MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
KYIV NATIONAL ECONOMIC UNIVERSITY NAMED AFTER VADYM HETMAN

Faculty of International Economics and Management
Department of International Economics

BACHELOR`S DEGREE	**«INTERNATIONAL ECONOMICS»**
PROGRAM	
FIELD OF KNOWLEDGE	**05 Social and behavioural sciences**
SPECIALITY	**051 «Economy»**

Form of education full-time

BACHELOR THESIS

Title «Global market of transport and logistics services»

By Oleh Tsymbal
(Student`s name, Surname) (Signature)

Academic supervisor: Dr. of Economics, Professor
(Scientific degree, academic status)
Denys Ilnytskyy
(Signature) (Name, Surname)

Bachelor Thesis has been approved for defense at Attestation Examination Commission (EC)

Head of the Department: Doctor of Economics, Professor

Stoliarchuk Y.M.
(Signature)

KYIV 2024

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AGREED	**APPROVED**
Head of the project group (guarantor) of the educational-professional program	Head of the Department
_____ Y.Stoliarchuk	_____ Y.Stoliarchuk
(signature)	(signature)
_____ 2024	_____ 2024

INDIVIDUAL TASK

higher education applicant _____Oleh Tsymbal_____
(Name, Surname)

full-time form of education

Bachelor's Thesis

Title «Global market of transport and logistics services»

The title of the Bachelor's thesis has been approved by the Rector's Order «07» 12.2023 №2231

The Bachelor's Thesis is based on open Ukrainian and foreign sources of scientific knowledge and analytical information, monographs and articles, public reports of international organizations and national institutions in the field of international transport and logictics

Plan of Bachelor's Thesis and the terms of its submission to the Academic Supervisor

Chapter 1	Theoretical basis for research of global market of transport and logistics services.
Chapter 2	Development of global market of transport and logistics services.
Object of study:	Competitive development of the global economy's service sector markets.
Subject of study:	Factors, institutions, models, trends, strategies, challenges and opportunities for the development of the global transportation and logistics services market.
The purpose of the study:	Based on the generalization of the theoretical foundations of competitive development of markets in the global services sector and the study of factors, institutions, models, trends, strategies, challenges and opportunities for the development of the global market of transport and logistics services, to substantiate recommendations for more efficient use of its potential by domestic actors.

Specific tasks applicant has to accomplish to meet the objective:

In Chapter 1: To identify different theoretical perspectives and frameworks that contribute to understanding the development and functioning of service sector of the global economy; to identify the prerequisites and factors that influence the formation and development of the global transport and logistics services markets; to define various tools and methodologies used to evaluate the performance of global market of transport and logistics services;

In Chapter 2: To evaluate the key global trends in the development of global transport and logistics market; to assess the national and corporate strategies of development of global transport and logistics markets; to analyze peculiarities of development of global transport and logistics services markets on the sample of Southeast Asia market; to analyze challenges and prospects of Ukraine's effective participation in the global transport and logistics markets;

The task has been set Denys Ilnytskyy

by the Academic Supervisor _____ (Name, Surname)

(signature) 13.05.2024

The task was received by the Applicant Oleh Tsymbal

_____ (Name, Surname)

(signature) 13.05.2024

ABSTRACT

The bachelor thesis contains 70 pages, 10 tables, 8 figures and a list of references from 94 titles.

The *object* of the study is the competitive development of the global economy's service sector markets.

The *subject* of the study is the factors, institutions, models, trends, strategies, challenges and opportunities for the development of the global transportation and logistics services market.

The *purpose of the study*. Based on the generalization of the theoretical foundations of competitive development of markets in the global services sector and the study of factors, institutions, models, trends, strategies, challenges and opportunities for the development of the global market of transport and logistics services, to substantiate recommendations for more efficient use of its potential by domestic actors.

To define and discuss the theoretical concepts and models relevant to the transport and logistics services sector.

1. To identify and analyze the factors influencing the development of the global transport and logistics market.
2. To evaluate the current trends and future prospects of the market.
3. To assess national and corporate strategies for market development, with a focus on Southeast Asia.
4. To explore the challenges and opportunities for Ukraine's participation in the global market.

Theoretical, methodological and practical significance of the results. The theoretical significance of this study lies in its contribution to the existing body of knowledge on global transport and logistics services, offering new insights into the development models and strategic approaches and also providing broader picture of the market by looking at it from the different angles, which is not a common practice, but eases the general familiarization with the market. Methodologically, the research proposes

frameworks and indicators for analyzing market trends and strategies. Practically, the findings can be used to inform policymakers and business entities about effective strategies for expanding their participation in the global market, which will contribute to economic growth and integration.

The year of defense: 2024

Keywords: global transport and logistics services, service sector of global economy, development trends and strategies, market integration, national and corporate strategies, Southeast Asia logistics market, Ukraine’s market participation.

REVIEW
on the of qualification bachelor thesis

of the student of the Faculty of International Economics and Management

educational program “International economics”

Oleh Tsymbal

Title «Global market of transport and logistics services»

