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LOGISTICS BUSINESS PROCESSES IN THE CONTEXT OF ANTI-CRISIS MANAGEMENT OF THE ENTERPRISE

Nadiia Reznik. «*Logistics business processes in the context of anti-crisis management of the enterprise*» This article is devoted to understanding of global business experience indicates that the concept of logistic management is a popular practice for enhancing the competitiveness of large, medium, and small enterprises. This concept becomes particularly relevant during periods of crisis when businesses need to organize their activities to minimize costs associated with the movement and storage of goods from the initial source to the final consumer [1].

The article establishes that logistics is one of the key components of successful business operations in modern conditions, and its significance cannot be overstated as it encompasses all processes related to the management of material, information, and financial flows from the supplier to the final consumer. It is proven that logistics gains special importance during crises such as economic recessions, natural disasters, wars, or global pandemics. Under such conditions, effective management of logistic business processes becomes not just a potential development strategy but a necessity for every enterprise, as logistics is a key element ensuring the efficiency and competitiveness of companies. Therefore, crisis management in business holds one of the priority positions in the enterprise development strategy.

The purpose of this article is to study the theoretical and practical aspects of optimizing business processes in logistics under conditions of crisis management. The main focus is on determining the impact of key factors in the development of logistic activities on the financial and economic state of the enterprise during crises. Moreover, the article demonstrates how the optimization of business processes affects the efficiency of enterprise operations using examples from large companies. In this context, several negative factors affecting the economic state of the enterprise in crisis conditions are identified, and ways to improve such processes are proposed, which will not only help to overcome the negative manifestations of crises but also improve the financial state of the enterprise as a whole.

Keywords: logistics, business processes, crisis management, crisis phenomena, optimization of logistic processes.

Надія Резнік «Логістичні бізнес-процеси у контексті антикризового управління підприємством». Ця стаття присвячена розумінню світового досвіду бізнесу, який свідчить про те, що концепція логістичного менеджменту є популярною практикою для підвищення конкурентоспроможності великих, середніх і малих підприємств. Ця концепція стає особливо актуальною в кризові періоди, коли підприємствам необхідно організувати свою діяльність так, щоб мінімізувати витрати, пов'язані з переміщенням і зберіганням товарів від початкового джерела до кінцевого споживача [1].

У статті встановлено, що логістика є однією з ключових складових успішного ведення бізнесу в сучасних умовах, і її значення неможливо переоцінити, оскільки охоплює всі процеси, пов'язані з управлінням матеріальними, інформаційними та фінансовими потоками від постачальника до кінцевого споживача. Доведено, що логістика набуває особливого значення під час криз, таких як економічні спади, стихійні лиха, війни чи глобальні пандемії. За таких умов ефективне управління логістичними бізнес-процесами стає не просто потенційною стратегією розвитку, а необхідністю кожного підприємства, оскільки логістика є ключовим елементом забезпечення ефективності та конкурентоспроможності компаній. Тому антикризове управління в бізнесі займає одне з пріоритетних місць у стратегії розвитку підприємства.

Метою даної статті є дослідження теоретичних та практичних аспектів оптимізації бізнес-процесів у логістиці в умовах антикризового управління. Основну увагу зосереджено на визначенні впливу ключових факторів розвитку логістичної діяльності на фінансово-економічний стан підприємства під час криз. Крім того, у статті на прикладах великих компаній показано, як оптимізація бізнес-процесів впливає на ефективність роботи підприємства. У цьому контексті визначено ряд негативних факторів, що впливають на економічний стан підприємства в умовах кризи, та запропоновано шляхи вдосконалення таких процесів, що сприятиме не лише подоланню негативних проявів криз, а й покращить фінансовий стан підприємства. в цілому.

Ключові слова: логістика, бізнес-процеси, антикризове управління, кризові явища, оптимізація логістичних процесів.

Introduction. Logistics plays a critically important role during a crisis for several key reasons. Firstly, during a crisis, enterprises typically face declining revenues and the need to reduce costs. Logistics helps optimize storage and transportation processes, which allows for a reduction in operational expenses. Effective management of logistic processes can ensure cost savings through route optimization, inventory reduction, and improved inventory management.

Secondly, crises such as natural disasters, economic recessions, or pandemics can disrupt supply chains and jeopardize the continuity of business processes. Logistics provides flexibility and resilience to supply chains, allowing them to quickly adapt to changing conditions and minimize supply disruptions.

Thirdly, enterprises that can effectively manage logistic processes have competitive

advantages in the market and can respond more quickly to customer needs, ensure timely product delivery, and provide high-quality services. This is especially important during a crisis when consumers become more demanding and cautious.

