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STRATEGIC MANAGEMENT OF SUSTAINABLE ECONOMIC DEVELOPMENT IN TRANSPORT AND LOGISTICS SECTOR COMPANIES

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Introduction. The impact of the economic crisis caused by the COVID-19 pandemic and military actions make the issue of business viability in Ukraine relevant. Modern reality requires new management approaches based on sustainable development strategies. Crisis phenomena have seriously affected local and global logistics, disrupted supply chains, and caused changes in the transport and logistics sectors. The slow development of transport technologies and intermodal transport has reduced Ukraine's potential and negatively affected its competitiveness. Therefore, effective strategic management for the sustainable economic development of transport enterprises is vital for overall economic development.

Aim and tasks. This study aims to analyse and formulate strategies for the sustainable economic development of transport enterprises, including challenges and innovative solutions, such as digitalisation and the development of smart transport systems.

Results. Current trends in the development of domestic and international freight transportation, along with the restoration of capacity in Ukraine, confirm the prospects of the industry and its promising prospects even in wartime. The analysis of the operating profitability of Ukrainian transport companies in 2018-2022 showed a negative value (-1.6%), indicating losses in the industry. However, in 2019-2021, there was steady growth, and in 2021, profitability increased to 5.8%. However, according to 2023 calculations, Ukraine has the lowest logistics performance index among neighbouring countries (2.70), indicating severe problems in logistics management and international competitiveness. Because the development of digital technologies in the transport sector creates conditions for their direct use in all sectors of the economy, it is only possible to formulate strategic development directions by considering the need to develop digital transport tools. The main trends in the transport sector have proposed a methodology for forming and implementing a sustainable economic development strategy for transportation companies.

Conclusions. The concept of strategic preparation and management of sustainable economic development is the most common practical application of the theoretical foundations of regional companies and fulfils the monitored part of their transport policy. Strategic models focused on adapting to modern challenges have been proposed to ensure the development of transport and logistics companies. Transport companies operate under constant changes in business environments that require flexibility and a mandatory management approach.

Keywords: logistics, transport companies, strategies, sustainable development, transport market.

1. Introduction.

The development of Ukraine's economy poses a severe threat to the sustainable development of enterprises. To mitigate these threats, it is necessary to create internal mechanisms to manage the potential of enterprises under market needs and the long-term strategic goals of social and environmental development. Transport companies need to develop mechanisms for rapid adaptation to ensure the efficient delivery of critical cargo, respond to changes in routes, customers, and suppliers, and improve transport management systems.

This requires a review and adjustment of the strategic objectives of transport companies and the development of new approaches to the formation of mechanisms for the strategic management of sustainable economic development. Modern infrastructure, fair market competition, development and coordination between different modes of transport, and the implementation of an effective management system are the basis for building a sustainable development strategy.

Implementing an effective governance mechanism for transportation companies is an effective formulation of a sustainable economic development strategy (Penev et al., 2024). Given this, the scientific demonstration of a modern approach to building a strategy for the sustainable economic development of transport enterprises is of particular importance.

This goal involves studying the mechanisms of strategic management of sustainable economic growth for transport enterprises based on identifying factors influencing logistics processes and applying environmental logistics solutions.

2. Literature review.

The strategic management of the sustainable development of transport enterprises has been thoroughly studied by Shkarupa et al. (2021) and Klimecka-Tatar et al. (2021). However, when implementing a strategy for the sustainable economic development of a transport enterprise, there are many approaches to highlighting the economic aspects of the concept and the main trends in forming a sustainable development strategy.

Nehring et al. (2023) and Kłodawski et al. (2024) considered certain aspects of vehicle routing in the context of heterogeneous demand for different goods from suppliers. The main focus is on the problem of transporting a certain group of goods using one vehicle. The structures and characteristics of freight transport systems, warehouses, suppliers, and vehicles were also determined. The authors developed an economic strategy for optimising vehicle routes to minimise transport costs.

