The Impact of the Digital Economy on the Strategic Management of Enterprise Logistics

Nataliia Hurzhyi
Doctor of Economics,
Professor, Department of Entrepreneurship,
Management of Organizations and Logistics,
Faculty of Management,
Zaporizhzhia National University,
Zaporizhzhia, Ukraine
madlen2020@ukr.net
ORCID: 0000-0002-4955-9548

Yevgeniy Klymenko
PhD, Assistant Professor,
Department of MaritimeTransportation,
Institute of Navigation, National University
OdessaMaritime Academy, Odessa, Ukraine
klymenkoevg@gmail.com,
ORCID: 0009-0000-7826-5402

Halyna Mieniyailova
PhD in Economic Sciences,
Branch Director, Associate Professor
Branch of Classic Private Univesity,
Kremenchuk, Ukraine,
gnikavero@gmail.com,
ORCID: 0000-0002-9243-4361

Zinaida Andrushkevych
PhD in Economic Sciences,
Associate Professor
Khmelnytskyi National University,
Khmelnytskyi, Ukraine
Zina_marketing@ukr.net
ORCID: 0000-0002-2294-3785

Liudmyla Kharsun
PhD in Economic Sciences,
Associate Professor,
Department of Trade Entrepreneurship
and Logistics,
Faculty of Trade and Marketing,
State University of Trade and Economics,
Kyiv, Ukraine
l.kharsun@knute.edu.ua
ORCID: 0000-0002-7569-943X

Abstract

While many industries are rapidly adopting digital technologies to adapt to rapidly changing economic conditions and increasing customer demands, logistics and supply chain management companies have historically been slow to adopt logistics software development services. And while many logistics companies are already beginning to actively implement digital technologies, the level of adoption among large and small companies is still relatively low. Nevertheless, logistics offers a lot of opportunities for the use of digital technologies. Given the relevance of the topic, the purpose of the study is to substantiate the prospects and opportunities for using the digital economy to stimulate the strategic management of enterprise logistics. The study found that modern logistics companies and companies engaged in logistics have many opportunities for active development using innovative technologies. It has been established that digital transformation in logistics is a practical approach to implementing digitalisation at all levels of a company's business processes: from optimising the logistics of physical flows and optimising data exchange to customer service and much more. Overall, it is only natural for companies that want to maintain their competitive edge in the market to think about the next steps in their digital transformation. That's why they have many opportunities, including the introduction of artificial intelligence, self-driving vehicles, and machine optimisation of business processes to improve the efficiency of enterprise management.

Keywords: Digital Development, Logistics, Supply Chains, Artificial Intelligence, Cost Reduction, Transport Services, Staff Training, Technology Development, Marine Logistic.

Introduction

Digitalisation is becoming a part of everyday life today and greatly facilitates the production and promotion of products. The logistics sector is no exception. However, to improve the efficiency of logistics activities, various digital tools are being used more and more actively today, and therefore, analysing the impact of the digital economy on the strategic management of enterprise logistics is becoming an increasingly relevant area of research.

In general, the digitalisation of logistics should be understood as both electronic document management and the field of cargo transportation. Logistics includes the procurement, transportation, sale, and storage of goods, as well as the management of the accompanying financial and information flows.

Digital technologies, in turn, help procurement and supply chain management to optimise storage, as well as communicate information about the movement of goods (Orhani, 2023) and the transfer of inventory from the seller to the buyer (Gutsul& Karelin, 2022) and to those for whom this information is intended.

As logistics is a complex and multifaceted business area, the range of digital tools that can be used in the logistics sector is quite large. Digital tools can significantly improve supply chain management and reduce the cost of various types of resources in the logistics sector.

Since the quality of the logistics network directly affects the cost of production, accounting for 20% to 60% of it, and for some products, it can reach 80% (Chovhaniuk et al., 2023), it is advisable for large companies to invest in improving the efficiency of logistics systems to increase overall business performance. In order to reduce costs and increase competitiveness, companies need to improve logistics routes, reduce the cost of consumables, and increase the speed of information exchange. These are the challenges that can be addressed through digitalisation.

In general, the scientific literature considers the digitalisation of logistics systems in two main areas: optimisation for logistics companies (Akighir&Atswam, 2023), which are exclusively engaged in transportation and delivery, and optimisation of logistics processes within manufacturing enterprises (Khalid, 2023), which can define logistics as one of the components of their activities or as a business process. Accordingly, digital tools can be used in each of the above enterprises.

Given the considerable relevance of the topic chosen for the study and the considerable attention of scholars to the issues of digitalisation of the logistics sector, the purpose of the study can be defined as substantiation of the prospects and opportunities for using the digital economy to stimulate the strategic management of enterprise logistics.