1. **Relevance of the topic:** In modern conditions, the effective realization of the potential of the world market by domestic entities is made possible by the quick and timely movement of finished goods from producers to consumers, as well as along the entire supply chain of raw materials and components, therefore, in developed economies, they manage to constantly search for the best services and models for competitive development of foreign economic and domestic infrastructures. Therefore, the study of the best experience and the analysis of the transport and logistics challenges facing the global and domestic economies is an important task, which the author has tried to investigate. In view of the above, the work was performed on a vital topic and deserves the attention of interested parties.
2. **Positive features of the qualifying Bachelor's thesis:** the work is an original, independent, meaningfully diverse study in which the author makes an attempt to systematize information from various sources on a topic that is often beyond the attention of most interested parties, as evidenced by the lack of demand for relevant studies and their non-publicity. The factors, institutions and strategies, models and trends in international transport and logistics markets are studied.
3. **The presence of independent developments of the author:** on the basis of expert opinions, the author made an attempt to generalize patterns and assess the features of the competitive development of global transport and logistics services markets on the sample of Southeast Asia market, to assess the national and corporate strategies on global transport and logistics markets, and to substantiate effective participation of Ukraine in the global transport and logistics markets.
4. **The value of theoretical conclusions and practical recommendations:** the conclusions drawn and the proposed recommendations are partially well-founded, partially descriptive and, so could be recommended for consideration when looking for ways to improve the implementation of national economic interests in the field of development of logistics markets of Ukraine and the use of the potential of foreign transport and logistics markets.
5. **The presence of shortcomings:** the work corresponds to the current level of competences of the applicant of higher education; contains some factual and stylistic mistakes and is limited by the author's capabilities regarding access and analysis of sources of scientific and analytical literature; the depth of processing of individual sections of the work limited the thoroughness of the conclusions and recommendations; better time management could help to get better results.
6. **General assessment of the bachelor’s thesis and its admission to the defence EC:** the paper is performed at a sufficient level and can be recommended for defence before the EC. The total score is 44 points.

Academic Supervisor:
Doctor of Economics, Professor
of the Department of
International Economics _____ D. O. Ilnytskyy
"__10__"_____June_____ 2024 (signature)

CONTENTS

INTRODUCTION

Most of the products we use every day, such as computers, consisting of thousands of details like microchips, would not have reached us if it were not for logistics and transportation services, the network of services that ensures the movement of goods both internationally and domestically. Efficient logistics services facilitate the mobility of goods, ensuring their safety and speed, as well as reducing the cost of trade between countries. Given the intensification of globalization and the consequent increase in the interdependence of markets, understanding the dynamics of this connecting sector is vital to a thorough knowledge of how global value chains and the international system of the flow of goods work. Efficient logistics services play an essential role in the global flow of goods and services and in the ability of countries to attract and sustain investment. The global logistics market size accounted for USD 8.96 trillion in 2023 and it is expected to be worth around USD 21.91 trillion by 2033 with a noteworthy CAGR of 9.35% from 2024 to 2033. For Ukraine, especially given the geopolitical military conflict with Russia and the need to upgrade its infrastructure (this need existed even before the war, but as of 2022-2024 it is more relevant than ever), effective participation in these markets is particularly important, as strong positions in the global logistics market are of crucial strategic importance for further post-war economic development, as one of the easternmost countries in Europe and a potential future EU member.

In light of the ongoing conflict in Ukraine and COVID-19 pandemics which have shaken the world, following logistics and transportation disruptions have caused a major havoc for a lot of industries which were struggling to get the necessary goods and resources. These events drew particular attention from a new wave of scholars who chose to research the global market of transport and logistics services; also made some older research in this regard as relevant as ever. A significant contribution to the study of these processes was made in their scientific works by such

well-known foreign and domestic scientists as A. M. Hadzhynskyy, M. P. Hordon, O. Y. Kuz′oma, D. O. Bugayko, A. Szymonik, J. P. Rodrigue, C. Comtua, X. Wang, Y. Chen et al. At the same time, there is an urgent need for further research of the global market of logistics and transportation services, its metamorphosis and its impact on the transformation of the global economy and some regions in particular.

The purpose of this paper is based on the generalization of the theoretical foundations of competitive development of markets in the global services sector and the study of factors, institutions, models, trends, strategies, challenges and opportunities for the development of the global market of transport and logistics services, to substantiate recommendations for more efficient use of its potential by domestic actors.

To achieve the stated goal, the following research objectives were identified:

1. To define and discuss the theoretical concepts and models relevant to the transport and logistics services sector.
2. To identify and analyze the factors influencing the development of the global transport and logistics market.
3. To evaluate the current trends and future prospects of the market.
4. To assess national and corporate strategies for market development, with a focus on Southeast Asia.
5. To explore the challenges and opportunities for Ukraine's participation in the global market.

The object of this research the study is the competitive development of the global economy's service sector markets.

The subject of research is the factors, institutions, models, trends, strategies, challenges and opportunities for the development of the global transportation and logistics services market.

The methodological basis of the study is a logical and structural, qualitative and quantitative research method, benchmarking, analysis of cause and effect relationships, observation, comparison and grouping, as well as the use of the inductive method of scientific knowledge. These include literature review, case study analysis, statistical analysis of market data, and comparative analysis of national and corporate strategies, etc.

Theoretical, methodological and practical significance of the results. The theoretical significance of this study lies in its contribution to the existing body of knowledge on global transport and logistics services, offering new insights into the development models and strategic approaches and also providing broader picture of the market by looking at it from the different angles, which is not a common practice, but eases the general familiarization with the market. Methodologically, the research proposes frameworks and indicators for analyzing market trends and strategies. Practically, the findings can be used to inform policymakers and business entities about effective strategies for expanding their participation in the global market, which will contribute to economic growth and integration.

The research is based on official reports of international organizations (WB, ITF, WTO, CSCMP, UN, EU), official websites of global transnational corporations (DHL, Maersk) and national statistics agencies, scientific works of leading domestic and foreign scientists.

The work consists of an introduction, two chapters, conclusions, and a list of sources used in the research.

CHAPTER 1.

THEORETICAL BASIS FOR RESEARCH OF GLOBAL MARKET OF TRANSPORT AND LOGISTICS SERVICES

1.1 Theory and concepts of development of service sector of global economy

Today's economy is characterised by dynamic changes driven by scientific and technological progress and globalisation. These changes are leading to the transformation of traditional industries and the emergence of new sectors of the economy, among which the service sector occupies a special place. The development of the service sector contributes to economic growth, improving the quality of life and creating new jobs. It covers a wide range of activities, from transport and logistics to finance, education and healthcare. The growth of the service sector is a global trend that reflects the transition from an industrial to a post-industrial economy.