Jacyna-Gołda et al. (2024) present the optimisation of logistics networks to minimise the costs of territory maintenance. Haas and Sander (2020) and Nicolaidou et al. (2024) studied EU transport policies and identified the negative environmental impacts of transportation. One of the priorities in this area is the development of zero-emission transport systems for urban public transport in agglomerations and their use in urban transport systems (Plötz et al., 2021; Klimecka-Tatar et al., 2021).

Xiaofang and Guoli (2011) reviewed the stages and changes in EU transport policy based on an institutional analysis to remove barriers to cross-border transport, create a trans-European network to create a single market and promote sustainable transport development. Integration into the EU demands changes in transport policy, and relevant political rules and EU institutional arrangements determine the process of transport policy change (Nikolaidou et al., 2024).

Tong and Wang (2020) considered the organisation of air transport as part of the problem of supply chain optimisation at the national and international levels. The study presents an approach to optimise cargo routes, including central and regional airports. Some aspects of sustainable economic development strategies of transport enterprises have been covered in the above publications, but no comprehensive studies have been conducted. More attention should be paid to sustainable economic development strategies.

Therefore, it is necessary to conduct an in-depth study of the identified problems, considering the current economic situation and identifying areas for improving the efficiency of transport enterprises.

3. Theoretical framework.

The study of the sustainable economic development of industrial enterprises in Ukraine is based on a systematic approach that includes the analysis of relevant statistical data and the study of theoretical concepts of sustainable development and environmental logistics. The methodology consists of a comparative analysis of logistics efficiency indices in Ukraine and neighbouring countries, an assessment of the financial performance of transport companies, and an analysis of practices for implementing environmentally friendly technologies. This allows formulating recommendations for optimising management decisions under martial law and changes in logistics routes.

The study is based on comparative economic and content analysis to assess the logistics efficiency index to determine sustainable development and green logistics. This includes modelling strategies for the management of transport enterprises and the introduction of digital technologies aimed at supporting sustainable development. The applied analysis of strategic management goals is focused on a supplier rating system for developing digital transport and logistics, which ensures flexibility and speed of response to changing market conditions.

4. Results.

The sustainable economic development of transport enterprises is associated with their strategic potential to increase competitiveness and ensure the economic security of the transport industry (Filipishina et al., 2023). In recent years, the transport industry in Ukraine has experienced significant social disruption and economic impact owing to the destruction of some transport infrastructure, which has worsened the quality and congestion of some transport routes and made the sea transport of most goods impossible.

The EU and Ukraine's other trading partners decided to improve and liberalise the transport of Ukrainian products through the EU, which enabled the resumption of the work of export credit agencies. In particular, dependence on domestic routes has increased after the hostilities outbreak in Ukraine's territories. This process has been particularly active in the international transport sector, where transport companies have to change their supply chains and often use different modes of transport. The volume of cargo transported by all modes of transport, except pipelines, showed positive dynamics (Figure 1). This is due to the global trend of increasing product consumption and the digitalisation of transport processes.

