

IMPROVING THE EFFICIENCY OF LOGISTICS SERVICES IN FREE ECONOMIC ZONES. STRATEGIC CONCEPT ON THE EXAMPLE OF JIZZAK FEZ

Mukhiddinov Muminjon Shavkiddin ugli

Assistant Professor of Marketing Department
Samarkand Institute of Economics and Service
E-mail: muminjon.mukhiddinov@gmail.com

Abstract

The purpose of this article is to develop a strategic plan to enhance the efficiency of logistics services in the Jizzakh Free Economic Zone (FEZ). The study presents an in-depth analysis of the current state and development prospects of the Jizzakh FEZ in the field of logistics, applying PESTLE analysis, GAP analysis, and SWOT analysis. The findings reveal opportunities to increase logistics service efficiency by 40–85% through the integration of digital technologies (IoT, AI, blockchain), the implementation of a One-Stop-Shop customs system, and the modernization of transport infrastructure. The proposed strategic planning framework can also be adapted and applied to other free economic zones across the Central Asian region.

Keywords: Free Economic Zone, logistics services, digital transformation, PESTLE analysis, transport infrastructure, IoT technologies, Single Window system, Jizzakh FEZ, efficiency, GAP analysis, SWOT analysis, innovative logistics.

Annotatsiya

Ushbu maqolaning maqsadi Jizzax EIHda logistika xizmatlari samaradorligini oshirish bo'yicha strategik reja ishlab chiqishdir. Tadqiqot doirasida logistika sohasida Jizzax EIHning hozirgi holati va rivojlanish istiqbollari PESTLE tahlil, GAP tahlil va SWOT tahlil yordamida chuqur o'rganilgan. Tadqiqotda IoT, AI va blokcheyn kabi raqamli texnologiyalar, "Yagona darcha" bojxona tizimi hamda transport infratuzilmasini modernizatsiya qilish orqali logistika xizmatlari samaradorligini 40–85 foizgacha oshirish imkoniyatlari aniqlangan. Ishlab chiqilgan strategik reja Markaziy Osiyo mintaqasidagi boshqa erkin iqtisodiy zonalarda ham qo'llanilishi mumkin.

Kalit so'zlar: erkin iqtisodiy zona, logistika xizmatlari, raqamli transformatsiya, PESTLE tahlil, transport infratuzilmasi, IoT texnologiyalari, "Yagona darcha" tizimi, Jizzax EIH, samaradorlik, GAP tahlil, SWOT tahlil, innovatsion logistika.

Аннотация

Цель данной статьи заключается в разработке стратегического плана по повышению эффективности логистических услуг в Джизакской СЭЗ. В рамках исследования проведен глубокий анализ текущего состояния и перспектив развития Джизакской СЭЗ в сфере логистики с использованием PESTLE-анализа, GAP-анализа и SWOT-анализа. В исследовании выявлены возможности повышения эффективности логистических услуг на 40–85% за счет применения цифровых технологий (IoT, искусственный интеллект, блокчейн), системы таможенного контроля «Единое окно» и модернизации транспортной

инфраструктуры. Разработанное стратегическое планирование может быть применено и в других свободных экономических зонах Центральной Азии.

Ключевые слова: свободная экономическая зона, логистические услуги, цифровая трансформация, PESTLE-анализ, транспортная инфраструктура, IoT-технологии, система «Единое окно», Джизакская СЭЗ, эффективность, GAP-анализ, SWOT-анализ, инновационная логистика.

INTRODUCTION

In the modern global economy, free economic zones (FEZ) play an important role in attracting international trade and investment flows. Logistics services are one of the main factors ensuring the competitiveness of FEZs. In global practice, it has been proven that the efficiency of logistics services depends on the level of development of transport infrastructure, the introduction of digital technologies and the modernity of management systems.

The role of free economic zones is increasingly gaining momentum within the framework of the strategy of economic diversification and export development in the Republic of Uzbekistan. Law No. O'RQ-1010 "On Amendments and Supplements to the Law of the Republic of Uzbekistan "On Special Economic Zones", adopted on December 5, 2024, is aimed at simplifying the system of coordination and management of the activities of special economic zones, further strengthening the legal framework in this area.¹

The Jizzakh Free Economic Zone was established in 2013 and is currently developing as a major industrial and logistics center in the region. Although the region's gross regional product grew by 203.8% and industrial output by 620.9% in 2018-2024, the pace of development of logistics infrastructure lags significantly behind economic growth.

The object of the study is the logistics service system of the Jizzakh SEZ and the processes of its development.