As a result of the fourth scientific and technological revolution, innovations are being intensively introduced into the activities of business entities in all sectors of the economy, including the service sector, having a dramatic impact on improving the efficiency and competitiveness of enterprises and organisations. The growing role and importance of the service sector is driven by global trends: advances in science and technology, the appropriate level of international division of labour, economic growth and the development of global society as a whole. These trends have led to significant changes in the structure of the service sector and the formation of the following features:

- Increased incomes of both individuals and legal entities contributed to the growth of service consumption and, consequently, to the corresponding changes in the structure of demand;

- the development of ICTs which has led to the emergence and use of new types of services related to the collection, storage, processing and dissemination of information;

- the dynamism of the international competitive environment has led to the improvement of existing services and the emergence of new ones (management consulting, market research);

- business globalisation (entry of service organisations into new markets, intensification of mergers and acquisitions at the international level) and the development of transnational service corporations contributed to the growth in demand for transport, banking, insurance, freight services, etc;

- the social orientation of government policies in many countries of the world to increase the welfare of the population has stimulated the development of education, sports, health, culture, tourism, etc.

One of the central theories explaining the growth of the service sector is the Three-Sector Theory, also known as the Clark Fisher model which is shown by Figure 1.1. The Clark Fisher model shows how countries move through three phases: pre-industrial (agriculture), industrial (manufacturing) and post-industrial (services) [70]. As economies develop, they tend to shift from agriculture to manufacturing and eventually to services. As Daniel Bell described it, industrial society was defined by the quantity of goods as marking a standard of living, while the post-industrial society is defined by the quality of life as measured by the services and amenities [69, p.131]. This model highlights the evolution of economic activities and the growing importance of the service sector as countries become more developed. In this context, international logistics and transport services have emerged as critical components of the service sector, supporting the movement of goods and people across borders and enhancing global connectivity.

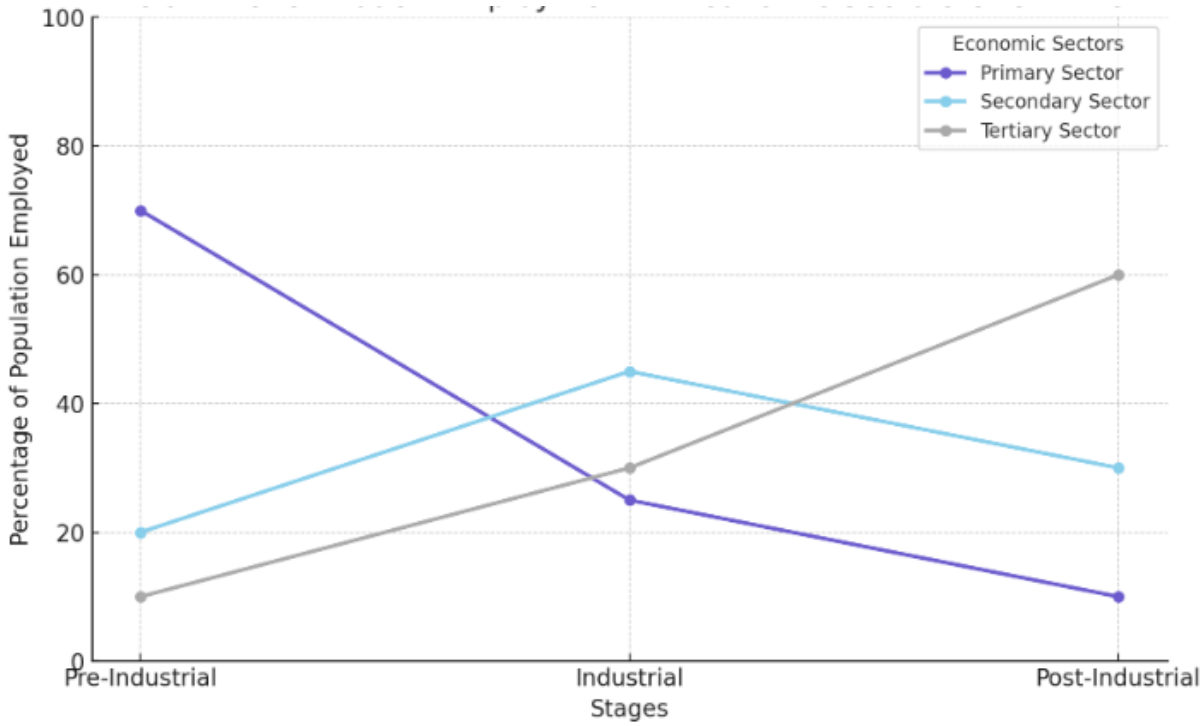

Figure 1.1.- Clark-Fisher model: employment in economic sectors over time

Source: developed by the author on the basis of [70; 71]

Almost every sphere of the world economy is experiencing servitisation, i.e. active development of services. This confirms the conclusion of the classic post-industrial theory of D. Bell that the post-industrial society is based on services [31, p. 12]. The domestic market has formed and is developing a range of services by type of economic activity, which includes: transport, warehousing, postal and courier activities; information and telecommunications; real estate transactions; professional, scientific and technical activities; education; health care and social assistance; art, sports, entertainment and recreation [28, p. 31].

When studying various aspects of the formation and development of the service sector and increasing the competitiveness of service enterprises, one should take into account the importance of quality as the basis for the competitiveness of services. Although the service producer forms the objective quality of the service in the process of its development and introduction to the market, the main role in determining the final quality of services is played by the service consumer, who assesses the degree of

satisfaction of his/her previous expectations (or even exceeding these expectations) and maximum satisfaction of consumer needs.