Methodology

The study is aimed at analysing promising areas for the introduction of digitalisation in logistics management and solving strategic issues in the field of logistics. The analysis of scientific literature is aimed at systematising approaches to identifying ways and opportunities to use the latest digital technologies to improve the production and delivery of goods.

The study used general scientific methods, in particular, analysis, systematisation, generalisation, specification, and grouping.

An analysis of the scientific literature on the subject of the study has shown that investing financial resources in the development of systemic digital solutions, rather than individual point transformations in the digital sphere, increases the efficiency of using data sets to create new services and optimise logistics. While individual applications and services can improve a particular business process of a logistics company or a company with logistics business processes, the platform can solve several problems at once. Integrated solutions allow you to integrate the business processes of chain participants, connect producers with consumers, manage inventory, and provide a range of other services. Digital transformation is not only changing individual logistics companies but is also becoming a subject of dialogue between different companies, agencies, and businesses.

The method of analysis also allowed to identify in the literature the main trends in the introduction of digital tools in the optimisation of logistics systems. The methods of systematisation and generalisation were used to identify the key tasks that the digitalisation of logistics will help to solve. The method of specification allowed a reasonable approach to determining the strategic opportunities for the development of manufacturing companies, taking into account the processes of digitalisation, and the method of grouping made it possible to identify the constituent elements of the concept of digitalisation in the field of strategic management of logistics companies and logistics of manufacturing companies.

The application of such a set of methods allowed us to obtain a systematic and reasonable result with a generalised approach to the formation of the concept of digitalisation in the strategic management of logistics companies and logistics of manufacturing companies. At the same time, it is not only businesses that realise the value and necessity of using digital technologies in their own development.

The hierarchy analysis method developed by Thomas Saaty was used to determine the priority areas and opportunities for introducing innovative technologies in the field of logistics decision-making support.

The information base of the study was formed by the scientific works of leading Ukrainian and international scientists, in particular, the literature of the last 5 years was analysed to provide an up-to-date view of the issues under development, as well as statistical materials and practical examples of the use of digital tools for strategic management in the logistics sector.

In the process of developing the topic, attention was paid to identifying priority areas for the development of digital technologies to ensure effective strategic development of the logistics sector.

Results

According to Pitchbook Data statistics, 80% of logistics operators have partially or fully switched to a digital business management model since 2023. Of these, 86% of transport company executives in 2021 cited information technology as the best way to reduce costs. Today, the number of companies that recognise the importance of implementing IT technologies is even higher and is approaching 100% among market leaders (Researching the capital markets is hard, 2023). By 2025, smart warehouse management systems, tracking the movement of forwarding drivers and monitoring the transportation process can increase the efficiency of freight transportation by up to 30%, reducing delivery time by 20-40% and reducing logistics costs by 15-25% (Researching the capital markets is hard, 2023).

In general, the global logistics market is growing at an ever-increasing pace, with the highest growth in the Asian region (Table 1).

Table 1. Logistics Market Revenue, By Region, 2022-2030 (US$ Billion) - forecast until 2030

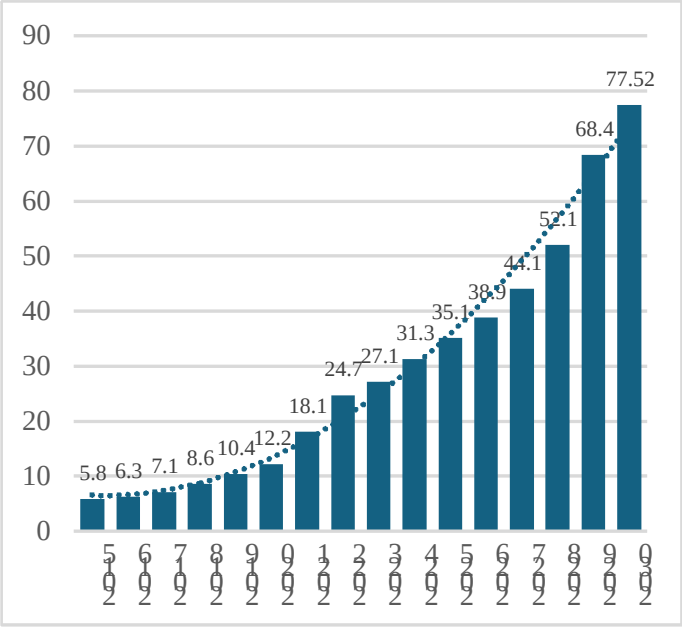
By Region	2022	2023	2027	2030
Asia Pacific	3480.70	3952.34	6633.62	8684.20
Europe	1748.34	1955.51	3090.40	3860.00
Latin America	455.05	502.60	755.35	907.13
Middle East & Africa	327.32	359.22	526.35	619.72
North America	1971.87	2193.70	3393.21	4167.76

Source (Researching the capital markets is hard, 2023).

