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OPTIMIZATION OF INTERNATIONAL LOGISTICS PROCESSES AS A STRATEGY FOR INCREASING THE EFFICIENCY OF THE INTERNATIONAL MANAGEMENT OF UKRAINIAN COMPANIES

Anastasiia Pyvovarska¹, Olena Voronova²

¹*Student, Odesa National Economic University, Odesa, Ukraine*

²*Associate Professor, Odesa National Economic University, Odesa, Ukraine*

Abstract

The article examines the optimization of international logistics processes as a key tool for increasing the effectiveness of management strategies of companies in the world market. The topicality of the topic is due to the need for Ukrainian companies to adapt their international management strategies to global challenges and conditions of the competitive environment. The purpose of the work is to identify effective methods of logistics optimization that will help reduce costs and increase the effectiveness of international management in companies. Methods of analysis, analogy, and comparison were used to achieve the goal. The tasks of the research include the analysis of the current state of international logistics, the identification of existing tools for optimizing logistics processes, as well as the assessment of the impact of these measures on the international management of Ukrainian companies.

Factors affecting the efficiency of logistics, including transport costs, infrastructural constraints, customs barriers and the level of digitalization, were studied. The impact of logistics optimization on increasing the competitiveness of Ukrainian companies on the world market is analyzed. The practical significance of the work consists in providing recommendations for improving logistics processes, in particular through the introduction of innovative technologies and adaptation to global challenges.

Keywords

optimization of logistics processes, international management, supply chains, efficiency, transportation costs, automation, competitiveness.

Problem statement

In today's global market, the speed of adaptation to new conditions and optimization of logistics processes are crucial for the successful development of a company. Modern challenges, such as the instability of transport infrastructure, customs barriers, high transportation costs and the need to integrate digital technologies, create additional difficulties for the international logistics of Ukrainian enterprises.

These challenges, in turn, negatively affect the efficiency of international management, as delays in order fulfillment and high costs undermine the company's financial performance and reputation. The instability of global supply chains, changes in trade policies and other factors make it difficult to adapt to international requirements.

Many Ukrainian companies do not realize the full potential of optimizing international logistics processes and do not use modern management methods. This leads to a failure to achieve maximum results in international supply, loss of competitiveness and unmet customer needs, which negatively affects their position in global markets.

Thus, the key challenge for Ukrainian companies is to find tools and strategies that will optimize international logistics processes, ensure flexibility, efficiency and resilience to changes in the external environment.

Relevance of the chosen topic

International logistics is an important element of successful business operation in global markets. It ensures not only the physical movement of goods between countries, but also coordinates the processes of supply chain management, interaction with partners, customs procedures, warehousing, transport and other components. Following global crises such as the COVID-19 pandemic and geopolitical instability, global supply chains have undergone significant changes, requiring a rethinking of logistics management approaches.

For Ukrainian companies seeking to consolidate or expand their presence on international markets, effective logistics becomes a key factor in competitiveness. Without proper attention to this aspect, they risk losing their positions in the conditions of fierce competition, where speed, accuracy and cost-effectiveness of processes play a decisive role.

Analysis of recent research and publications

The issue of optimization of international logistics processes, especially in the context of increasing the efficiency of international management, attracts the attention of many famous scientists, in particular, M. Christopher, P.P. Datta, S. Fawcett, L. Ellram, J. Ogden, D. Lambert, M. Cooper, J. Mentzer, W. Pienaar, D. Rogers, and others. S. Fawcett, L. Ellram and J. Ogden consider the practical aspects of optimizing logistics processes in their work "Supply Chain Management: From Vision to Implementation". The authors emphasize that collaboration and integration with suppliers and partners is necessary to achieve optimal performance and meet customer needs. In their study Logistics Research: A Critical Analysis, Partha Priya Datta and Martin Christopher focus on a critical analysis of logistics research. The authors emphasize how important the optimization of logistics processes is for improving quality, speed of delivery, reducing costs and customer satisfaction.