This is in line with the customer-centric approach to service quality. When assessing the quality of services, customers compare some actual values of quality assessment parameters with expected values, and if these values coincide, they consider the quality of services satisfactory. The final quality of a service as a product is determined by the following main properties: reliability and reliability of the service, reversibility of reaction, customisation of the service, competence of the service provider, accessibility, safety, communicativeness of the service, quality of personnel, material security, consumer orientation [27, p. 241; 33, p. 21]. The above list of service quality characteristics can be reduced with the following judgements in mind: the quality of personnel should include their competence; consumer orientation, which is ensured by a high level of understanding of the consumer's needs, individual attention to him/her, which is an element of service customisation. It should be borne in mind that for a particular type of service, each of the above characteristics may be of greater or lesser importance, i.e. their priority may vary, while the interpretation of the characteristics provided may be clarified. For example, for passenger transport services, comfort and convenience should be considered important quality characteristics [34, p. 74]. At the same time, these properties of passenger transport quality can be taken into account in such characteristics as consumer orientation and/or customisation of the service. All the above determinants of service quality combine the capabilities and corporate values of the service provider with the needs that characterise the values of the service consumer. This approach corresponds to the concept of value-based service quality [27, p. 237].

In the context of increased competition in the service market (as well as in other markets) and the search for ways to increase the competitiveness of enterprises, the quality of service becomes the main competitive advantage and an important condition for its production and consumption [32, p. 30]. In order to improve the

quality of services by fully meeting the specific needs and demands of customers, business structures in the service industry implement innovative corporate strategies that are characterised by high flexibility, adaptability and efficiency of management decision-making, as well as network organisation. Product innovations can represent a significant improvement in the way services are delivered, adding new features to existing services. In general, service innovations are characterised by new models of product distribution, customer interaction, quality control and assurance, etc.

Taking into account current consumer demands, as well as the use of new forms of service provision, traditional types of services (trade, entertainment, etc.) are being filled with new content. For example, to meet the material needs (trade services) and spiritual needs (entertainment services) of consumers in their leisure time, trade services are provided in parallel with entertainment services in shopping malls (shopping and entertainment complexes). A shopping mall is a conglomeration of trade, catering, entertainment, health, consumer services, and sports enterprises that provide a wide range of services. Economic scientists consider a shopping mall to be a certain cluster of small and medium-sized enterprises, i.e. a network production and commercial structure that brings together related and related producers for the purpose of cooperation to produce competitive services [34, p. 7]. The main core for trade services is a foreign or national retail chain (in the format of a supermarket or hypermarket), and for entertainment services - enterprises that offer one or more types of entertainment (3D cinema, water park, etc.). In addition to chain shopping malls, the Ukrainian retail and entertainment market also includes local shopping malls that are not part of chains and operate under their own name without labelling products. The infrastructure of a shopping mall allows for cultural events (concerts, shows, exhibitions, screenings of new films), health and wellness events (master classes, presentations), and sometimes sports events (competitions, demonstrations). Such multifunctional infrastructure conglomerations not only concentrate supply and demand for goods and services, but also create a significant number of jobs in the

location (thus partially solving the problem of employment). The synergy between retail and entertainment services makes it possible to meet customers' needs more intensively and more fully. The quality of retail and entertainment services provided in a shopping mall may be assessed primarily based on the following requirements:

- Reliability, as the manufacturer mainly ensures the provision of services at the planned time, in the planned place and regardless of unfavourable circumstances;

- customisation, i.e. adjusting and adapting the technology and/or the result of service provision in order to maximise the level of customer satisfaction;

- accessibility (physical and spatial), which is characterised by quick contact of the consumer with the service; transparency, openness and rationality of information about the service, the procedure and conditions of its provision - taking into account the interests of people;

- communicativeness, i.e. consumer awareness as a result of the manufacturer's provision of prompt and adequate communication and information to consumers;

- material provision, which characterises the condition of equipment, buildings and personnel necessary for the technology of service provision.

When assessing the competitiveness of shopping mall services, it is necessary to take into account their cost as one of the most important characteristics of services, especially for consumers with low incomes who use shopping and entertainment services due to their age and marital status.

Services that qualitatively satisfy all the conscious needs of consumers can be considered competitive [27, p. 240].

Modern types of services are characterised by various features: increasing requirements for the qualifications of service providers, different productivity, intensity, variety of production factors involved, growth rates of service provision and new formats of service provision. Important areas for further development of the service sector should include:

- Creating favourable conditions for entrepreneurial activity in the service sector;

- implementing a strategy for the development of the service sector in accordance with the innovation and investment model of economic development;

- updating and using new technologies in traditional services (financial, insurance, transport, trade, etc.);

- formation of new services, primarily knowledge-based services in such areas as scientific development and research; consulting; information and communication services; marketing services; human resource management; public administration services, etc.

As a result of the transformation processes that have covered all aspects of society, the industrial economic system has transformed into a post-industrial service economy. The degree of diversification of the service sector is becoming a measure of the level of development of both the production system and society as a whole.

The need to increase the competitiveness of service enterprises contributes to their implementation of the concept of value-based service quality (based on values of the consumer and corporate values of the producer) in order to maximise the satisfaction of consumer needs and requirements.

Adaptation to the impact of factors of the changing business environment and the need to take into account consumer requirements leads to the introduction of innovative corporate strategies by service industry business structures that provide for new innovative models of product distribution, customer interaction, quality control and assurance, etc. For example, shopping malls provide comprehensive shopping and entertainment services that, as a result of synergies and improved service delivery methods, meet the material and spiritual needs of customers more intensively and fully, taking into account the requirements of reliability, customisation, accessibility, communication, and material security. The shopping mall as a cluster of small and medium-sized enterprises represents a network production and commercial structure

that provides competitive services. Priority areas for further development of the service sector include the renewal (including through innovation) of traditional services and the development of new knowledge-intensive services based on the formation of a favourable economic and legal environment for business in the service sector.

1.2 Factors, Institutions, and Models of Development of Global Transport and Logistics Services Markets

Transport logistics, as an open system, is sensitive to changes and integrates economy, technology, safety, ecology, society and politics, stimulating sustainable development through innovation. It is the driving force of the economy in the conditions of globalization, and the success of companies depends on adaptation to needs, efficient use of resources and constant self-improvement[35]. The COVID-19 pandemic has negatively impacted the transportation industry, especially aviation, due to restrictions, border closures, economic downturns, and staff shortages.