Fourthly, crises always come with increased risks such as supply disruptions, fluctuations in raw material and transportation costs, and financial market instability. Logistics helps enterprises identify and minimize these risks through careful planning, supplier diversification, the use of alternative routes, and strategic stockpiling.

Fifthly, despite the crisis conditions, customers expect a high level of service. Effective logistics allows for timely delivery of goods, maintaining appropriate inventory levels, and promptly responding to changes in demand, which helps meet customer needs and retain their loyalty.

Thus, it can be confidently stated that logistics during a crisis becomes a key element of the survival and development strategy of enterprises. It ensures cost reduction, business continuity, increased competitiveness, risk minimization, and improved customer service. This collectively allows enterprises not only to overcome crisis phenomena but also to emerge stronger and better prepared for future challenges.

Analysis of recent research and publications. Recently, scientific publications by domestic and foreign researchers have highlighted the problems of organizing logistic processes in the context of global crises.

O. Y. Bavyko [2] describes the organizational optimization of crisis management of enterprise business processes during the Covid-19 pandemic. Vatchenko B.S. and Sharanov R.S. [3] investigated crisis management of enterprises during wartime, identifying the main differences between traditional crises and wartime crises, and revealing key methods of crisis management in wartime conditions. Renowned Ukrainian scholars such as Bezuhla L.S., Vatchenko B.S., Gudz O.Ye., Ilchenko N.B., Krykavskiy Ye.V., and Moskvina B., among others, have also devoted their work to the problems of finding effective tools for optimizing enterprise logistic processes.

According to the research of M. Christopher [4] (Christopher, M., 2016), the optimization of logistic processes should be based on three main principles: cycle time reduction, cost reduction, and improved customer service quality. The author emphasizes the importance of integrating all elements of the logistic chain to achieve these goals. Meanwhile, in the research by Carrington and Perry [5] (Carrington, D., & Perry, J., 2017), the importance of crisis management for the stable operation of logistic systems is examined. The authors propose several strategies, including the creation of reserve stocks and supplier

diversification, which help reduce risks during a crisis.

Wang [6] and his co-authors (Wang, X., Zhang, Y., & Li, Z., 2019) believe that the use of information technologies, such as warehouse management systems (WMS) and transportation management systems (TMS), significantly enhances the efficiency of logistic processes during a crisis. The authors emphasize the importance of integrating these systems to ensure continuous monitoring and optimization of the supply chain.

In the work of Johnson and Sparks [7] (Johnson, R., & Sparks, L., 2020), the impact of economic and natural crises on enterprise logistic processes is examined. The authors analyze the consequences of various types of crises on logistics and propose adaptation methods, including the implementation of flexible management systems and the use of alternative delivery routes.

Thus, the analysis of existing studies shows that the optimization of logistic business processes in the context of enterprise crisis management is a multifaceted task. It involves the use of modern technologies, flexible resource management, and effective planning. Key aspects include the integration of all elements of the logistic chain and continuous process monitoring to respond promptly to changes in the external environment, such as global economic instability, political changes, wars, natural disasters, and others.

The formulation of the goals of the article is to study the theoretical and practical aspects of optimizing business processes in logistics under conditions of crisis management. The main focus is on determining the impact of key factors in the development of logistic activities on the financial and economic state of the enterprise during crises.

Presentation of the main results. Crisis management is crucial for ensuring the resilience and survival of an enterprise during periods of instability. This process comprises a set of measures aimed at identifying,

analyzing, preventing, and overcoming crisis situations that may arise during the enterprise's activities. Crisis management involves the development of strategies, action plans, and measures designed to minimize risks and mitigate the adverse effects of crises on the financial state, operational activities, reputation, and long-term development prospects of the enterprise. Through effective crisis management, enterprises can not only survive crises but also discover new opportunities for growth and development,

adapt to changes, and enhance their competitiveness in the market.

Crisis management also includes a range of measures aimed at detecting, preventing, and overcoming crisis situations that may threaten the stability and efficiency of an organization's functioning. The main stages of crisis management can be defined as: analysis and diagnosis, strategy development, implementation of crisis measures, control and monitoring, and communication (Table 1).

Figure 1 – Key Aspects of Enterprise Crisis Management. Source: Table compiled by the authors according to sources [15-20].