Such domestic scientists as V.G. Alkema, V.V. Baginov, V. Berestenko, D. Wood, V.G. Gerasymchuk, V.K. Gizhevskiy, M.Yu. Hryhorak, L.V. Kostyuchenko, L.G. Melnyk, V.M. Nazarenko, M.L. Pogrybyskiy and V.V. Sabodash, are engaged in the study of issues related to the development of the theory and practice of optimization of logistics support for international trade. Scientific works of N.G. Mitsenko, I.P. Mishuka and A.L. Shevchuk focus on the analysis of international logistics systems under conditions of uncertainty, which is relevant in today's global environment. However, despite the considerable amount of research, there are questions that remain unresolved and require further study.

Purpose of the article

The purpose of this article is to study and explore ways to optimize international logistics processes in order to improve the efficiency of international management of Ukrainian companies in the context of globalization and competition in world markets.

To achieve the goal, the following tasks were defined:

- analyze the current state of international logistics;
- research existing methods and tools for optimizing logistics processes;
- assess the impact of logistics optimization on the overall effectiveness of international management;
- identify key challenges for Ukrainian companies;
- formulate recommendations for Ukrainian companies regarding the implementation of logistics optimization strategies to increase the efficiency of international management.

Presentation of the main research material and results obtained

International management covers the complex management of the company's activities in global markets, where one of the key tasks is to ensure the continuity and efficiency of operations, in particular logistics processes. International logistics is a complex of processes that includes planning, implementation and control of the movement of goods between countries, ensuring their delivery from the manufacturer to the final consumer (Mitsenko & Mishuk, 2022). International logistics include such elements as (Fig. 1):

The current state of international logistics is characterized by growing globalization, which leads to increased trade volumes and more complex supply chains. Technological advances, including automation, e-commerce and artificial intelligence, are greatly simplifying the management of logistics processes, making supply chain management systems more integrated and adaptive.

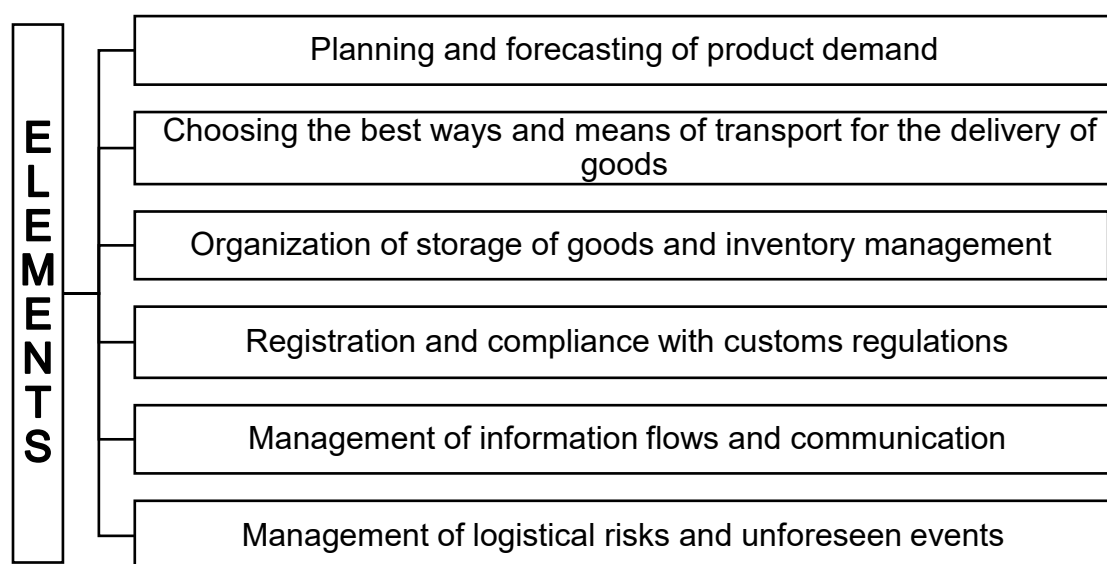


Fig. 1: The main elements of international logistics

Source: compiled by the author

At the same time, customs procedures, regulatory barriers, and geopolitical risks that may delay the movement of goods remain the main challenges. The COVID-19 pandemic has exposed the vulnerability of global supply chains, forcing companies to rethink their logistics strategies.