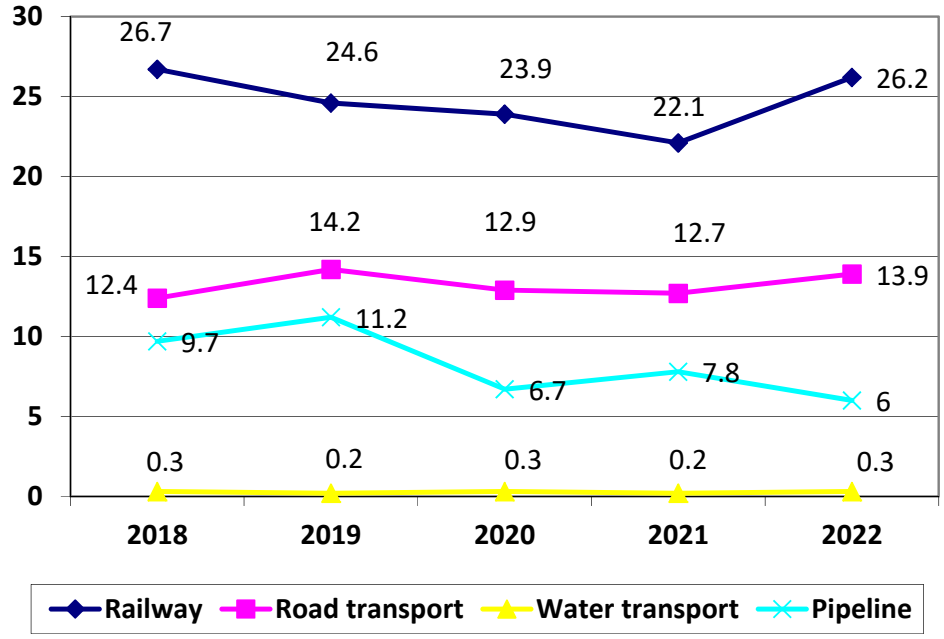

Fig. 1. Volumes of freight transported by mode of transport in 2018-2022, million tonnes.
Source: based on State Statistics Service of Ukraine (2023).

Currently, transport companies face the challenge of responding quickly to logistical problems and developing an effective strategy for developing a logistics network under martial law, mainly to improve cargo transportation safety abroad, increase exports, and stimulate economic recovery.

Comparing the logistics performance index of Ukraine with that of neighbouring countries, it is observed that in 2023, Ukraine's index is the lowest and is 2.70 (World Bank Group, 2023), which means that our country lags significantly behind Poland, Slovakia, and Romania (Figure 2).

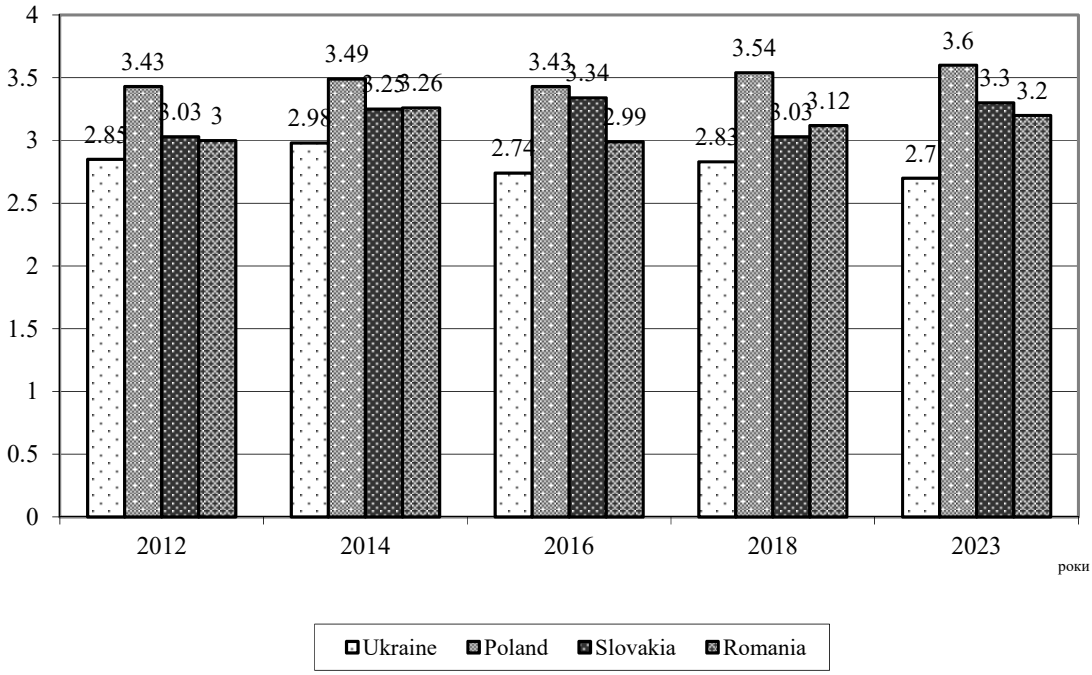

Fig. 2. Dynamics of the logistics efficiency index of Ukraine and neighbouring countries in 2012-2023.