Stage	Measures	Description
Analysis and Diagnosis	Financial State Assessment	Analysis of financial indicators (profit, loss, liquidity, solvency)
	Market Position Assessment	Studying the competitive environment, market trends, and the enterprise's market position
	Internal process assessment	Analyzing the efficiency of production and management processes
Strategy Development	Goal Setting	Clear formulation of short-term and long-term enterprise goals
	Strategy Selection	Identifying ways to achieve goals, such as restructuring, diversification, cost optimization
Implementation of Crisis Measures	Financial Measures	Attracting additional capital, refinancing debts, reducing expenses
	Organizational Measures	Restructuring the enterprise, changing the organizational structure, optimizing personnel numbers
	Operational Measures	Improving production efficiency, optimizing supply chains, implementing new technologies
Control and Monitoring	Continuous Monitoring	Monitoring the implementation of measures, controlling the achievement of set goals
	Results Analysis	Evaluation of the effectiveness of implemented measures and adjustment of plans if necessary
Communication	Internal Communication	Informing employees about planned measures and their role in the process
	External Communication	Interaction with investors, partners, clients, and other stakeholders

Given that the implementation of anti-crisis measures is based on the effective application of financial, organizational, and operational tasks faced by the enterprise, it is

essential to pay particular attention to improving production efficiency, optimizing supply chains, and introducing new technologies. Logistics ensures the continuity

of business processes, flexibility in responding to changes, and risk minimization, allowing companies to adapt to new conditions and maintain competitiveness. **Considering this, the main aspects highlighting the importance of logistics in maintaining business efficiency during a crisis are:**

1. *Establishing Reliable Supply Channels:* During a crisis, the supply of raw materials and finished products can be disrupted due to various factors such as production or transportation failures. Establishing reliable supply channels, including diversifying suppliers, helps avoid shortages and ensure the stability of production processes.

2. *Strategic Inventory Planning:* Effective inventory management is crucial for maintaining production and meeting product demand. Strategic inventory planning allows companies to have sufficient reserves for uninterrupted operations even in case of supply disruptions.

3. *Data Analysis and Forecasting:* Crisis situations can significantly change product demand. Therefore, the use of data analytics and forecasting helps companies quickly respond to these changes by adjusting production plans and logistics processes according to current market needs.

4. *Flexibility in Logistics Processes:* Flexibility in logistics processes allows for the quick redirection of goods and resources, which is especially important during a crisis. This also includes the ability to rapidly shift production capacities and make changes in supply chains.

5. *Implementing Effective Inventory Management Methods:* Inventory management methods such as Just-in-Time (JIT) help reduce storage costs and avoid excess inventory. This is particularly important during a crisis when companies' financial resources may be limited.

6. *Optimizing Transport Routes:* Optimizing delivery routes helps reduce transportation costs, which is a crucial factor in lowering overall logistics costs. Using

modern technologies for route planning allows for greater efficiency.

7. *Fast and Reliable Delivery:* Maintaining a high level of customer service quality is critical even during a crisis. Fast and reliable delivery of products contributes to customer satisfaction and loyalty retention.

8. *Feedback System:* An established feedback system quickly identifies and resolves issues arising in the logistics process. This ensures prompt response to customer needs and enhances the overall efficiency of logistics processes.

9. *Developing Emergency Action Plans:* These plans ensure the company's readiness for various development scenarios and include identifying potential risks and developing strategies to minimize them. Supporting this theory are joint studies by Kerrington D. and Perry J. [9], stating: «Anti-crisis plans should include clearly defined actions for various development scenarios, such as supply disruptions, increased demand, or changes in legislation. Implementing such plans ensures the enterprise's readiness for rapid strategy changes and minimizes the negative impact of the crisis.»

10. *Diversifying Suppliers and Transport Routes:* Diversifying supply sources and delivery routes reduces dependency on a single supplier or transport route, increasing the supply chain's resilience to disruptions.

11. *Utilizing Modern Technologies:* Anderson T. and Smith J. wrote about their prospects in 2017 [10]: «Investing in innovative technologies and solutions provides enterprises with a competitive advantage. Companies that actively implement new technologies such as artificial intelligence, blockchain, and the Internet of Things (IoT) can significantly improve their logistics processes and increase the efficiency of supply chain management.»

Modern technologies such as the Internet of Things (IoT), blockchain, and artificial intelligence (AI) enhance transparency and control over logistics processes. They enable

companies to respond promptly to changes and improve operational efficiency.

12. *Automation and the Use of Artificial Intelligence*: Automation of processes and the use of AI help reduce costs, increase accuracy, and improve the efficiency of logistics operations. This is especially important during a crisis when resources may be limited, and the demands for speed and accuracy are high. Johnson M. and Smith P. discussed this issue in their work «Strategic Crisis Management»: «Automation of logistics processes, including the use of robotics in warehouses and automated order processing systems, allows for increased accuracy and speed of operations, reduces labor costs, and minimizes the human factor. This is particularly important in a crisis when the need for quick and efficient order processing increases.»

It is important to understand that during a crisis, when business conditions can change abruptly, effective logistics becomes a critical factor for the survival and successful

functioning of an enterprise. Optimizing logistics processes, implementing innovative solutions, and effectively managing risks enable companies not only to overcome crisis situations but also to lay the foundation for sustainable development in the future.