In addition, there is a growing focus on environmental sustainability, which is driving the adoption of green technologies and practices in logistics, such as the use of alternative fuels and route optimization to reduce CO2 emissions.

Optimization of logistics systems is a complex process aimed at increasing the efficiency of all components of logistics operations (Kovalska, Barskyi, & Onishchuk, 2023). The main goal of this process is to automate routine tasks, reduce the costs of transportation, storage and inventory management, while maintaining or even increasing the quality of service.

In order to successfully implement the optimization of logistics processes, it is important to clearly define goals and objectives at the initial stage. This will help to understand what specific results are planned to be achieved and what aspects of logistics need improvement. Formulating goals makes it possible to focus on the most critical problems.

The goals of optimizing logistics processes may vary depending on the specifics of the company's activities, but the following can be identified among the main ones:

1. Reducing logistics costs: improving processes to reduce the cost of transportation, storage, inventory management, etc.
2. Improving the quality of customer service: ensuring fast and uninterrupted delivery, correct and timely order fulfillment, and effective response to customer requests.
3. Rational use of resources: increasing the efficiency of warehouse space, vehicles, human resources and other resources to improve the overall productivity of logistics processes.
4. Flexibility in responding to market changes: the ability to quickly adapt to changes in demand, pricing policy and market conditions.

5. Reducing the negative impact on the environment: implementation of environmentally friendly solutions, such as reducing pollutant emissions and using energy-efficient transport (Nikolenko, 2024).

Optimization of logistics processes plays a key role in supply chain management, as it is aimed at increasing efficiency and rational use of company resources. Improving logistics operations significantly affects the effectiveness of international management, allowing to improve such indicators as the speed of order fulfillment, logistics costs, quality of customer service and other important aspects of activity.

Optimizing logistics processes involves systematic analysis and improvement of various stages of the supply chain, including procurement of raw materials, production operations, storage, transportation and delivery of products to end users. This requires careful planning, effective coordination and cooperation between all participants in the supply chain to achieve the highest level of service and minimize costs (Alkema, 2017).

Let's look at the main tools used to optimize international logistics processes:

1. Application of information systems and technologies. The introduction of modern software systems, such as SCM, OMS, TMS and WMS (Table 1), allows automating logistics operations, as well as collecting and analyzing large amounts of data. This improves forecasting accuracy, reduces the likelihood of errors, and facilitates informed management decisions. Such tools significantly improve the efficiency of supply chain management and simplify processes at all stages.

Table 1: Software tools for supply chain management

System	Description	Benefits for logistics processes
OMS (Order management system)	Software that allows you to control the entire process of order fulfillment — from the moment of its creation to delivery to the end consumer.	Increases order fulfillment efficiency, provides transparency and control at all stages of order fulfillment.
SCM (Supply chain management)	A system that allows you to coordinate all stages of the supply chain: from the purchase of raw materials to delivery to the final consumer.	Improves coordination between supply chain departments and control over the movement of goods, optimizes costs.
TMS (Transportation management system)	A tool for managing transport operations, planning routes and choosing optimal vehicles for the delivery of goods.	Reduces transportation costs, provides operational route management, and allows for real-time cargo tracking.
WMS (Warehouse management system)	A system for automating warehouse processes, including storage, inventory control and organization of warehouse space.	Increases the accuracy of inventory management, reduces processing time, reduces storage costs, and improves service.

**Source: compiled by the author*

2. Optimization of warehouse management. Effective management of warehouse stocks and use of space is one of the main components of logistics optimization (Pavlyuk, Polusmyak, Onoprienko, & Potapenko, 2024). Technologies such as inventory control systems (ICS) allow companies to accurately track inventory, avoid product overages or shortages, ultimately reducing storage costs. In addition, the implementation of automated warehouse systems and technologies such as the Pick-to-Light (PLS) system helps improve labor productivity by speeding up the picking process and reducing the likelihood of errors during order preparation. This allows companies to complete more orders in less time with fewer resources.
3. Optimization of transport processes. Analysis of traffic flows and selection of optimal routes are important aspects for reducing transportation costs and reducing delivery time. The use of different types of transport and competent route planning allow you to minimize logistics costs. In addition, cargo tracking technologies (Track and Trace Systems, TTS) provide companies with the opportunity to monitor the delivery status in real time, which increases the reliability and predictability of the transportation process. This ensures a high level of customer service and guarantees timely fulfillment of orders, which is critical for international operations (Pavlyuk, Polusmyak, Onoprienko, & Potapenko, 2024).
4. Establishment of partnership relations. Long-term and reliable partnerships with suppliers and customers