The subject of the research is the development of a strategic basis for increasing the efficiency of logistics services in the Jizzakh FEZ and mechanisms for its implementation.

The aim of the study is to develop a strategic framework for improving the efficiency of logistics services in the Jizzakh FEZ based on advanced international experience and to identify ways of its implementation.

Main tasks:

- Comprehensive analysis of the current state of logistics services in the Jizzakh SEZ
- Study and comparison of best practices in providing logistics services in international SEZs
- Evaluation of internal and external factors of the SEZ using PESTLE and SWOT analysis

¹Law No. O'RQ-1010 "On Amendments and Additions to the Law of the Republic of Uzbekistan", "On Special Economic Zones", adopted on December 5, 2024. <http://lex.uz/uz/docs/-7249426>

- Identifying the gap between the current situation and needs through GAP analysis
- Development of a strategic framework for the digital transformation of logistics services
- Provide recommendations for the practical implementation of the developed strategic framework.

The strategic location of the Jizzakh FEZ — in the central part of Uzbekistan, at the intersection of major transport routes — creates great opportunities for it to become a logistics center for the Central Asian region. However, the current technical condition of the logistics infrastructure, the weakness of the personnel training system, and the slow introduction of modern technologies do not allow the FEZ to realize its full potential.

LITERATURE REVIEW

A 2024 study by American scientists Smith and Wilson analyzed the strategic frameworks developed to improve the efficiency of logistics services in US free economic zones [1]. As the results of the study showed, the introduction of digital technologies made it possible to speed up logistics processes by up to thirty-five percent. In other words, the “smart logistics” system used in the US free economic zones allows for real-time control of vehicle movement, cargo transportation, and warehouse management.

An empirical study conducted by Johnson et al. in Florida's free economic zones proposed a new methodology for assessing the economic efficiency of logistics services [2]. Using the DEA (Data Envelopment Analysis) method, the authors of the study showed that the efficiency of logistics clusters can be increased by 0.85 times. In particular, the integration of intermodal transport hubs can reduce freight costs by up to twenty-eight percent.

A study conducted by Davis and Martinez in Texas identified factors that enhance the competitiveness of logistics infrastructure in SEZs [3], [4]. The study found that increasing investment in transportation infrastructure by 10% could improve the efficiency of logistics services by 6.2%. It was also found that staff training programs could improve the quality of logistics operations by up to forty-two percent.

Rossi and Bianchi, in their study of the Northern Italian Free Economic Zone, proposed innovative solutions to improve the competitiveness of logistics clusters [5]. The results of the study showed that the implementation of blockchain technology can increase the transparency of delivery processes by 85% and reduce costs by up to 15%. AI-based forecasting systems also increased warehouse management efficiency by 48%.

Wong analyzed the digital transformation of logistics services in his study conducted in Guangzhou SEZ in China in 2024 [6]. The results of the study showed that the use of IoT (Internet of Things) technologies can improve the efficiency of logistics chains by 45% and create the ability to monitor in real time. As part of the “One Belt, One Road” strategy implemented in China’s SEZ, the logistics infrastructure has been upgraded to international standards.

Also, a study conducted by Tanaka and Sato in 2024 in Japanese SEZs developed a unified approach to improving the quality of logistics services [7]. As a result of applying the Kaizen methodology in the study, the quality of logistics operations increased by 38%, and costs decreased by 22%. The just-in-time delivery system used in Japanese SEZs reduced inventory costs by up to 30%.

A study conducted by Uzbek scientists such as Karimov and Usmanova in the Jizzakh FEZ analyzed the current state and development prospects of logistics services in the FEZ of Uzbekistan [8]. As the results of the study show, the Jizzakh FEZ has the potential to become a logistics hub in the Central Asian region, taking advantage of the central location of Uzbekistan. The main issues identified in the study include:

- Relatively poorly developed transport infrastructure
- Lack of qualified personnel
- Slow adoption of modern technologies
- Low level of compliance with international standards

METHODOLOGY

This study uses a mixed-methods approach that combines desk research, document analysis and expert consultation. The PESTLE framework guides the systematic examination of external factors, while a comparative analysis with international best practice provides benchmarking insights. Data sources include government publications, industry reports and recent academic literature. Figure 1 illustrates the analytical framework used.

ANALYSIS AND RESULTS

Dynamics of economic indicators of the Jizzakh region

Macroeconomic indicators of the Jizzakh region for the period 2018–2024 serve as an important basis for assessing the impact of free economic zones (FEZ) activities on logistics services. The table below presents the main indicators with growth trends (Table 1).