The current crisis, triggered by the war in Ukraine, has affected enterprises of all types, especially those involved in logistics support. According to a Dive&Discovery Research survey, as of the end of July 2022, the capacity of the vast majority of enterprises (72%) did not exceed 50-70% of the pre-war level. Sixteen percent of the surveyed enterprises were forced to stop their activities or were almost stopped (their capacity does not exceed 20% of the pre-war level) [8]. Today, in the road transport market, the main problems are related to the decrease in enterprise profits due to the rising cost of fuel and lubricants, the reduction in the number and volume of orders, low service prices, etc. At the same time, most of them cannot increase the cost of these services (Figure 1).

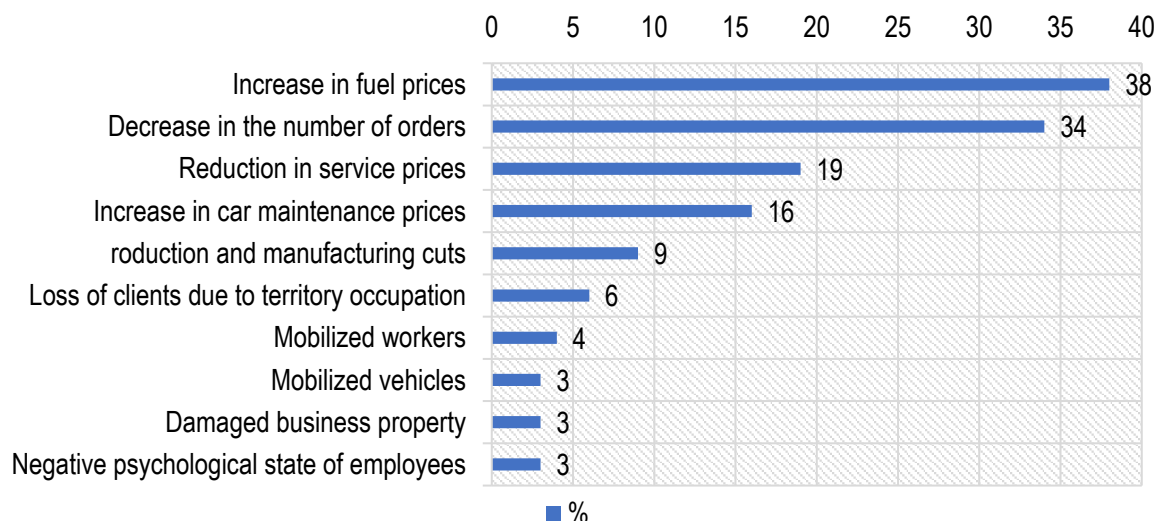


Figure 1 – Factors Affecting the Reduction of Enterprise Income in the Road Transport Market in 2022.

Sources: Graph based on data [8]

In the context of logistics optimization of road transport during the crisis caused by the war in Ukraine, there are several key issues hindering effective logistics management:

1. *Underdeveloped Infrastructure*: Poor road quality leading to delays, increased delivery times, and higher vehicle maintenance costs, along with the lack of modern logistics centers and warehouses,

complicating storage and redistribution of goods.

2. *Insufficient Digitalization and Automation of Processes*: Lack or low level of implementation of Transportation Management Systems (TMS) that allow automating planning and control processes of transportation, and insufficient use of real-time cargo monitoring and tracking systems complicating route control and delivery status.

3. *Complexity of Route Planning*: Inadequate use of modern technologies for route optimization leading to inefficient resource use and increased fuel costs, along with coordination problems between different types of transportation (multimodal transport).

4. *High Operational Costs*: Fluctuations in fuel prices affecting cost predictability and expenses for vehicle maintenance and repair.

5. *Data Processing Issues*: Lack of integrated systems for collecting, analyzing, and processing logistics data complicating decision-making; insufficient use of analytics and Big Data for demand forecasting and logistics process optimization.

6. *Qualification of Personnel*: Lack of staff and low qualification of workers in logistics and supply chain management.

7. *Legal and Regulatory Restrictions*: Complex and non-transparent regulatory requirements complicating licensing and certification processes; bureaucratic hurdles delaying customs clearance and border crossing processes.

The above-mentioned issues generate a number of tasks for the modern domestic logistics system and urgently require a comprehensive approach to solving problems caused by the crisis in the economy. To optimize logistics business processes, it is worth identifying key strategic solutions and effectively implementing them in the practical activities of companies.

An example of a logistics company that managed to maintain profits by implementing optimization solutions during the war in Ukraine is Nova Poshta. With the

onset of hostilities, the logistics sector faced significant disruptions. Many routes became dangerous or were completely blocked, causing serious problems with the delivery of goods and mail. **To maintain its reputation, jobs, profits, and customers, the company quickly implemented logistics optimizations in wartime conditions. Specifically:**

1. *Route Reconfiguration*: Nova Poshta quickly reconfigured its logistics routes, creating alternative paths for delivery, bypassing dangerous areas, and using route planning considering current safety information and road conditions.