Based on the data in Table 1, it is quite logical that the largest share and the most significant growth of the logistics services market is expected in the Asian region, as this region has the largest population and a rather large territory. In addition, logistics in the Asia-Pacific region is represented by various modes of transport, which significantly increases the development opportunities for transport companies and opens up additional opportunities for the introduction of digital solutions into the logistics management system.

Special attention should also be paid to the statistical material on the volume of digital services provided in the logistics sector - Fig. 1.

Figure 1. Global Digital Logistics Market (forecast until 2030)



Source (Researching the capital markets is hard, 2023).

The statistical data presented in Fig. 1 shows that the statistics on the global digital logistics market with a forecast until 2030 indicate that this area is actively developing today and will have significant opportunities for more active development and investment in the future.

In addition, logistics does not exist in isolation from other business processes, which are also affected by digitalisation. For example, the circulation of labelled goods or participation in the traceability system is impossible without the use of digital solutions - information about putting into circulation, acceptance for delivery, stages of transportation, and shipment to the buyer must be transferred to government systems. Sales invoices are the primary documents based on which the seller writes off the value of goods in its accounting records, and the buyer receives the goods received. A consignment note is also a primary document used to document the transport of goods and therefore is a basic document in the logistics system.

Primary documents confirm the fact and legality of a transaction and are the basis for reporting, which is gradually moving to electronic form (Akighir&Atswam, 2023; Cichosz et al., 2020; Li et al., 2020). Getting information from an electronic document is much easier than manually transferring data from a paper invoice to an accounting system or reporting service. This saves time and reduces errors.

Thus, digitalisation in the logistics sector can solve a number of key issues, among which the most important ones can be highlighted - Table 2.

Table 2. Key tasks that digitalisation of logistics will help solve

The challenges that digitalisation of logistics will help solve	Economic effect for the company from the introduction of digital technologies in the logistics sector
Reduce equipment downtime and increase output	Increased net income, improved efficiency of fixed assets
Speed up the processes of designing production and delivering the product to the consumer	Accelerating investment turnover and sales growth
Reduce the cost of field testing by introducing digital twins and visual modelling tools	Reducing the number of defects and increasing trust in the manufacturer
Increase transparency of operations and reduce costs across the supply chain management cycle	Reduced costs, increased profitability
Reduce energy losses during process operations	Reduced costs, shorter operating cycle

Source: Compiled by the author based on (Baraja& Chaniago, 2023; Garud et al., 2022; Marshalok et al., 2021)

The list of tasks that digitalisation can solve in the field of logistics reveals the critical importance of introducing digital technologies in this area and confirms the prospects for further development of digitalisation in relation to logistics issues.

Modern strategies for the development of large companies and optimisation of their strategic logistics potential have revealed significant risks for the development of the modern manufacturing and service sectors under traditional scenarios. For today's companies, it remains important to take into account digitalisation opportunities at each stage of production activities (Table 3).

Table 3. Strategic opportunities for the development of manufacturing companies with regard to digitalisation

The scope of digital technologies	Prospects for achieving strategic goals for manufacturers
Planning	Consolidation of suppliers, selection based on lower cost and expenses, increase of insurance reserves
Production	Global suppliers, low cost and outsourced production as the preferred choice
Logistics	A limited number of trusted transport partners, additional motivation for expedited delivery
Service.	Reactive maintenance, switching to maintenance by our own units that are proficient in digital tools and ready to implement all customer wishes

Source: Compiled by the author based on (Barykin et al., 2021; Iastremska et al., 2023; Koller et al., 2022)