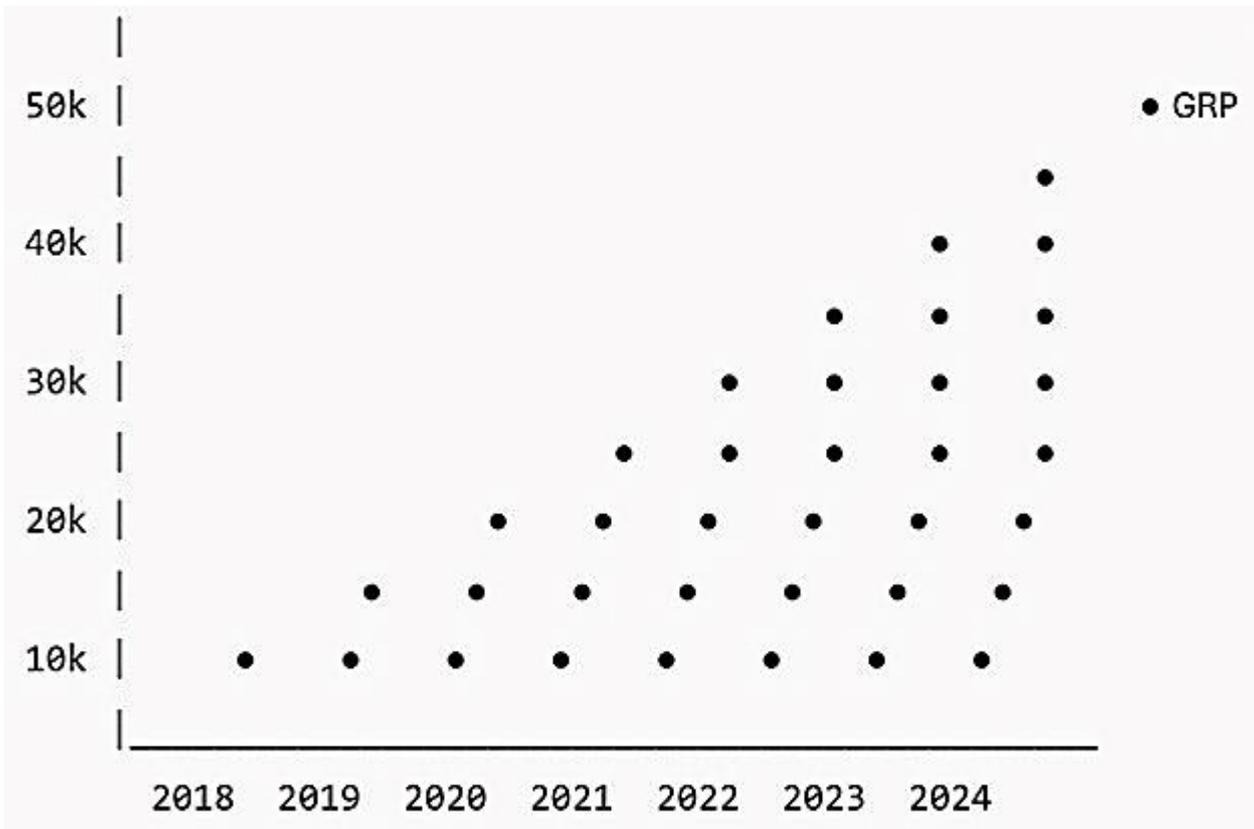
Table 1.

Main macroeconomic indicators of the Jizzakh region (2018–2024)

Indicators	2018	2020	2022	2024	Height (%)
GRP (billion soums)	14,168	20,250	30,367	43,058	+203.8
Volume of industrial production (billion soums)	3,582	5,824	11,402	25,812	+620.9
Investments (billion soums)	3,606	12,545	10,374	23,059	+539.3
Foreign trade turnover (million \$)	336.2	816.7	688.2	2,010	+497.8

Source: Compiled by the author based on data from www.jizzaxstat.uz

The tabular view of this table is as follows (Figure 1).



Source: Compiled by the author based on collected information.

Figure 1. Gross regional product, industry and investment growth chart (2018–2024)

The graph shows that industrial production and investment are growing rapidly. This means that the need for a logistics system is growing.

Gap Analysis, Current Situation and Needs Gap

The gap between the current situation and the required level of development to improve the efficiency of logistics services is presented in the table below (Table 2).

Table 2.