2. *Real-Time Tracking Systems*: Implemented real-time tracking systems for monitoring cargo and vehicles, allowing prompt responses to any changes in the situation. Additionally, they began using automated warehouse systems for faster cargo processing and reducing storage time.

3. *Network Expansion*: Continued expanding their network by quickly opening new pickup points and branches in relatively safe regions, allowing customers to receive their parcels with minimal delays, and using partner pickup points to extend their geographical presence.

4. *Humanitarian Cooperation*: Actively collaborated with volunteer organizations and humanitarian funds to deliver aid to the most dangerous regions, supporting the company's image and providing an additional stream of orders.

5. *Mobile Applications and Online Services*: Actively used mobile applications and online services for customers to reduce the load on physical branches and ensure uninterrupted communication. Implemented contactless payment and parcel receipt methods to enhance the safety of customers and employees.

6. *Data Analytics*: Utilized data analytics to optimize vehicle load and routes, reducing fuel costs and increasing transport efficiency, and implemented inventory management systems to minimize downtime and increase cargo turnover, enhancing overall company efficiency.

By implementing such optimization solutions, Nova Poshta not only maintained its profits but also strengthened its position in the logistics services market (Table 2). Quick adaptation to new conditions and the use of modern technologies allowed the company

to efficiently manage logistics processes, ensure continuous delivery, and maintain a high level of customer service even in challenging wartime conditions.

Table 2. Economic Performance Indicators of Nova Poshta Before Optimization, During the Crisis, and After Optimization.

Indicator	Before optimization (2021)	During crisis (2022)	After optimization (2023)
Transport volume (million parcels)	245	180	210
Revenue (million UAH)	15,000	12,000	14,000
Expenses (million UAH)	10,000	9,500	9,000
Profit (million UAH)	5,000	2,500	5,000
Number of employees	30,000	25,000	26,000
Number of branches/offices	7,000	6,000	6,700
Logistics expenses (million UAH)	2,500	2,800	2,500
Number of logistics centers	50	45	48
Investments in technology (million UAH)	1,200	1,000	1,300

Source: Compiled by the authors based on data from sources [21-22]

During a wartime crisis, the main task of each business entity is to establish the uninterrupted operation of the enterprise and ensure its sustainable economic development. An effective means of achieving this result is the implementation of an anti-crisis management mechanism within the enterprise. Given that a wartime crisis has certain differences from a traditional one, the main elements of the anti-crisis management mechanism also acquire specific features in their functioning during the wartime period. Tactical methods aimed at quickly improving the financial and economic performance of the enterprise play a significant role, with the most popular being downsizing, outsourcing, optimization, and regularization.

A notable example of using these methods and optimization logistics solutions in the agricultural sector during the crisis is the Agroholding «Myronivsky Hliboproduct» (MHP). With the start of the war in Ukraine, the agricultural sector, including MHP, faced numerous challenges such as infrastructure destruction, supply disruptions, loss of access

to markets, and increased safety risks for employees.

To optimize logistics business processes, «Myronivsky Hliboproduct» (MHP) employed the following strategic steps:

1. *Logistics and Routing Optimization:* MHP quickly reconfigured its logistics routes, finding safer alternative paths for transporting products. The use of modern technologies for real-time cargo monitoring and tracking allowed for prompt responses to situational changes and ensured timely delivery of products.

2. *Expansion of Warehouses and Distribution Centers:* The company invested in the development and modernization of warehouse facilities in safe regions, enabling the storage of larger volumes of products and ensuring uninterrupted supply. The use of decentralized warehouses reduced the risks of product loss due to military actions.

3. *Adaptation of Production Processes:* MHP optimized its production processes by implementing automation and modernizing equipment, reducing dependence on manual

labor and increasing efficiency. Reducing production costs was primarily the result of implementing energy-efficient technologies.

4. *Digitization and Implementation of Analytical Systems:* The agroholding used digital platforms and data analytics for optimizing inventory management, demand forecasting, and production planning. The implementation of supply chain management (SCM) systems improved coordination and efficient logistics management.

5. *Support for Employees:* Ensuring the safety and proper working conditions for employees, including evacuating personnel from dangerous zones and providing psychological support, and engaging temporary workers in safe regions to maintain production.

6. *Cooperation with International Partners:* MHP actively cooperated with international organizations and partners to ensure product export and attract investments, and participated in humanitarian initiatives, which not only supported the company's reputation but also contributed to expanding market reach.