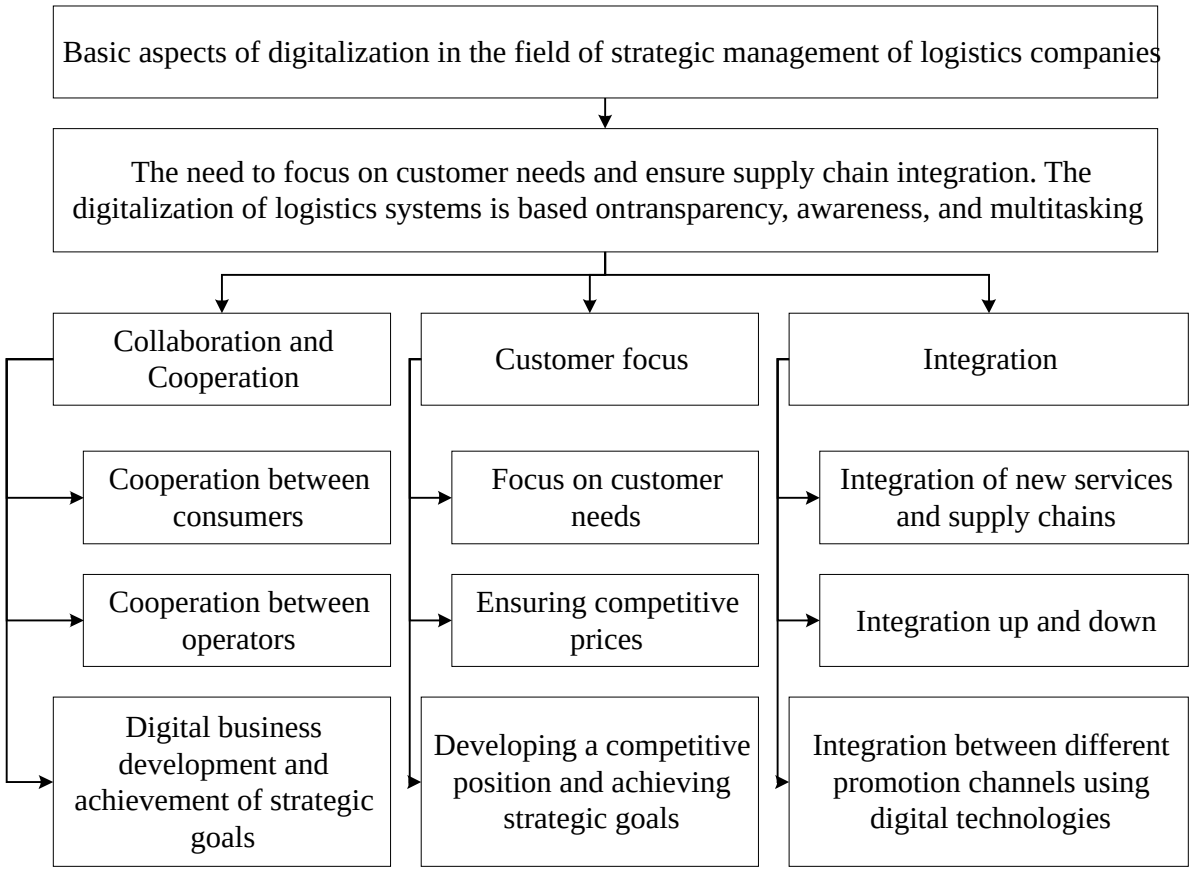
In today's logistics world, the growing popularity of the Mobility-as-a-Service (MaaS) business model is an expression of active digitalisation (Khalid, 2023; Miloradova, 2023), which provides a comprehensive service that combines a direct connection to transport system services, the possibility of early planning and forecasting of travel conditions and transfers in real-time. For the practical implementation of MaaS, two main models of organising logistics processes are proposed:

1. Pooling is an organisation of logistics processes in which industry participants use online platforms to access information aggregated in one place to share logistics capacities and resources more efficiently (Jiang, 2020; Pan et al., 2022; Sapiński, 2022). Experts point to legal subtleties that can become a complication for the successful functioning of the pooling model. For example, if one out of 10 cargoes is damaged during transportation, it is necessary to clearly define the action plan for drivers and the freight forwarder. It should be determined how the consignment and its individual components will be accepted.

2. 5PL (Fifth Party Logistics Model) is an approach to the provision of logistics services in which providers form an ecosystem to provide a full package of transport and logistics services based on platform solutions without having physical facilities (Pererva et al., 2021; Ponomarenko, 2022; Sofilkanych et al., 2023). This is a very promising model, experts say, but its implementation is very difficult, because technology plays a supporting role here, and the main one is the competent construction of a business process. In fact, the strategic advantage of this model is that the manufacturer does not need to develop and build its own logistics system; these functions can be performed by an outsourcing company, but it will take into account all the specifics of the transportation of each particular product.

Fig. 2 shows the concept of digitalisation in the strategic management of logistics companies and the logistics of manufacturing companies.

Figure 2. The concept of digitalisation in the strategic management of logistics companies and manufacturing companies' logistics



Source: Compiled by the author based on (Rezvorovych, 2023; Sayed, 2023; Shkarlet et al., 2020)

With the advent of digitalisation in the logistics sector, there is a shift in logistics interactions from the principle of commercial benefit for an individual participant to networking, partnerships in various forms to achieve a cumulative effect and to achieve the goals of increasing the value of end users.

At the same time, e-commerce, with its competitive advantages in terms of reliability, security, and speed of order fulfilment, is also changing the logistics market (Rudenko & Kharkov, 2023): in fact, integrated logistics products - time and door-to-door delivery - are offered by express delivery services, which means the integration of intermodal services. This gives grounds to expect a merger of the express delivery and air cargo markets in the future, with producers themselves strategically focusing on production processes, while goods are delivered by separate logistics systems.