contribute to the stability of supply chains. The partnership helps reduce the risks of delays and disruptions in supply. The use of electronic platforms for communication facilitates the exchange of information between participants in the supply chain, increasing transparency and speeding up the decision-making process.

5. . Implementation of "green logistics" principles. In modern conditions, more and more companies are focusing on ecological practices in their logistics operations. Using environmentally friendly vehicles, optimizing routes to reduce CO2 emissions, waste management and the use of renewable energy sources are just a few examples of "green" solutions that help companies not only reduce costs, but also improve their image in the market. Implementation of such environmentally responsible practices increases the competitiveness of the enterprise and has a positive effect on its long-term sustainability.
6. Training and professional development of staff. Optimizing logistics processes requires a high level of professional knowledge and skills in supply chain management. Investing in the training and development of employees allows the company to have qualified specialists who are able to implement the latest solutions and work effectively with modern technologies. Conducting specialized courses, seminars and trainings in logistics and supply management will help to significantly increase the level of competence of employees and adapt them to new challenges in the market.
7. Continuous improvement and monitoring of processes. One of the key aspects of logistics optimization is the continuous improvement of existing processes. Companies should regularly analyze the performance of their operations, identify weaknesses and implement corrective measures to ensure sustainable development. Monitoring the results after the implementation of optimization solutions allows you to evaluate their effectiveness, and also provides the opportunity to make the necessary corrections in a timely manner. This approach ensures the company's competitiveness and its flexibility in rapidly changing market conditions.

International management is a complex and multifaceted process that covers the management of enterprises and organizations that operate in the international arena. In today's globalized world, international management plays a critically important role in achieving strategic goals of companies, because it not only regulates business processes in different countries, but also adapts them to changing market conditions, culture, legislation and economy (Perevozova, Shaiban, & Dedelyuk, 2023).

Optimization of logistics processes is an important element of international management that ensures the continuity and efficiency of the supply of goods and services. It has a significant impact on a company's overall performance and its ability to compete in international markets. First of all, optimization of logistics contributes to the reduction of transportation and storage costs. This is achieved through more efficient use of resources, which in turn allows companies to reduce supply chain maintenance costs. Cost reduction directly affects the company's financial results, improving its profitability and ability to invest in development.

Secondly, the optimization of logistics processes allows to reduce the time of delivery of goods. In international business, service speed is an important factor in competitiveness. The faster the company can meet the needs of its customers, the more likely it is to successfully execute deals and strengthen partnerships. In particular, prompt delivery of goods has a positive effect on customer satisfaction, which can lead to repeated orders and the formation of brand loyalty.

In addition, the optimization of logistics processes contributes to better coordination between different divisions of the company. This makes it possible to achieve greater consistency in work and respond more promptly to changes in market conditions. Clear communication and interaction between management teams ensure better adaptation to international standards and practices.

An important aspect of optimization is its ability to stimulate innovation in management. The introduction of advanced technologies, such as process automation and data analysis, allows not only to improve existing operations, but also to create new products and services that meet the needs of the global market. This contributes to strengthening the competitive advantages of companies and their long-term development.

Ukrainian companies that are integrated into international markets face many challenges that significantly affect their ability to effectively manage logistics processes. One of the biggest challenges is the war in Ukraine. The hostilities led to large-scale destruction of infrastructure, including transport routes, railways and ports, which seriously affected logistics operations (Kuziak, 2022). The loss of access to some modes of transportation, such as by ship through ports in the Black Sea, forces Ukrainian companies to rebuild their routes and look for new logistics solutions, often transporting goods through EU countries. This leads to a significant increase in costs and delivery time of goods.