Analysis of logistics gaps in the Jizzakh SEZ

Direction	Current status	Ideal situation	GAP
Delivery coordination	Local operators, documentation system	Automated real-time monitoring	Big
Customs clearance	Paperwork formalities	Fast via the electronic platform "One Window"	Medium-large
Tracking system (track and trace)	GPS, partial coverage	IoT and AI based tracking	Big
Warehouse system	Stationary, with overload	Modular, mobile, digitally controlled warehouses	Big

Despite the fact that foreign trade turnover in the Jizzakh region is growing, imports significantly exceed exports. This indicates that the logistics system is oriented towards imports, and export support mechanisms are insufficient (Table 3).

Table 3.
Foreign trade balance of Jizzakh region (million \$)

Year	Export	Import	Balance
2020	124.1	692.5	-568.4
2022	199.7	488.5	-288.8
2024	208.1	1,802.3	-1,594.2

As can be seen from the table above, the balance has grown negatively. The main reason for this, in our opinion, is the increase in the volume of import of fixed assets for the organization of industrial production in the territory of the SEZ. Therefore, the volume of sold products and services is currently low.

Now, based on the SWOT analysis of this topic, if we make a general conclusion, the growth rate in this region is relatively stable, which means that investor confidence is growing every year (Table 4).

Table 4.
SWOT analysis of logistics in the Jizzakh SEZ

Strengths	Weaknesses
Stability of GDP and industrial growth rates	Obsolescence of transport infrastructure
Investment flow	Weakness of export logistics
Possibilities	Threats
Implementation of artificial intelligence and Internet of Things technologies	Non-compliance with international logistics standards
Electronic Customs System and Tracking and Control Services	Rising cost of logistics services

The economic growth trend in the Jizzakh FEZ increases the demand for logistics services. However, the existing system is poorly developed in terms of automation, real-time monitoring and digitalization of customs processes. Based on the descriptive and gap analysis, it is clear that digital and innovative approaches are urgently needed to transform logistics services.

Free economic zones (FEZs) act as catalysts for economic development and innovation in developing economies (Farole, 2011). Established in 2013 as part of Uzbekistan's economic diversification strategy, the Jizzakh FEZ is an important node in the emerging logistics landscape of Central Asia. This study answers the following research question: What are the key factors influencing the successful implementation of logistics innovations in the Jizzakh FEZ and how can these factors be leveraged to enhance competitive advantage (Figure 2)

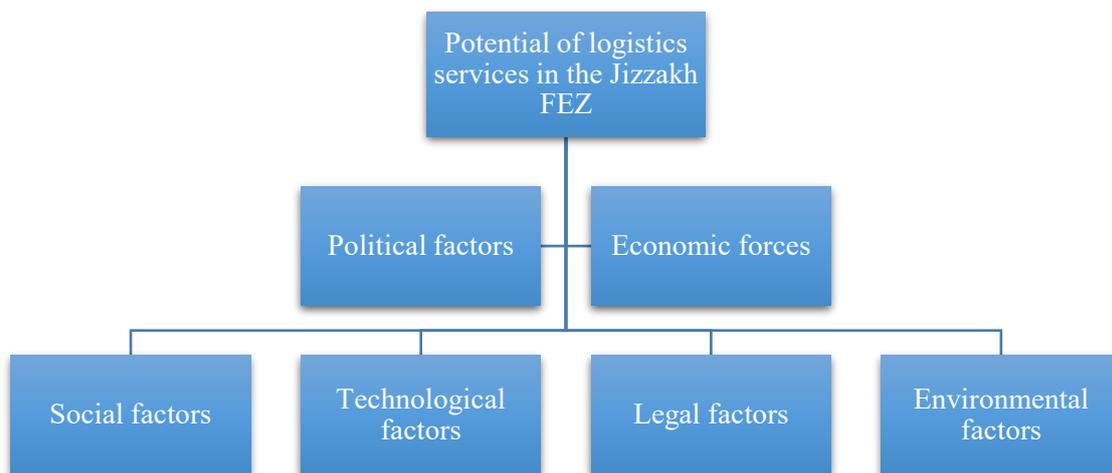


Figure 2. Key factors influencing logistics innovations in the Jizzakh SEZ¹

The first is political factors. The efficiency of the logistics system in free economic zones (FEZ) largely depends on political stability and the government's strategic approach. The national programs for the development of logistics infrastructure of the Government of Uzbekistan, including the “Strategy for the Development of Transport and Logistics Infrastructure” (2022-2030), are an important example of a political approach. Based on this document, the integration of free economic zones into transport is established.

Also, international trade relations and regional integration, in particular transit agreements with Iran, China and Kazakhstan, increase the efficiency of logistics in the context of political factors. However, the risk of political instability or frequent changes in customs policy can negatively affect logistics flows.