One of the less obvious trends in the digitalisation of logistics is the use of artificial intelligence and machine learning to forecast freight demand and optimise delivery routes. Thanks to a more detailed demand forecast, logistics companies can timely allocate free rolling stock or transport to the right regions, thereby avoiding shortages or unnecessary downtime in a particular entity. This is especially important in the context of complex global supply chains. In addition, neural networks can help build or optimise logistics routes, monitor the condition of the vehicle fleet, and predict fuel consumption. Moreover,

there are already a number of logistics companies on the market that employ robot declarants responsible for preparing declarations for customs (Rakhimov, 2023). In this case, employees only have to double-check the data entered by the robot.

Another equally important trend in the transport industry is the development of blockchain technologies that allow for transparency and security of interaction between participants in the logistics chain. According to a Deloitte study, 59% of surveyed companies perceive this innovation as revolutionary, capable of transforming the company's economy and business processes (Sydorenko, 2023). It is the introduction of blockchain technologies that allows logistics operators to significantly increase the level of data storage reliability and transparency of access to data, which has become especially relevant with the increase in cybercrime. The ability of an immutable electronic ledger to store all information about customers, goods, and customers without the ability to change or delete records from it is very different from previous systems and makes it much easier to resolve any disagreements between counterparties.

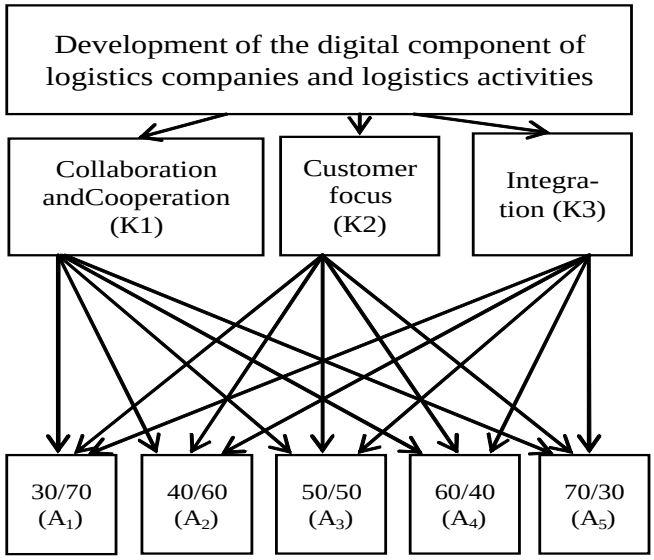
It is also important to note IoT sensors, which are another important digitalisation trend (Viu-Roig & Alvarez-Palau, 2020). Today, they can be used in a wide range of ways to improve quality and customer service, from tracking the location of goods in real-time to monitoring temperature and storage conditions.

A separate area of digitalisation of enterprise logistics is the use of an electronic document management system, which has become a new trend in recent years (Zaloznova&Trushkina, 2019; Tkach et al., 2019; Volodymyrovych et al., 2021). Electronic document flow can significantly reduce the costs of market participants and provides more transparent control over the execution of bets. However, this is not the only advantage of digital file exchange. Electronic document flow is several times faster than paper, which speeds up logistics processes, among other things. In addition, the use of this format of interaction with customers and partners allows the transport company to reduce the risk associated with the loss or incorrect transfer of documents.

However, while there are significant positive results from the introduction of digitalisation in the logistics sector, it is also worth focusing on the challenges that digitalisation in the logistics sector poses.

To prioritise the areas of digital technologies implementation in the process of ensuring logistics development, it is advisable to apply the hierarchy analysis method - the ThomasSaaty method. This method allows you to structure a complex decision-making problem in a hierarchy in a clear and rational way, compare and quantify alternative solutions. The hierarchy of determining the optimal directions of digitalisation of the logistics sector is shown in Fig. 3.

Fig. 3. Hierarchy of decomposition of the task of choosing directions of digitalisation of the logistics sector



As alternatives, we propose options for using digital technologies in parallel with the existing

ones in the first year, for example, 30/70 means that in the first year of innovation, only 30% of all decisions in the logistics sector will be made using digital technologies, and 70% will be made using standard tools familiar to the company. The calculation of priority vectors for criteria and alternatives involves filling in the matrices of pairwise comparisons, calculating the components of the eigen vector of matrices, the normalised vector of matrices, the consistency index and the consistency ratio using the formulas (1-5).

$$W_i = (a_{i1} \cdot a_{i2} \cdot a_{i3} \dots a_{in})^{\frac{1}{n}}; \quad (1)$$

$$W_{норм} = W_i / \sum_{i=1}^{n} W_i \quad (2)$$

$$\lambda^*_{max} = \sum_{j=1}^{n} a_{ij} \cdot W_{нормj} \lambda_{max} = \sum_{i=1}^{n} \left(\sum_{i=1}^{n} E_{ij} \cdot W_i\right); \quad (3)$$

$$I_c = \frac{\lambda^*_{max} - n}{n-1} \leq 0{,}2; \quad (4)$$

$$OC = I_c / I_{cc} \quad (5)$$

where W – is the component of the eigen vector of the matrix;