The implementation of the concept of integrated risk management, which defines risk as the probability of events due to the interaction of threats, vulnerabilities and past phenomena, is relevant. The "maximum potential energy" of the threat penetrates the defense, turning into kinetic energy, which harms the security of logistics and the economy. It is important to consider deviations from sustainable development and the elasticity of the impact of threats [36].

Modern challenges require effective solutions, such as the implementation of artificial intelligence for control, efficiency improvement, automation, risk minimization and resource optimization. Price, speed and accuracy in the supply chain are relevant [37].

It is important to protect the environment through "Environmentalism", which includes optimization of paths, saving resources, green energy, eco-packaging, use of electric transport and recycling. This increases efficiency, optimizes delivery, reduces costs and increases revenue [38].

Blockchain technology, which provides transparency, monitoring, document flow and prevents falsification, is promising. Digitization simplifies operations, optimizes tasks, minimizes risks and costs [39].

Transportation logistics is increasingly focused on online commerce, and cloud technologies make supply chain management more accessible and efficient [40]. Therefore, transport logistics is actively developing, focusing on digitalization and new technologies. Implementation of the concept of risk management will allow flexible response to changes and contribute to the sustainable development of the economy.

The global transport and logistics services market is a complex and dynamic landscape shaped by numerous factors, institutions, and models of development. To properly understand such a diverse market, it is very important to understand, at least at a basic level, the most important factors of influence (as shown on a table 1.1) in order to properly analyze the changes and development of the market on a global scale.

Economic factors are fundamental in shaping the global transport and logistics services market. The growth of international trade and globalization has led to increased demand for efficient and reliable transport and logistics services. Economic integration and the rise of emerging markets have further fueled this demand, creating new opportunities for logistics providers.

Furthermore, factors such as fuel prices, labor costs, and infrastructure development significantly impact the cost and efficiency of transport and logistics operations. Fluctuations in these costs can lead to shifts in transport modes and routes, affecting the overall market dynamics.

Table 1.1.- Factors affecting global transport and logistics services markets

Factor Category	Scale	Description
Environmental Factors	Local	Hydrographical and geomorphological challenges in transport development.
	Regional	Climate conditions affecting transport construction and maintenance.
	National & Global	Geographical barriers shaping global transport systems.
Technological Factors	Local Mobility	Roads facilitating short-distance mobility.
	Regional Connectivity	Railways and air transport serving regional needs.
	Global Networks	Air transport and telecommunications supporting global connectivity.
Political Factors	Local Regulations	Zoning laws affecting transport infrastructure development.
	National & Regional Policies	Taxation, safety regulations, and trade agreements influencing transport.
	Transnational Agreements	Multilateral trade agreements shaping transnational transport networks.
Economic Factors	Local Economy	Employment and distribution needs driving local transit systems.
	Regional Markets	Competition among transport modes determining regional preferences.
	Global Trade	Global market dynamics influencing major freight flows and transport systems.

Source: Compiled by the author based on [72]

Technologies such as Real-Time Data Tracking, Artificial Intelligence (AI), and the Internet of Things (IoT) have revolutionized how logistics companies approach challenges like route optimization, inventory management, and customer service. For instance, blockchain is actively used to prevent corruption, increase supply transparency, as blockchain technology makes it very easy to track a particular product and its route from point A to point B, etc. A case study of the effect of

integrating blockchain into logistics operations for container transportation in the port of Twente [81] shows how much difference this technology can make.

First of all, blockchain provides a decentralized platform for secured communication and secure information sharing among stakeholders (through the public key). Blockchain technology promotes a two-way flow of information [81, p.5]. This eliminates data replication issues and ensures that only authorized entities can access and initiate transactions, because it is possible to deceive only when the private key of a single specific entity is confirmed [81, p.6; Hackius, 2017].

Blockchain technology can use smart contracts along with the potential application of artificial intelligence [81, p.6] to optimize container stacking and retrieval processes. It will help to reduce the amount of unnecessary handling movements and increase operational efficiency.

Real-time information exchange through blockchain allows for accurate tracking of terminal equipment and containers. For high accuracy, smart contracts can calculate the average performance of tractors and straddle carriers and use the outcome to minimize the possibility of errors with the application of artificial intelligence [81, p.7; Ahmad et al., 2020]. Thus, the processes in the port (as in case of this study) can be optimized by preventing a lot of unintentional errors and preceding bottlenecks.

Additionally, innovations in transport technologies, such as electric vehicles and autonomous drones, are transforming the way goods and services are transported, promising greater sustainability and cost reduction.

Political and regulatory factors play a crucial role in shaping the global transport and logistics landscape too. Trade agreements and policies, such as free trade agreements and customs regulations, influence cross-border trade and logistics operations.

Moreover, government investments in infrastructure development, such as ports, airports, and roads, are essential for facilitating efficient transport and logistics

services. Political stability and security also play a significant role in ensuring the smooth functioning of supply chains.

Environmental concerns are increasingly influencing the transport and logistics industry. The need to reduce carbon emissions and promote sustainability has led to the adoption of greener practices, such as the use of alternative fuels and energy-efficient transport modes.

Furthermore, environmental regulations and consumer preferences for eco-friendly products and services are driving changes in the industry, promoting the development of sustainable logistics solutions.

International institutions, such as the World Trade Organization (WTO) and the International Maritime Organization (IMO), play a pivotal role in setting global standards and regulations for trade and transport. These institutions facilitate international cooperation and harmonization, ensuring fair competition and safety in the global market.

Various models of development have emerged in the global transport and logistics services market. These models range from traditional asset-based models, where companies own and operate their transport assets, to asset-light models, where companies focus on managing and coordinating logistics operations without owning the underlying assets.