Thanks to the implementation of these optimization measures, «Myronivsky Hliboproduct» managed to maintain its profits and even expand its activities in some areas during the war. Rapid adaptation to new conditions, the use of modern technologies, and effective resource management allowed the company to maintain high production and customer service levels, ensuring stability and development even in difficult times (Figure 2).

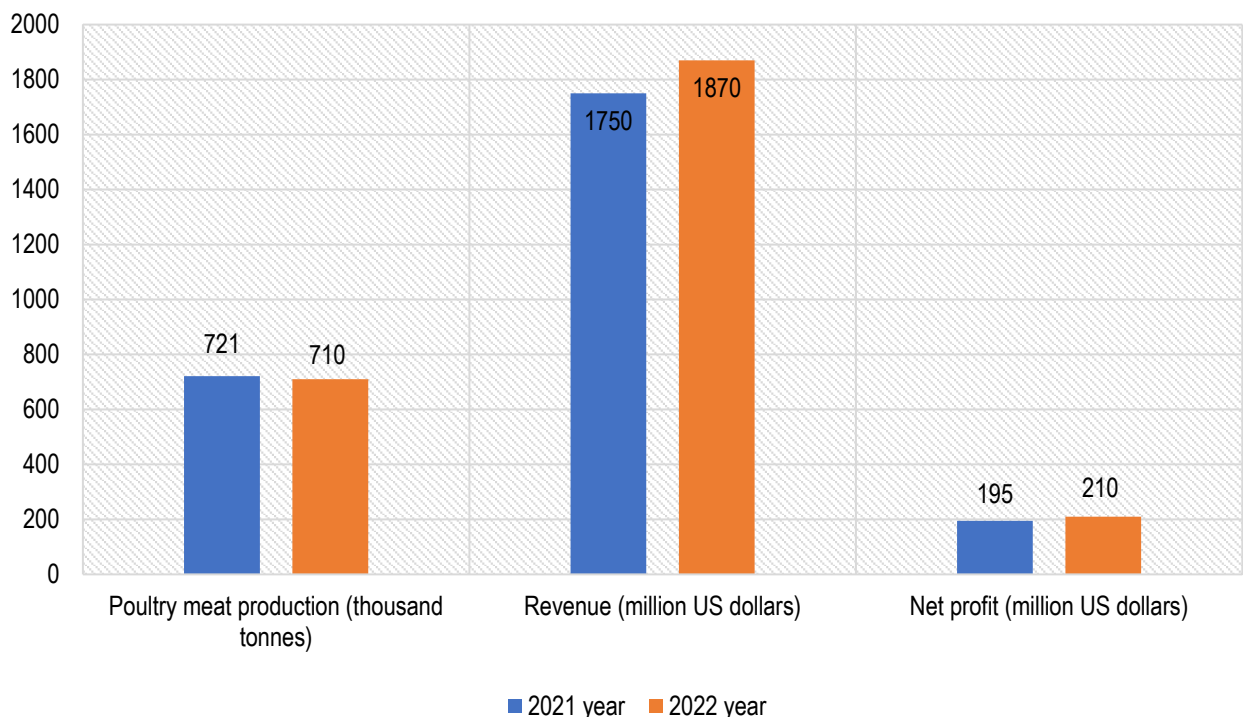


Figure 2 – Economic performance of «Myronivsky Hliboproduct» agroholding due to the implementation of optimization measures in 2021-2022.

Sources: Graph created by the authors based on sources.

Unlike large companies that successfully apply optimization measures during a crisis, small businesses do not have such opportunities. During a crisis, they are more

vulnerable to external factors and less capable of implementing optimization measures, leading to increased costs and risks. Without support and resources, small

businesses often cannot withstand the pressure and are forced to shut down.

According to a survey conducted by the marketing research agency Dive&Discovery Research in August 2022, it was found that the decrease in business margin leads to weaker players leaving the market. Twenty-one percent of individual entrepreneurs and business owners consider closing their business, and 6% are ready to do so in the near future. Meanwhile, 51% plan to expand

their business (13% in the near future, 21% immediately after the end of the war, and 17% at the planning level without a specific timeframe) [8].

Analyzing the reports of large international companies [12] and small businesses in Ukraine [13; 14], it becomes clear why the process of optimizing logistics business processes is overly complex for small businesses (Figure 3).