Source: based on World Bank Group (2023).

The data presented in Figure 2 show that the logistics efficiency index in Poland, Slovakia, and Romania tends to grow steadily. The current situation encourages transport companies to focus on promoting and implementing technologies in business process management based on sustainable development strategies. Sustainable development is a business management concept aimed at enhancing enterprises' economic potential and impact on social development while ensuring environmental protection technologies.

In the sustainable development of the transport industry, reducing nonproduction costs, improving transport efficiency, and meeting customer requirements can be achieved by introducing and using modern technologies that support modern transport processes, especially by developing logistics principles. Transport companies' activities are characterised by annual cost growth, a decrease in profitable companies, and income instability (Table 1), which negatively affect profitability, as shown in Table 2.

Table 1. Financial performance of transport companies in Ukraine for 2018-2022.

Indicators	2018	2019	2020	2021	2022
Profit/loss before tax, mln.UAH	-22661,6	14414,8	17013,3	31246,8	-23035,5
Profit/loss, mln. UAH	-24265,4	8421,8	9054,8	22817,6	-26352,5

Source: based on State Statistics Service of Ukraine (2023).

Table 2. Operating profitability of transport companies in Ukraine in 2018-2022.

Indicators	2018	2019	2020	2021	2022
Profitability of operating activities of enterprises, %	-1,6	4,1	4,4	5,8	2,7
Profitability of all activities of enterprises, %	-4,3	1,4	1,6	3,7	-4,2

Source: based on the State Statistics Service of Ukraine (2023).

As shown in Tables 1 and 2, profits from the business activities of road transport companies are rapidly declining owing to rising service costs, reduced service volumes, and inefficient government regulation of the transportation market. Continuous investment in environmental issues requires state guarantees of environmental protection expenditures, implementation of regional preventive measures with high environmental risk, and support for business entities that implement innovations (Horoshkova et al., 2020). The need to reduce the negative environmental impact is also a driving force in the search for new creative solutions in the transport sector.

According to the plan, upgrading Ukraine's truck fleet to international environmental standards will also halve harmful air emissions and reduce carbon dioxide emissions by approximately 28% (Table 3). Businesses understand the need to act environmentally and use resources efficiently to support their operations (Stupnytskyi et al., 2023). Green logistics is a tool for implementing the concept of sustainable development. The link between the concepts of green logistics and sustainable development is reflected in the different types of green logistics practices (green warehousing, transport, packaging, and environmental management).

Table 3. Projected impact of upgrading Ukraine's heavy truck fleet to meet 2030 environmental standards.

Indicators	Cumulative values
Gross investment needs, bil.euro	-5,9
Salvage value of the obsolete fleet, bil.euro	+0,4
Reduction in fuel costs, bil.euro	+2,4
Net financing implications, bil.euro	-3,1
Overall reduction in carbon monoxide emissions	-61,0
Overall reduction in carbon dioxide emissions	-28,0
Overall reduction in hydrocarbon emissions	-53,0
Overall reduction in nitrogen oxide emissions	-53,0
Total reduction in particulate matter emissions	-74,0

Source: based on the Ministry of Infrastructure of Ukraine (2018).

Thus, sustainable transport development is a managed development based on a systematic approach and the latest information technologies that allow for a high degree of accuracy in predicting results and in choosing the most optimal direction of development. The main areas of development of transport enterprises in the context of the transport sector are as follows: accessibility and quality of transport services for society; ensuring the provision of competitive and high-quality transport services to economic sectors; improving energy efficiency, environmental friendliness of transport processes, and safety of passenger and freight transportation; active integration into the EU and ensuring the export of transport services; and improving the efficiency of national and regional regulation. Therefore, the most important task is to support the transport infrastructure and create conditions for the reorientation of logistics to export grain and import petroleum products. (Vienažindienė et al., 2021).