Additionally, collaborative models, such as alliances and partnerships, have gained prominence, enabling companies to leverage their respective strengths and resources to provide comprehensive logistics solutions. The global transport and logistics services market is a complex ecosystem shaped by a multitude of factors, institutions, and models of development. Understanding these dynamics is crucial for businesses operating in this market to adapt to changing trends, seize opportunities, and navigate challenges. As the world becomes increasingly interconnected, the demand for efficient and sustainable transport and logistics services will continue to

grow. Embracing technological advancements, adhering to international regulations, and adopting sustainable practices will be key to success in this ever-evolving market.

Table 1.2.-Summary of the key factors, institutions, and models of development

Factors & Influences	Description
Economic Factors	- Growth of international trade and globalization.- Economic integration and rise of emerging markets.- Impact of fuel prices, labor costs, and infrastructure development on cost and efficiency.
Technological Factors	- Digital technologies (IoT, AI, blockchain) enabling real-time tracking, data analytics, and automation.- Innovations in transport technologies (electric vehicles, autonomous drones) improving sustainability and cost reduction.
Political & Regulatory Factors	- Influence of trade agreements and customs regulations on cross-border trade.- Government investments in infrastructure (ports, airports, roads). Political stability and security ensuring smooth supply chains.
Environmental Factors	- Adoption of greener practices to reduce carbon emissions. Impact of environmental regulations and consumer preferences for eco-friendly products. Development of sustainable logistics solutions.
International Institutions	- Role of WTO, IMO in setting global standards and regulations for trade and transport. Facilitation of international cooperation and harmonization. Ensuring fair competition and safety in the global market.
Models of Development	- Traditional asset-based models (ownership of transport assets). Asset-light models (focus on managing logistics operations without owning assets). Collaborative models (alliances and partnerships).

Source: compiled based on [24]

Porter's Five Forces Model. Porter's Five Force model (as shown in Fig.1.2) has a profound impact on enterprise strategy formulation. Based on competitive strategy

analysis, this model can effectively analyze the market competition environment, the Porter's Five Force model mainly analyzes the competitiveness of industry competitors, the ability of potential competitors to enter, the substitution ability of substitutes, the bargaining power of suppliers and the bargaining power of buyers, the changes in the different combinations of these five forces will ultimately affect industry competition and profits [73, p.3].

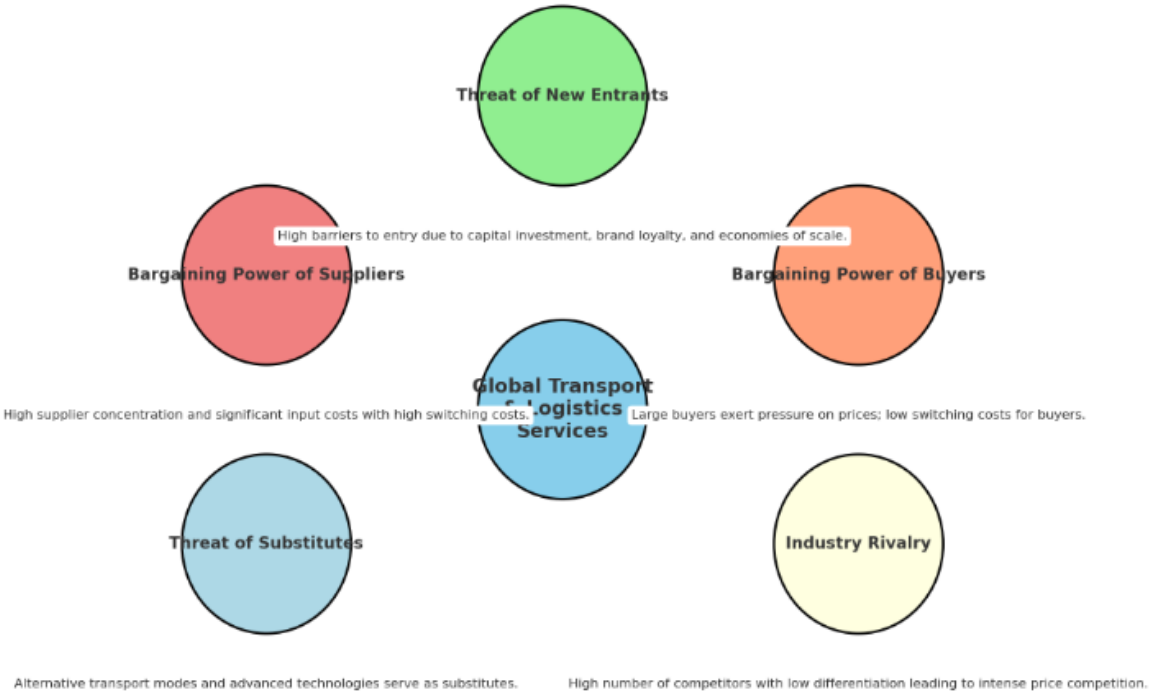

Figure 1.2.-Michael Porter's Five Forces Model

Source: developed by the author based on [52,p.3]

PEST Analysis model (as shown in Fig.1.3)**.** This is a model that includes an analysis of the macro-environment (four environments: political, legal, economic, and technical) in which the enterprise is located.

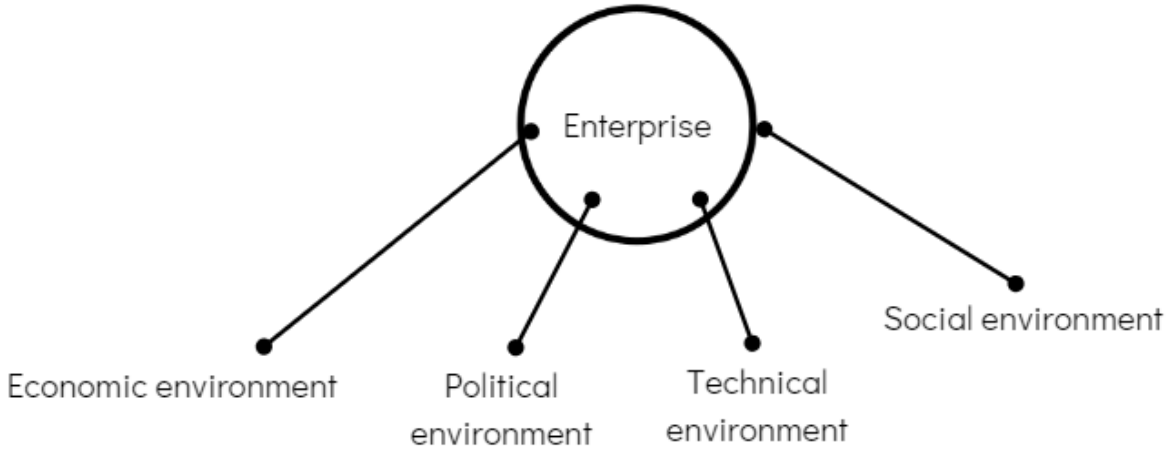

Figure 1.3.- PEST analysis model.