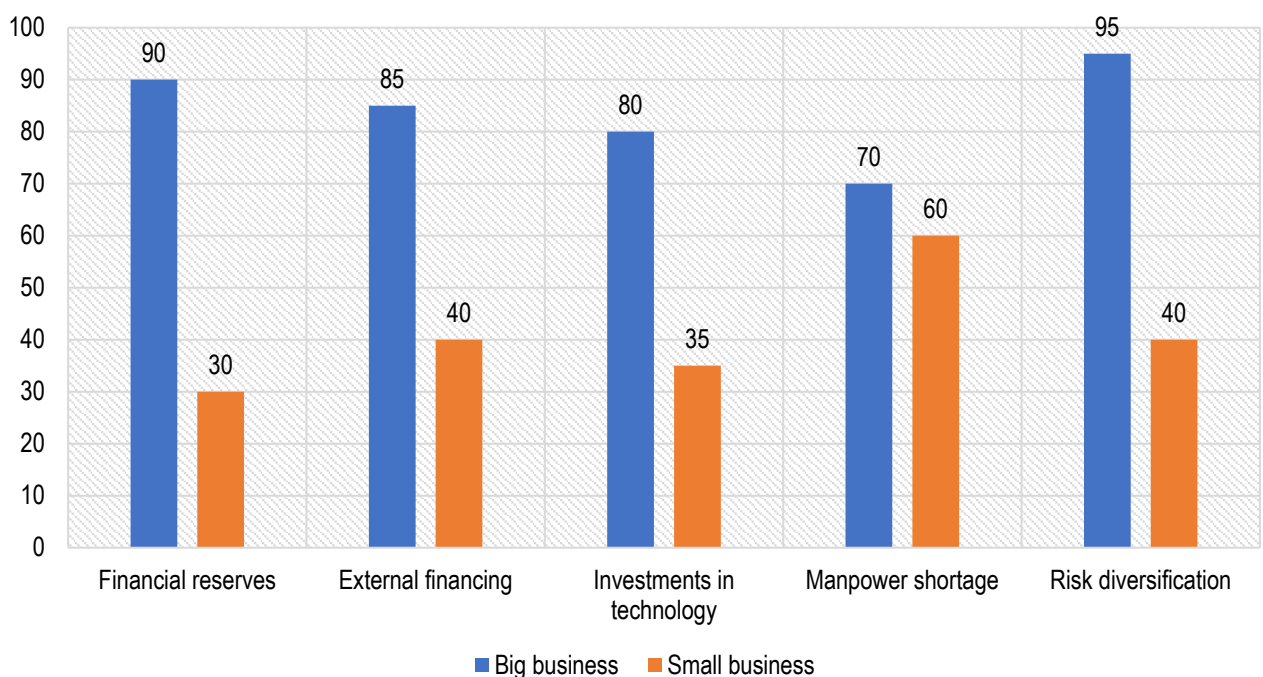


Figure 3 – Comparison of the Ability to Apply Business Process Optimization During Crisis and Wartime by Large and Small Companies, %.

Source: Graph created by the authors based on sources [12-14].

In the context of crisis management, optimizing logistics business processes becomes extremely important to ensure the stability and efficiency of companies. Large enterprises have significantly more opportunities to implement optimization measures during a crisis compared to small businesses. This is due to several key reasons. Firstly, they have access to substantial financial reserves, enabling them to invest in the latest technologies and automated logistics management systems. This includes investments in modern supply chain management (SCM) systems, route optimization software, and warehouse

process automation. Secondly, such companies can utilize advanced technologies to enhance the efficiency of their logistics processes, such as using Big Data and artificial intelligence (AI) for demand forecasting and inventory optimization. Thirdly, they have greater access to external financing through the issuance of bonds and shares, allowing them to attract significant financial resources for the development and modernization of their production and organizational capacities.

Conclusions. In modern conditions, where businesses are particularly vulnerable to external and internal crisis factors such as

war, unstable political situations, natural disasters, and economic instability, the question arises not so much about increasing business capitalization but about its very existence. Our research has shown that optimizing logistics business processes is accompanied by effective crisis management. Thus, enterprises can not only remain competitive in times of crisis but also successfully develop.

Based on the experience of companies such as Nova Poshta and the agroholding Myronivsky Hliboproduct», it can be concluded that the implementation of optimization solutions and quick adaptation to changes in the external environment have increased the profitability of companies and contributed to the growth of production capacities and service provision. Therefore,

further research into the activities of such companies can significantly deepen the understanding of logistics business process optimization in crisis conditions and contribute to the development of new, more effective management strategies.

The research also revealed the negative aspects of the impact of crisis phenomena on small business activities. Data from a survey conducted by Dive&Discovery Research showed the current state of their activities and indicated significant problems they face during a crisis. In our opinion, special attention should be paid by such enterprises to selecting a strategy for optimizing logistics business processes and determining the optimal solutions that will reduce costs and improve their operational efficiency..