Another significant problem is the unsatisfactory state of the infrastructure. Even before the start of the war, the state of roads, railways and ports in Ukraine required significant modernization. During the hostilities,

the situation only worsened due to the destruction of transport routes. Many companies are forced to use significantly longer routes to transport goods, which leads to higher costs and delays in delivery (Kuziak, 2022).

Additional difficulties arise in connection with customs barriers that complicate export-import operations. Customs procedures are bureaucratic, require numerous documents and are not automated at the appropriate level, creating additional opportunities for errors and delays. In addition, customs regulations of Ukraine often do not meet international standards, which further complicates the work of Ukrainian companies on international markets.

The growth of transport costs is another significant challenge for Ukrainian companies. High fuel prices, lack of alternative modes of transport and ineffective logistics planning lead to increased costs of transportation. Transport costs in Ukraine can reach 15-20% of the company's total costs, which is a much higher indicator compared to European countries. This puts Ukrainian companies at a disadvantage, forcing them to raise product prices to cover these costs.

Despite the fact that in Europe and other developed countries, digital solutions are actively used to increase the efficiency of logistics, the level of digitalization in Ukrainian companies remains low. Only about 30% of companies implement modern technologies to automate their processes, other Ukrainian companies have a low ability to quickly process orders and control logistics flows. The lack of full integration of digital tools in logistics is an important barrier to improving the international competitiveness of Ukrainian companies.

These challenges require Ukrainian companies to find an effective approach to logistics management, to implement innovative solutions and strategies for adapting to changing conditions.

Due to the economic crisis, political and demographic situation in Ukraine, the costs of logistics operations have increased. This makes it especially important to clearly define the priority tasks that will help to achieve optimization of logistics processes (Zotov & Pozniak, 2023).

First of all, Ukrainian companies need to conduct a detailed analysis of each stage of the logistics chain, starting from the supply of raw materials and storage, to the transportation and delivery of goods to end consumers. A thorough review will help assess the efficiency of operations, identify the strengths and weaknesses of the process, and identify areas for improvement.

The next important direction is the optimization of warehouse operations. Ukrainian companies need to automate storage and inventory management processes to increase the speed of order processing and reduce warehouse maintenance costs. Automated systems such as WMS help in fast tracking of goods, optimization of warehouse space and reduction of time required to prepare shipments.

Optimization of delivery routes is the third important component. Through the introduction of digital technologies such as transportation management systems (TMS), Ukrainian companies can improve delivery routes. The use of algorithms and real-time data helps to determine the fastest and most cost-effective routes, which reduces fuel costs and ensures on-time delivery.

Inventory management is another critical aspect for optimizing logistics processes. Effective inventory management helps to avoid excess inventory, which reduces the risk of losses and increases the turnover of goods. Ukrainian companies should develop a system that will ensure accurate forecasting of demand, optimization of inventory levels and prompt response to changes in market conditions. The use of demand forecasting methods can provide more accurate procurement planning and reduce costs associated with product storage.

Finally, the implementation of modern technologies in logistics is a key optimization tool. Automation systems, digital platforms and data analysis tools enable companies to achieve all of the above goals. This improves overall productivity, reduces costs and improves customer satisfaction, which is critical for international markets.

Thus, these tasks are the basis for strategies to optimize logistics processes, which will allow Ukrainian companies to remain competitive on international markets.

Conclusions

To summarize, optimization of logistics processes is a strategy that helps Ukrainian companies not only to increase the efficiency of international management, but also to ensure the stability and sustainability of their operations in the face of modern challenges. It should be noted that even the most successful and efficient logistics strategies need to be revised and improved over time. The dynamics of international markets and changes in customer requirements require constant adaptation of logistics management tools. For Ukrainian companies integrated into global markets, this means the need to respond flexibly to new challenges, invest in innovative technologies, and review their approaches to supply chain management. This is the only way to ensure not only short-term efficiency but also long-term success in a competitive environment.

Further research in this area should focus on an in-depth study of the impact of digital technologies on

the optimization of international logistics processes, as well as on the development of innovative strategies for adapting logistics systems to global crises and dynamic market changes. It is also worth focusing on the analysis of successful practices from other countries and the possibilities of their implementation in the Ukrainian logistics system to increase its competitiveness at the international level.

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