Source: developed by the author on the basis of [73, p.2]

1. Political: Government policies, trade agreements, and political stability influence logistics operations.
2. Economic: Economic conditions like GDP growth, inflation rates, and exchange rates, which impact the demand for logistics services and operational costs.
3. Social: Changing consumer behaviors, such as the shift towards e-commerce, affect logistics demand patterns. Urbanization and demographic trends also play a role.
4. Technological: Technological advancements drive efficiencies and create new opportunities in logistics (e.g. blockchain, AI, IoT).

This model is an effective method used by strategic consultants to help enterprises analyze their external macro environment. Applying this framework to the logistics sector helps in understanding the broader context in which the industry operates.

1.3 Indicators and Methodology of Research of Global Transport and Logistics Services Markets

It is extremely important for logistics companies to reduce transport costs, which is also important for society as a whole. In order to minimise transport costs, it is necessary to select and evaluate logistics service providers in a scientific manner. Transport efficiency assessment is an important part of this process.

Transport efficiency assessment refers to the evaluation of the productivity of transport activities or the transport process. Usually, it is carried out according to uniform criteria, using a certain system of indices, procedures, as well as qualitative and quantitative methods, allowing for a comprehensive assessment of efficiency over a certain period of time. Transport efficiency assessment is a key step for logistics companies and other related businesses. With this assessment, logistics companies can optimise the process, improving economic benefits [54].

The process of transporting goods involves many transport stakeholders and should be considered in a holistic manner, based on technology agreed by all parties and regulatory documents. Cost and some natural indicators can reflect changes in the systems of transportation, production, storage and consumption, both individually and in aggregate. One of the main aspects is the criteria for the efficiency of the delivery of goods, which depend on the specific conditions of transportation and tasks. The economic efficiency of the delivery process depends on many factors, which makes it difficult to determine the optimal criterion in general. To organise the rational interaction of production, logistics and consumption processes with transport processes and the integration of individual modes of transport, it is necessary to consider integrated transport and technological systems. This ensures higher overall efficiency compared to the total efficiency of individual parts [48].

The economic efficiency of the transport process is assessed by local and complex indicators, natural and economic, as well as indicators of the off-transport effect. Local performance criteria are used when the transport options being compared differ in one single indicator. Comprehensive performance indicators are used when changes affect several characteristics of the transport process simultaneously. Often,

technological parameters of the transport process are used as local or partial performance indicators. Most scholars accept minimum costs as an optimisation criterion, although in some cases it is proposed to maximise volumes or profits. However, under conditions of variable demand, cost minimisation does not provide a complete picture of the system's success.[50]

Transport logistics, as an integral part of the overall logistics system, helps to solve three main tasks of this system:

- Formation of market service areas, forecasting of material flow, processing of material flow in the serviced system (supplier's warehouse, consumer's warehouse, wholesale trade enterprises) and other works on operational management and regulation of material flow.
- Development of a transport process organisation system (transport plan, activity distribution plan, cargo flow plan, vehicle schedule, etc.).
- Inventory management and maintenance by means of vehicles and information systems [51].

Based on the tasks of transport logistics, the main criteria for its effectiveness can be determined.

Table 1.3.- Indicators, methods of their calculations and their explanation

Indicator	Calculation Method	Explanation
Load Capacity Utilization	Actual load capacityNormative load capacity×100\frac{\text{Actual load capacity}}{\text{Normative load capacity}} \times 100Normative load capacityActual load capacity×100	Indicates how effectively the company uses its transport vehicles.
Profitability of Distribution Channels	Gross profitTotal cost of product sales×100\frac{\text{Gross profit}}{\text{Total cost of product sales}} \times 100Total cost of product salesGross profit×100	Reflects how profitable the company's transport logistics are.
Delivery Reliability	Number of orders delivered on timeTotal number of orders×100\frac{\text{Number of orders delivered on time}}{\text{Total number of orders}} \times 100Total number of ordersNumber of orders delivered on tim	One of the key indicators of the quality of transport operations and a decisive factor for

	e×100	clients.
Consolidated National Economic Costs	E1+kn+E2E1 + k_n + E2E1+kn+E2, where E1E1E1 - operational costs, knk_nkn - normative efficiency coefficient of capital investments, E2E2E2 - capital investments in fixed assets, rolling stock, cargo mass.	Indicates the total current costs and capital investments in the transport component.
Vehicle Productivity	T×g×k2L×Vt\frac{T \times g \times k}{2L} \times \frac{V}{t}2LT×g×k×tV, where TTT - shift duration (8 hours), ggg - vehicle payload capacity, kkk - utilization rate per shift, LLL - average transport distance, VVV - average speed, ttt - time spent on loading and unloading.	Indicates how efficiently transport vehicles are utilized.

Source: Compiled by the author based on [14, p. 353]

The cost factor must be considered along with the delivery time, as changes in delivery time affect transport costs. Moreover, delivery time is a critical indicator in modern logistics concepts, where time plays a key role.