References

1. Kalashnyk, R.O., & Vasylchenko, M.I. Logistics Management as a Tool for Optimizing Business Processes of a Modern Enterprise. Modern Innovation-Investment Mechanisms for the Development of the National Economy in the Conditions of European Integration: Materials of the 10th International Scientific-Practical Internet Conference, November 9, 2023. Poltava: Yuri Kondratyuk National University «Poltava Polytechnic», 2023. pp. 189 - 193.
2. Bavyko, O.Y., Bavyko, O.O., & Kozakov, I.O. Organizational Optimization of Crisis Management of Enterprise Business Processes during the COVID-19 Pandemic. Effective Economy, No.12. 2020, URL: http://www.economy.nayka.com.ua/pdf/12_2020/13.pdf.
3. Vatchenko, B.S., & Sharanov, R.S. Crisis Management of the Enterprise During War. Economic Space, No.182. 2022, pp. 38-43. URL: <http://srd.pgasa.dp.ua:8080/bitstream/123456789/9860/1/Vatchenko.pdf>.
4. Christopher, M.. Logistics & Supply Chain Management. Pearson. 2016.
5. Carrington, D., & Perry, J. Crisis Management in Logistics. Journal of Business Logistics, 38(2). 2017, pp. 135-150.
6. Wang, X., Zhang, Y., & Li, Z. The Role of IT in Logistics Optimization during Crisis. International Journal of Logistics Research and Applications, 22(3). 2019, pp. 254-269.
7. Johnson, R., & Sparks, L. Impact of Crises on Logistics Processes: A Comprehensive Review. Journal of Supply Chain Management, 56(4), 2020, pp. 213-230.
8. The Crisis Triggered by the War Leads to a Decrease in the Number of Carriers. URL: <https://logist.fm/publications/kriza-sprovokovana-viynoyu-prizvodit-do-zmenschennya-kilkosti-avtopereviznikiv>.
9. Carrington, D., & Perry, J. Crisis Management in Logistics. Journal of Business Logistics, 38(2). 2017, pp. 135-150.

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10. Anderson, T., & Smith, J. Diversification Strategies in Crisis Management. *Business Horizons*, 60(2). 2017, pp. 183-195.
 11. Johnson, M., & Smith, P. Strategic Crisis Management. *International Journal of Business Strategy*, 27(2). 2019, pp. 114-128.
 12. Agency Financial Report from Small Business Administration (SBA). URL: https://www.sba.gov/sites/default/files/2021-12/SBA_FY2021_AFR-508.pdf.
 13. NBU Report on Financial Stability of Small Business in Ukraine, December. 2023. URL: https://bank.gov.ua/admin_uploads/article/FSR_2023-H2.pdf.
 14. NDP Report Analyzing the Impact of War on Micro, Small, and Medium Enterprises (MSMEs) in Ukraine. URL: <https://www.undp.org/ukraine/publications/assessment-wars-impact-micro-small-and-medium-enterprises-ukraine>.
 15. C.M., & Clair, J.A. Reframing Crisis Management. *The Academy of Management Review*, 23(1). 1998, pp. 59-76.
 16. Coombs, W.T. *Ongoing Crisis Communication: Planning, Managing, and Responding*. SAGE Publications. 2014.
 17. Hopkin, P. *Fundamentals of Risk Management: Understanding, Evaluating and Implementing Effective Risk Management*. Kogan Page Publishers. 2018.
 18. Yemelyanenko, L.M., & Borysenko, Z.I. *Crisis Management of the Enterprise*. Kyiv: Center for Educational Literature. 2011.
 19. Fink, S. *Crisis Management: Planning for the Inevitable*. New York: AMACOM. 2002.
 20. Elliott, D., Harris, K., & Baron, S. Crisis Management and Services Marketing. *Journal of Services Marketing*, 19(5). 2005, 338-346.
 21. Official Website of Nova Poshta. URL: <https://novaposhta.ua/>
 22. The new voice of Ukraine. URL: <https://english.nv.ua/>
 23. Alekseieva K.A., Melnyk L.V., Ostapchuk A.D., Horská E., Reznik N.P.: Theoretical and methodological approaches to development of the concept of digital economy. *Test Eng. Manag.* (2020). <https://www.scopus.com/inward/record.url?eid=2-s2.0-85083002183&partnerID=MN8TOARS>.
 24. Nadiia R., Anatoliy O., & Kateryna K. (2019). Sustainable Development of Agriculture: Modeling of Strategic Management in Transition Countries. *International Journal of Economics, Business, and Entrepreneurship*, 2(1), 75–88. <https://doi.org/10.23960/ijebe.v2i1.50>.
 25. Reznik N.P. Orhanizatsiino-ekonomichnyi mekhanizm zaluchennia investytsii v ahropromyslovyi kompleks Ukrainy [Organizationally economic mechanism of bringing in of investments in the agroindustrial complex of Ukraine]. *Ekonomika APK* 7, 70–77 (2013).
 26. Reznik N. Mizhnarodna praktyka investuvannya v aharnomu sektori. [International practice of investing in the agrarian sector]. *Economy of AIC* 12, 65–67 (2008).