From a strategic perspective, the critical threats affecting the economic development of transport enterprises are ensuring the proper condition and sustainability of infrastructure, creating effective tools to ensure compliance with the infrastructure decisions of EU Member States, and aligning the goals and priorities of SMART transport with available resources.

This made it possible to develop a technology for the formation and implementation of a strategy for the sustainable economic development of a transport enterprise, which aims to achieve better communication and transport for the use of "smart" mobility services, as well as promote environmentally clean and sustainable mobility (Fig. 3).

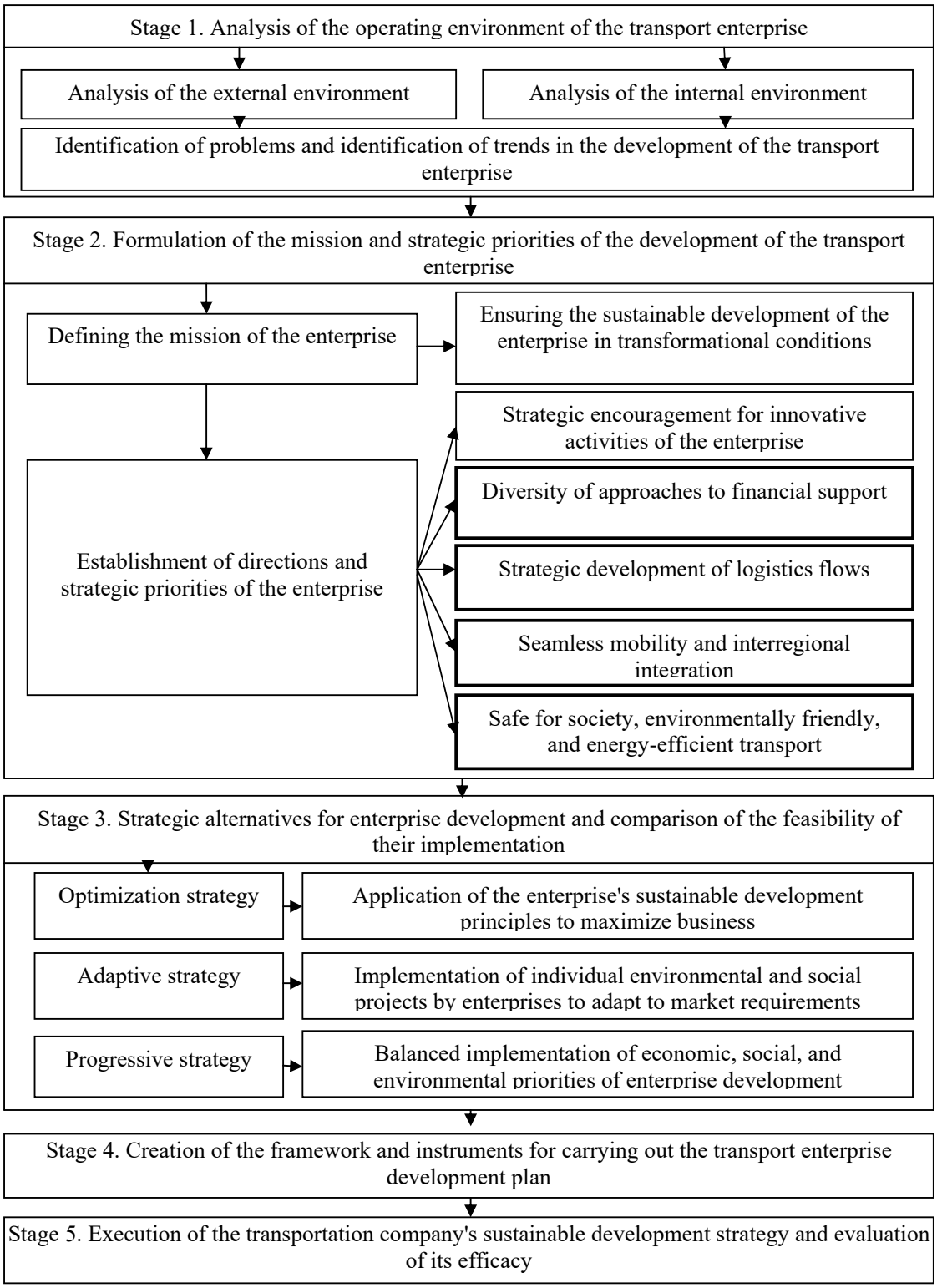

Fig. 3. Stages of the strategy of sustainable economic development of a transport enterprise.
Source: adapted from Dykan, V., & Kuznetsov, V. (2023), Kyrylenko et al. (2023).

Therefore, the main principles of strategic management of transport enterprises are the conscious and justified choice of development goals and strategies; the search for new forms, measures, and technologies to increase the competitiveness of the enterprise; the creation of a flexible organisational structure; the search for optimal conditions for adaptation to the external environment; development of a strategy that takes into account the unique capabilities of the enterprise; and a clear distinction between strategic and operational issues in enterprise management.

Creating a flexible organisational structure can optimise conditions for transport enterprises, considering the enterprise's economic, social, and environmental components. From a strategic perspective, this approach can create a stable basis for the competitive development of transport companies in an integrated European economy. To continue building management mechanisms to serve the economic development strategies of transport enterprises, it is necessary to define goals related to the three aspects of sustainable development (Table 5).

Table 5. Strategic goals of managing the sustainable development of transport enterprises.

Strategic Sustainable Development Goals	Technologies
Implementation of digital technologies	Digital Tools: big data, supplier rating systems, electronic carrier office, electronic air waybills, blockchain, machine learning, cloud logistics, IoT logistics, etc.