$W_{норм}$ – normalised vector of the pairwise comparison matrix;

λ_{max} – maximum eigen value of the matrix;

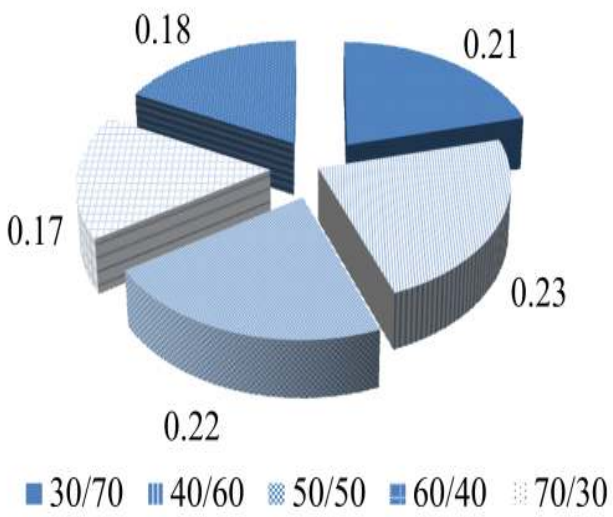
I_c – consistency index;

I_{cc} – average value of the consistency index;

OC – consistency ratio.

After making calculations and constructing matrices, we can obtain the value of the global priority of alternatives for choosing directions of digitalisation of the logistics sector - Fig. 4.

Figure 4: Value of the global of alternatives for choosing directions of digitalisation of the logistics sector



The calculations show that the options"40/60", "50/50" and "60/40"have the highest priorities, since these alternatives have the highest global priority values (0.23, 0.22 and 0.21, respectively). Accordingly, the application of the hierarchy analysis method proves that for optimal management decision-making in the field of logistics, it is worthwhile to solve 40 to 60 % of important issues with the help of innovative digital technologies in the first year of active digitalisation.

The global digitalisation of the industry in the next 3-5 years will lead to a more efficient and transparent supply chain, faster delivery of goods, and lower logistics costs. The active use of new technologies in the market, such as autonomous vehicles for cargo delivery, is equally likely. However, with the development of digital technologies, new threats, such as cyber-attacks and data leaks, may emerge, requiring additional security measures in the supply chain.

An equally important problem that the market is already facing is the lack of qualified personnel capable of working with new technologies. Also, due to the rapid development of technology, specialists should actively improve their qualifications and develop their skills.

The incompatibility of different systems and applications is another challenge that domestic businesses have to address in the context of strategic digital development. In the current situation, software incompatibility makes it difficult to integrate digital technologies into logistics processes. Differences in the management systems used in different countries also hinder accelerated digitalisation and international integration of IT technologies.

Creating standards and regulatory frameworks for interaction between supply chain participants, taking measures to develop IT infrastructure, and improving staff skills will help overcome the existing market difficulties. Supporting innovative projects and promoting the development of digital technologies for the logistics sector will help to effectively manage the delivery of goods with minimal costs.

In conclusion, it is worth paying attention to the controversial issues related to the digitalisation of logistics.

In general, the digitalisation of logistics is a matter of company competitiveness (Jiang, 2020). However, business owners should be aware that the task of fully providing consumers with logistics services entails the transformation of logistics into a new model of supply chain management based on intelligent digital technologies. This is where the newest concept of logistics system management emerges, and accordingly, in today's environment, the competitiveness of enterprises will largely be determined by the availability of intelligent systems, as the logistics component of production costs in modern conditions is quite significant (Gutsul& Karelin, 2022).

Digital technologies can be used in any area of logistics, from procurement to storage (Rudenko & Kharkov, 2023). However, it is also worth considering that the digitalisation of the logistics sector includes not only the information field of systems that can ensure the movement of material flow but also the systems of goods circulation, industrial processes, management of all major processes of transport enterprises in the organisation of all types of transportation, as well as in ensuring the rapid transportation of goods.

When applying modern digital technologies in the field of maritime logistics, the following should be taken into account the specifics of the cargo flow and the market served, including the nature of the cargo transported, the size of cargo consignments, possible restrictions on the terms of transportation, the need for additional cargo handling, consolidation or disaggregation of cargo consignments, as well as the need for processing of goods; the need to coordinate logistics processes with navigation processes and to set aside significant periods of time as a reserve for cargo delivery; requirements for the digitalization of the vessels involved in the cargo delivery process; the composition of integrated external information systems depending on the specifics of integration into digital ecosystems of international supply chains, methods and formats of information integration.

Conclusion

The study found that digital transformation in logistics is a practical approach to implementing digitalisation at all levels of a company's business processes: from optimising the logistics of physical flows and optimising data exchange to customer service and much more. However, when the industry undergoes any profound changes, such as digital transformation, it experiences them on several levels, from strategic management to small business processes.

