows it to be adapted to qualitative changes in the environment; to create a system of a new type, which implies its qualitative changes, but while maintaining the previous principle of functioning; to create a system of a new kind by radically changing the principle of its functioning.

An important stage in the analysis of innovations is their classification according to a number of fundamental features. (see Table 3).

Table 3. Signs of classification of innovations

Classification attribute	Types of innovations
According to the degree of radicality (novelty, innovative potential, originality of a technical solution, etc.)	Radical (pioneer, basic, scientific, etc.), ordinary (inventions, new technical solutions)
By the nature of the application: <ul style="list-style-type: none"> • grocery; • technological; • social; • complex; • market 	Focused on the production and use of new products. Aimed at creating and applying new technology. Focused on the construction and functioning of new structures
By the stimulus of appearance (source)	Innovations caused by the development of science and technology, the needs of production and the market
By role in the reproductive process	Consumer and investment
By scale (complexity) for whom are innovations	Complex (synthetic) and simple or the producer and the consumer; for society as a whole; for the market

The classifications given in this table 3 confirm that the processes of innovation are diverse and different in nature, therefore, the forms of their organization, the scale and ways of influencing innovation are also diverse.

Innovational technology - obtaining a new or efficient production of an existing product, product, technique, new or improved technological processes.

Innovation is not just any innovation or innovation, but only one that seriously increases the efficiency of the current system (Muftaydinov, 2020).

The economy of the Republic of Uzbekistan is going through a difficult period and requires a way out of the current economic situation. One of the ways, as the world experience shows, is the construction of innovative logistics, logistics systems and methods in logistics management. According to many scientists in the field of economics, the logistics system is ultimately considered a complex economic system, and the most important part of logistics activities is innovative logistics. Very often, innovative logistics are considered among the concepts of integration, globalization and internationalization. Innovative logistics follows the path of increasing the level of management of logistics processes in connection with the use of various innovations aimed at improving the quality of customer service, increasing the efficiency of logistics processes and reducing various costs.

Innovative logistics systems are connected and directly participate in the organizational system of goods circulation, which is a chain of logistics operations and system-wide innovations. Drawing a conclusion from the foregoing, we propose to consider the classification of logistics innovations (see Figure 1), in which it is possible to highlight the main directions of innovative logistics systems, as well as identify the main objects of logistics activities (Umarov, 2018).

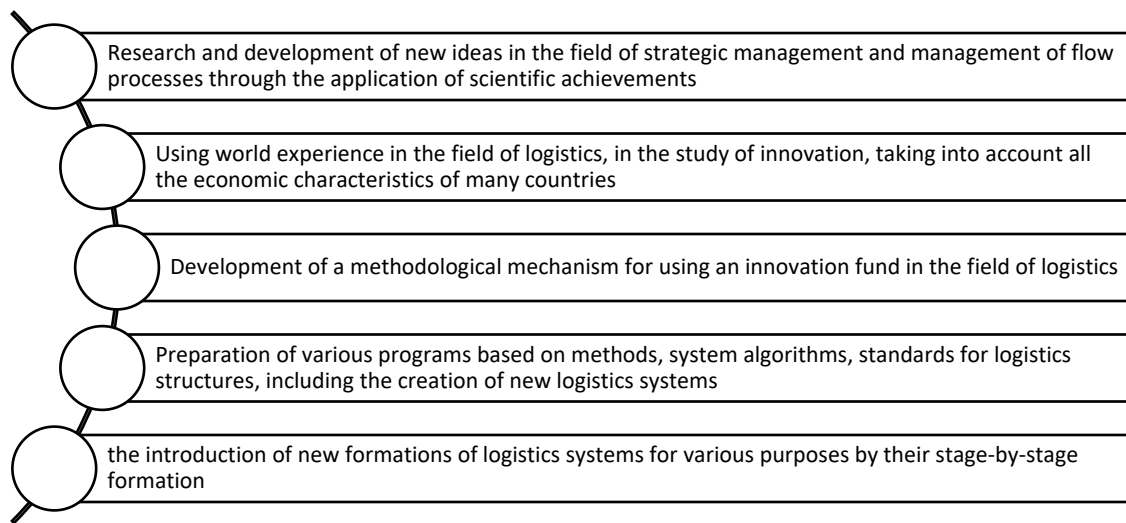


Figure 1. Directions of innovative logistics and their tasks

Innovative logistics systems are connected and directly participate in the organizational system of goods circulation, which is a chain of logistics operations and system-wide innovations. Drawing a conclusion from the foregoing, we propose to consider the classification of logistics innovations (see Table 4), in which it is possible to highlight the main directions of innovative logistics systems, as well as to identify the main objects of logistics activities.

Table 4. Classification of logistics innovations

№	Classification attribute	Types of logistics innovations
1	Logistics areas	- procurement activities - storage facilities, transport facilities - allocation of resources in production - production processes
2	Group of goods movement	- inventory management, sales activities - functional logistics chains - micrologic and macrologic chains
3	Scale of application	-local industry -intersectoral -system-wide
4	Usage level	-operative and procedural -functional
5	Business process type	-technological -organizational -management

7. Conclusion

In innovative logistics, one of the components is strategic logistics, which is, first of all, a science that participates in building up logistics potential in various management systems of logistics processes. We consider it important to emphasize that the logistics of structures has its own differences in many ways:

- builds up a process of critical review and elimination of specific restrictions that put pressure on the organization;
- all transformations of innovative logistics apply to the entire management system;
- in the process of logistics, all new divisions of the company are transferred to the degree of derivatives.

The process of formation and functioning of market structures is associated with the choice of strategies. Market structures create a system for managing streaming processes in a mutual partnership. In the process of logistics, a specific logistics potential of structures in various forms of ownership is formed, which contributes to the successful solution of logistics problems. We consider it appropriate to assess the current state of logistics innovations and the development of logistics in general in the economy of the Republic of Uzbekistan. In our country, the development of logistics is not proceeding at such a fast pace as in the example in the United States. In Uzbekistan, there is a need to develop logistic methods. The experience of other countries shows that the development of any innovations is primarily associated with a number of conditions, for example, with the level of technology development, with a good state of relations in the market and a favourable environment in the political environment. The development of logistics in Uzbekistan has its own difficulties:

- instability in the economy;
- lagging behind our economy from the level of the world economy;
- transport infrastructure does not fully meet international requirements;
- insufficient level of development of the production and technological base;
- the complexity of the development of industry in certain industries (production of containers, packaging, etc.).

Western countries at that time directed all their efforts to modernize transport logistics, which, according to many foreign experts, turned out to be more effective, since in reducing the cost of logistics services, the main thing is the minimum storage time of products in warehouses and the process of loading and unloading (Umarov, 2020).

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