Introduction of smart transport technologies	The use of smart technologies in the field of process automation using robot - programs (RPA); building smart cities and automating car driving
Focus on optimisation of all types of operating costs	Organisation of a high-quality system of planning, accounting, finding reserves, and ensuring optimal structures
Implementation and development of marketing tools	Development of marketing tools based on new technologies, especially "smart" ones, using digital, information, and artificial intelligence, neuro-linguistic programming, social networks, and the Internet
Formation of a positive image	Development of trust
Delivery of goods thanks to door-to-door service and timely delivery	Creation of a 3PL operator to provide logistics services. Development of future logistics operators 4PL (fourth logistics) and 5PL (fifth logistics).
Expansion and creation of international markets and international transport networks	Developing new markets and increasing traffic
Improvement of the system of collection, analysis, and use of information data	Use of information systems: CRM systems, ERP systems, EDMS systems, document management systems, EAM systems, etc.
Integration into the European transport space	Adaptation to the standards, strategies, policies and values of the European Union; assimilation of the European legal framework; constant monitoring of the European transport space; finding partners and building business relationships; participation in European projects and programs

Digitalisation technology helps track all vehicles, greatly facilitating traffic flow and improving road safety. The current challenge is to deploy hybrid systems using alternative logistics services to ensure that deliveries meet customers' expectations. Predictive logistics based on big data analysis is also gaining attention.

The main trends in the transport industry shortly include integration and seamless support, which allows a significantly increased level of mobility in the service (MaaS) and artificial intelligence and addresses delivery of retailers of other goods by drones. The main tasks of the logistics development strategy are illustrated in Fig. 4.