In general, process automation is the first stage of digitalisation that starts with individual companies when they try to improve their internal processes, including analytics, transport, and accounting, using digital technologies.

The transformation of business models occurs when a company gains sufficient experience in implementing digital technologies. At this level, the use of new models begins to bring more value to the business and its customers than the old models.

Domain transformation involves the use of technology to give a new look to the products and services offered. This often involves companies from different industries working together to develop a new product.

In today's environment, most companies in the logistics sector are in the first two stages of digital process transformation and business model improvement. To effectively move through these stages, companies should leverage a wide range of technological advancements that will help them improve their operations. These technologies include cloud-based systems for inventory management, cargo tracking, autonomous vehicles, blockchain to increase data privacy and transparency, predictive analytics for demand forecasting, and more.

Therefore, digital transformation is a continuous, long-term process. Although it is currently rather slow in logistics, companies from other industries will eventually influence logistics companies in their journey towards digital transformation, pushing them to make faster changes.

For those companies that want to maintain their competitive edge in the market, it is only natural to think about the next steps in their digital transformation. Therefore, they should think in advance about how to

modernise their existing digital infrastructure and where to find specialists to help them make these changes easier and more thoughtful.

References

- Akighir, D. T., &Atswam, M. T. (2023). Remittances, exchange rate and exports in Nigeria: Investigating the foreign exchange channel for future optimization. *Futurity Economics & Law, 3*(3), 139–159. https://doi.org/10.57125/FEL.2023.09.25.08
- Baraja, H., & Chaniago, H. (2023). Investigation of business capital and product innovation in culinary business development: Evidence from a densely populated city. *Futurity Economics & Law, 3*(3), 96–113. https://doi.org/10.57125/FEL.2023.09.25.06
- Barykin, S. Y., Bochkarev, A. A., Dobronravin, E., & Sergeev, S. M. (2021). The place and role of the digital twin in supply chain management. *Academy of Strategic Management Journal, 20*, 1-19. Retrieved from https://genobium.com/32062764.pdf
- Chovhaniuk, O., Bashkirova, L., Meleha, K., &Yakymenko, V. (2023). Study of the state of health in the conditions of constant numerous transitional and intermediate stages. *Futurity Medicine, 2*(2), 26–34. https://doi.org/10.57125/FEM.2023.06.30.03
- Cichosz, M., Wallenburg, C. M., &Knemeyer, A. M. (2020). Digital transformation at logistics service providers: Barriers, success factors, and leading practices. *The International Journal of Logistics Management, 31*(2), 209-238. https://doi.org/10.1108/IJLM-08-2019-0229
- Garud, R., Kumaraswamy, A., Roberts, A., & Xu, L. (2022). Liminal movement by digital platform-based sharing economy ventures: The case of Uber Technologies. *Strategic Management Journal, 43*(3), 447-475. https://doi.org/10.1002/smj.3148
- Gutsul, T., & Karelin, S. (2022). Vegetable production in Ukraine in conditions of economic instability: Forecast and future prospects. *Futurity Economics & Law, 2*(4), 52–60. https://doi.org/10.57125/FEL.2022.12.25.07
- Iastremska, O., Tryfonova, O., Mantaliuk, O., & Baranets, H. (2023). The impact of strategic decisions on the future development of organisations and economic dynamics. *Futurity Economics & Law, 3*(4), 117–134. https://doi.org/10.57125/ FEL.2023.12.25.08
- Jiang, X. (2020). Digital economy in the post-pandemic era. *Journal of Chinese Economic and Business Studies, 18*(4), 333–339. https://doi.org/10.1080/14765284.2020.1855066
- Khalid, N. (2023). The role of artificial intelligence in the management of lung cancer: A narrative review. *Futurity Medicine, 2*(1), 36–46. https://doi.org/10.57125/FEM.2023.03.30.04
- Koller, Y., Holota, N., Yastrubetskyi, V., Saienko, V., & Bulgakova, I. (2022). Transport and logistics security: Implementation of EU and US rights. *AD ALTA: Journal of Interdisciplinary Research, Special Issue 12/02-XXXI*, 52-57.
- Li, Y., Lim, M. K., Tan, Y., Lee, Y., & Tseng, M. L. (2020). Sharing economy to improve routing for urban logistics distribution using electric vehicles. *Resources, Conservation and Recycling, 153*, 104585. https://doi.org/10.1016/j.resconrec.2019.104585
- Marshalok, M., Melnyk, A., Vasiuta, V., Yatsenko, V., &Saienko, V. (2021). Competitive advantages of small business. *AD ALTA: Journal of Interdisciplinary Research, 11/02-XXII*, 60-65.
- Miloradova, N. (2023). Current assessment methods of investigator's psychological readiness for professional activities: Improvement perspectives. *Futurity of Social Sciences, 1*(2), 45–58. https://doi.org/10.57125/FS.2023.06.20.04
- Orhani, S. (2023). Philosophy of e-learning vs m-learning. *Futurity Philosophy, 2*(4), 4–23. https://doi.org/10.57125/FP.2023.12.30.01
- Pan, W., Xie, T., Wang, Z., & Ma, L. (2022). Digital economy: An innovation driver for total factor productivity. *Journal of Business Research, 139*, 303-311. https://doi.org/10.1016/j.jbusres.2021.09.061
- Pererva, P., Kuchynskyi, V., Kobielieva, T., Kosenko, A., & Maslak, O. (2021). Economic substantiation of outsourcing the information technologies and logistic