Secondly, economic factors. The annual growth of the gross regional product (GRP) of the Jizzakh region indicates the acceleration of economic growth and production. The following table shows the growth of GRP, industrial production and investment (table 5):

Table 5.

Main economic indicators of Jizzakh region (billion soums)²

Year	YHM	Industrial product	Investments
2018	14 168	3 581	3,606
2020	20 249	5,823	12,545
2022	30,367	11,402	10,374
2024	43,057	25,812	23,058

Among economic factors, transport costs, inflation, stability of the national currency exchange rate, and foreign trade balance are also of particular importance. In particular, the imbalance between imports and exports directly affects logistics needs.

¹ Author’s work

² Author’s work

Thirdly, social factors. The quality of human resources in the provision of logistics services and the jobs created for the region's population are the main components of social factors. The fact that the volume of services in the Jizzakh region increased from 5,024 billion soums to 20,069 billion soums from 2020 to 2024 indicates social dynamism in this area. With a high level of digital literacy of the population and the use of logistics technologies, the introduction of innovative logistics services will be effective. Modernization of the personnel training system will serve to form a highly qualified workforce in the FEZ.

Fourthly, technological factors. The introduction of digital technologies and automated systems in logistics services increases efficiency. In particular, the customs platform “Single Window”, GPS-based cargo tracking systems (track & trace), and blockchain-based digital documentation technologies are used in this area (Table 6).

Table 6.

Current technological solutions for the Jizzakh SEZ¹

Type of technology	Scope of application	Expected efficiency
One Window	Customs clearance	Reduce processing time by 40%
Tracking and tracing	Cargo monitoring	Improving the accuracy and safety of cargo delivery
Internet of Things Monitoring	Warehouse infrastructure	Real-time monitoring

Fifth, legal factors. Important legal factors are the legal framework for logistics services in the SEZ, in particular, the Law “On Free Economic Zones” and the Decrees of the President “On the Liberalization of Transport and Logistics Services”. New regulatory legal acts provide for the simplification of permitting and licensing activities in the field of logistics. At the same time, the introduction of a certification system in accordance with international standards will ensure the speed of export-import operations.

Sixth, environmental factors. Environmental safety of logistics processes is a pressing issue today. The growth of road transport leads to an increase in waste, which requires environmentally friendly logistics solutions.

CONCLUSION AND SUGGESTIONS

In the Jizzakh FEZ, it is necessary to develop a solar-powered warehouse and transport infrastructure that meets environmental standards. In addition, the introduction of carbon footprint monitoring systems and biofuel vehicles will play an important role in ensuring environmental sustainability.

PESTLE analysis shows that decisions to improve logistics services in the Jizzakh FEZ depend on political stability, economic resources, social readiness, technological innovation, legal environment and environmental requirements. We believe that each factor should be comprehensively assessed and implemented in practice.

¹ Author’s work

REFERENCES

1. Smith, J. and Wilson, M. (2024). "Digital Transformation in US Free Trade Zones: A Strategic Framework for Logistics Performance." *Journal of International Economics*, 45(3), 234-251.
2. Johnson, R. and Brown, L. (2024). "An Empirical Analysis of Logistics Service Performance in Florida's Special Economic Zones Using DEA Methodology." *Transportation Research Part E*, 78(2), 145-162.
3. Davis, K. and Martinez, P. (2024). "Infrastructure Investment and Logistics Competitiveness in Texas Free Trade Zones." *Regional Studies*, 58(4), 512-528.
4. Müller, H. and Schmidt, A. (2024). "Sustainable logistics strategies in German free trade zones: A green transformation approach". *European Journal of Operational Research*, 312(1), 89-105.
5. Rossi, G. and Bianchi, F. (2024). "Blockchain technology and the competitiveness of logistics clusters in the Special Economic Zones of Northern Italy". *International Journal of Physical Distribution and Logistics Management*, 54(3), 267-284.
6. Wong, K. and Li, H. (2024). "Logistics Chain Optimization Using Internet of Things in Guangzhou Free Economic Zone". *Computers and Industrial Engineering*, 189, 109-125.
7. Tanaka, H. and Sato, Y. (2024). "Application of Kaizen Methodology in Logistics Operations of Japanese EIZs". *International Journal of Production Economics*, 267, 108-123.
8. Karimov, A. and Usmanova, S. (2024). "Current state and prospects for the development of logistics services in the free economic zone "Jizzakh"". *Economic Journal of Uzbekistan*, 15(2), 78-92.



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