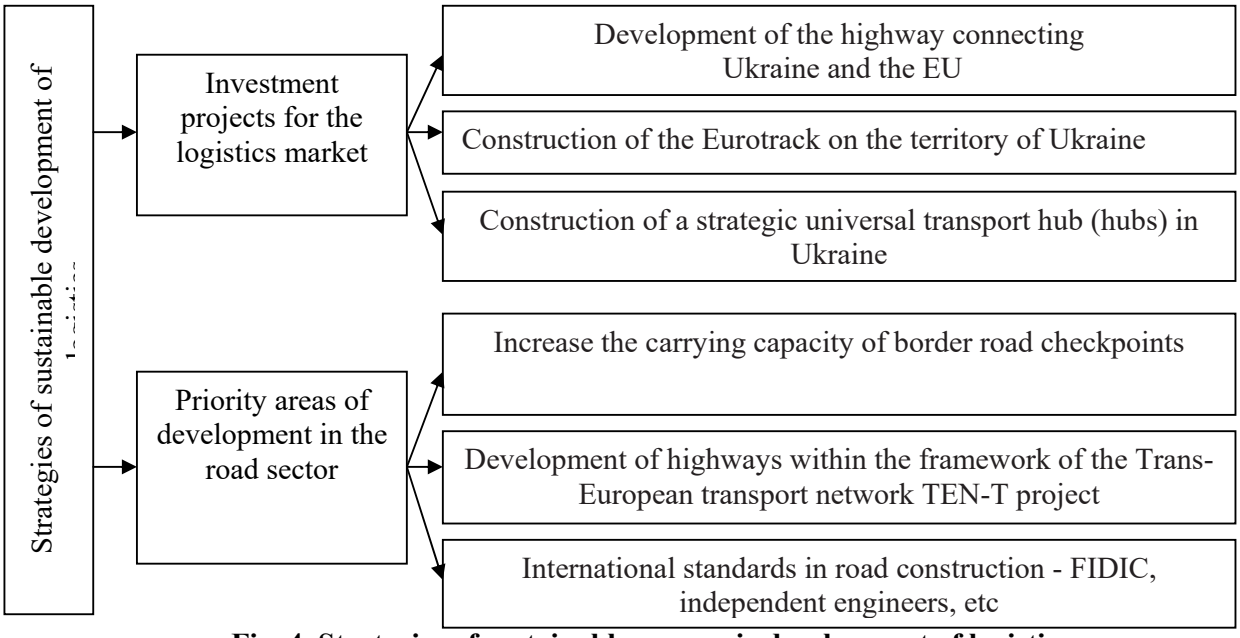

Fig. 4. Strategies of sustainable economic development of logistics.

Source: based on Haski (2024) and Stfalcon LLC (2024).

The speed of restoration of the transport infrastructure largely determines the speed of recovery of the Ukrainian economy. Therefore, when forming a strategic mechanism for managing the development of transport enterprises, it is necessary to focus on growth strategies in which the modernisation of infrastructure takes place simultaneously with the implementation of some measures for the state's socio-economic development.

5. Conclusions.

The study shows that logistics development in Ukraine requires compliance with European Union standards. The analysis of the logistics performance index of Ukraine since 20212 has been consistently lower than that of its EU neighbours and in 2023, Ukraine's score was 2.7 compared to 3.6 in Poland, 3.3 in Slovakia and 3.2 in Romania. This gap clearly highlights the need for an effective strategy for the development of Ukraine's transport and logistics system. The Ukrainian transport industry can adopt several strategies for sustainable economic development under favourable conditions. The post-war reconstruction of the transport sector in Ukraine is based on promoting the efficient use of transport and inclusive sustainability development strategies aimed at improving the use of cars and ensuring sustainable mobility.

The development of logistics and export centres will help increase exports. With increasing costs for transport companies, it is necessary to implement new methods and strategies to improve efficiency and mobility.

The analysis of Ukraine's transport industry highlights significant potential even in wartime conditions, the need to eliminate logistical problems and increase competitiveness through digitalisation, which made it possible to formulate an approach for the strategic sustainable development of transport companies. When developing strategic directions, it is necessary to consider the achievement of positive industry results, as the transport industry has a high degree of interdependence.

The implementation of strategic directions under the national strategy will contribute to the creation of a single transport space, and the regional and international integration of businesses into the national transport system will ensure an increase in the efficiency and quality of transport services and increase exports and the utilisation level of national transport potential. Strategies for the sustainable economic development of transport enterprises should be based on the study of the components of sustainable development (marketing, financial, production, organisational, personnel, and digital) and the problems of each component.

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