services in the intellectual and innovative activities of an enterprise. *Eastern-European Journal of Enterprise Technologies, 4*(13), 112. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3920466

- PitchBook Data. (2023). Researching the capital markets is hard, PitchBook makes it easy. Retrieved from https://pitchbook.com/research-process
- Ponomarenko, T. (2022). The impact of the war in Ukraine in 2022 on the retail market and suppliers of fast moving consumer goods: A forecast of the future. *Futurity Economics & Law, 2*(4), 42–52. https://doi.org/10.57125/FEL.2022.12.25.06
- Rakhimov, T. (2023). Research on moral issues related to the use of artificial intelligence in modern society. *Futurity Philosophy, 2*(2), 30–43.
- Rezvorovych, K. (2023). International norms and their role in the gender vector of Ukraine in the post-war period: Analysis of social, economic, and political aspects. *Philosophy, Economics and Law Review, 3*(2), 137–146. Retrieved from https://phelr.dduvs.in.ua/wp-content/uploads/files/3_2/PhELR_3_2-137-146.pdf
- Rudenko, O., & Kharkov, S. (2023). Philosophical studies of the future in the context of postmodern knowledge: Theory, methodology. *Futurity Philosophy, 2*(3), 4–16. https://doi.org/10.57125/FP.2023.09.30.01
- Sapiński, A. (2022). Analysis of the role of international organizations in the process of regulating the rights of the fourth generation: The main directions, the challenges of the time. *Futurity Economics & Law, 2*(2), 14–22. https://doi.org/10.57125/FEL.2022.06.25.02
- Sayed, R. (2023). Exploring cultural influences on project management approaches in global business development. *Futurity of Social Sciences, 1*(4), 38–60. https://doi.org/10.57125/FS.2023.12.20.02
- Shkarlet, S., Dubyna, M., Shtyrkhun, K., & Verbivska, L. (2020). Transformation of the paradigm of the economic entities development in digital economy. *WSEAS Transactions on Environment and Development, 16*(8), 413-422. Retrieved from https://wseas.com/journals/ead/2020/a825115-032.pdf
- Sofilkanych, N., Vesova, O., Kaminskyy, V., &Kryvosheieva, A. (2023). The impact of artificial intelligence on Ukrainian medicine: Benefits and challenges for the future. *Futurity Medicine, 2*(4), 28–39. https://doi.org/10.57125/FEM.2023.12.30.04
- Sydorenko, T. (2023). Critical evaluation of modern strategies and methods of formation of communicative competency in the system of continuing education of document managers. *Futurity of Social Sciences, 1*(4), 75–102. https://doi.org/10.57125/FS.2023.12.20.04
- Tkach, A., Radieva, M., & Kolomiiets, V. (2019). Institutional models of the new economy development. *RevistaEspacios, 40*(22), 29. https://www.revistaespacios.com/a19v40n22/a19v40n22p29.pdf
- Tsekhmister, Y. V., Goncharuk, N. P., Datsiuk, N. O., Tsekhmister, B. Y., & Lysenko, O. Y. (2021). Knowledge management system in pharmaceutical healthcare sector: A conceptual research. *Journal of Pharmaceutical Research International, 33*(44B), 290–297. https://doi.org/10.9734/jpri/2021/v33i44b32679
- Tsekhmister, Y., Konovalova, T., & Tsekhmister, B. (2021). Social Management in Pharmaceutical Healthcare Sector. *Journal of Pharmaceutical Research International*, 203–211. https://doi.org/10.9734/jpri/2021/v33i39b32196
- Viu-Roig, M., & Alvarez-Palau, E. J. (2020). The impact of E-Commerce-related last-mile logistics on cities: A systematic literature review. *Sustainability, 12*(16), 6492. https://doi.org/10.3390/su12166492
- Zaloznova, Y., &Trushkina, N. (2019). Management of logistic activities as a mechanism for providing sustainable development of enterprises in the digital economy. *Virtual Economics, 2*(1), 64–81. Retrieved from https://www.ceeol.com/search/article-detail?id=896276