Additional Key Criteria for Transport Logistics:

- Just-in-time delivery
- Duration of cargo delivery
- Transportation costs
- Vehicle productivity
- Loading and unloading equipment productivity
- Energy consumption of transport and technological operations
- Specific labor intensity of transport and technological operations
- Transportation cost
- Profit from transportation

Just-in-time delivery meets the consumer's requirements for delivering goods within the planned timeframe. This is achieved through the rational coordination of transportation and systems that service and consume transport services. The criterion is the actual delivery time, which should be shorter than the time specified in the transportation contract. The actual delivery time impacts the turnover period of material resources, and reducing it frees up resources for further production use.

For transport companies, the primary concern is the cost of delivery. From the consumer's perspective, the total cost of delivering products from the supplier's warehouse to the consumer's warehouse is critical, often using the transportation cost as an optimization criterion.

Transportation cost is a comprehensive indicator of transport operations and represents the expenses incurred in providing a unit of transport service. Some authors propose that the criterion should be profit maximization. However, this approach may focus on changing tariff policies and increasing service volumes without implementing rational technological measures.[54]

Some suggest using specific costs related to the performed transport work as a criterion for choosing the delivery scheme. This indicator is applicable for significant transport distances close in value for alternative schemes. When choosing optimal routes based on total transport costs, it's crucial to consider the time factor, as operational costs usually represent the largest share of delivery expenses.

Gap Model for Customer Dissatisfaction in Transport Services:

Gap 1: Difference between customer expectations of transport-logistics service quality and the company's logistics management's perception of these expectations.

Gap 2: Difference between the logistics management's perception of customer expectations and the specifications defining service quality.

Gap 3: Difference between the quality standards and the actual delivery of logistics services.

Criteria Classification. Efficiency criteria can be classified by application area (delivery method selection, transport-technological scheme choice, evaluation of individual transport types and logistics systems), indicator type (economic, technological, environmental), number of considered indicators (single, multiple), and operational conditions (constant conditions, uncertainty, risk presence).

Challenges and Future Directions. Most proposed criteria are not universal and consider partial operating conditions. Evaluating logistics systems' efficiency in cargo

delivery requires considering all participants' demands in a competitive market environment. A multi-criteria approach is necessary for forming efficiency criteria, although it poses challenges due to the varied nature of criteria and the qualitative nature of many indicators. Future directions should focus on comprehensive approaches that require formalization.

Importance of Transport Logistics Development. Effective development of transport logistics is vital, as the largest portion of logistics costs is related to transportation. Automotive transport occupies the largest share in public transport services. For effective transport logistics, it is essential to consider technical, technological, economic, informational, and managerial aspects. When selecting a carrier, it is necessary to account for their positive and negative characteristics and calculate potential risks of losses or missed profits based on transport logistics efficiency criteria [52].

Logistics Performance Index (LPI). The World Bank's Logistics Performance Index (LPI) is one of performance indicators and a crucial tool in assessing the logistics performance of countries. It provides a comprehensive international benchmarking tool focusing specifically on measuring the trade and transport facilitation friendliness of a particular country. The LPI provides not only a comprehensive assessment of logistics performance worldwide, but also an analysis of performance trends which makes it possible to understand trends over time [74, p.6]. The LPI summarizes the performance of countries through six dimensions (look at fig. 1.4 for their categorization):

1. **Customs**: Efficiency of the customs clearance process.
2. **Infrastructure**: Quality of trade and transport-related infrastructure.
3. **International Shipments**: Ease of arranging competitively priced shipments.
4. **Logistics Quality**: Competence and quality of logistics services.
5. **Tracking and Tracing**: Ability to track and trace consignments.

6. **Timeliness**: Frequency with which shipments reach the consignee within the scheduled or expected time.

Performance is evaluated using a 5-point scale, and the overall LPI is aggregated as a weighted average of these six areas. The LPI also includes a set of domestic performance indicators, which are not included in the overall country score, complemented with quantitative information on particular aspects of international supply chains.

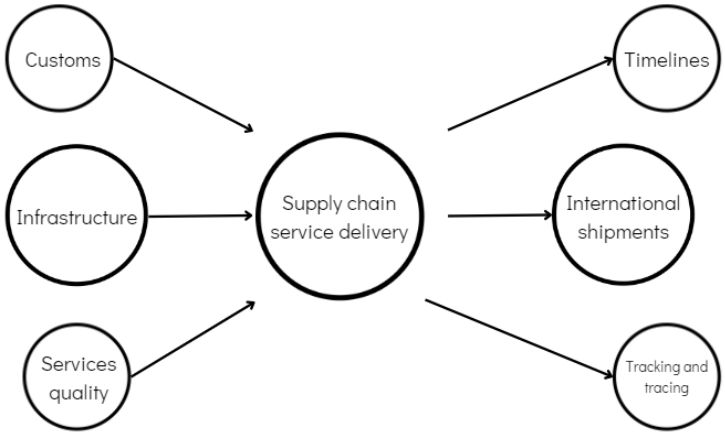

Figure 1.4.- Categorization of LPI indicators

Source: developed by the author on the basis of [75, p.5]

Considering the theoretical part mentioned above, it becomes understandable how big and complexly thought through thing LPI is. Logistics performance index has a lot of policy implications as it pushes both governmental and non-governmental bodies to the understanding that there may be some need to make the investments in infrastructure (e.g. roads, railways, ports), streamlining procedures (e.g. simplifying customs and inspection procedures), improvements of institutional frameworks (e.g. reducing procedural red tape), etc. This term will be further frequently used in this paper, when assessing national and corporate strategies for the development of global transport and logistics markets in section 2.2 or discussing logistics and transport services markets of Southeast Asia in section 2.3.

CHAPTER 2.
DEVELOPMENT OF GLOBAL MARKET OF TRANSPORT AND LOGISTICS SERVICES

2.1. **Key trends of development of global transport and logistics markets**

In today's world, economic development is characterised by globalisation, which leads to the convergence of national economies and resource optimisation. Globalisation has a significant impact on the development of transport and logistics systems, contributing to the improvement of technologies, the development of intermodal transport and the introduction of digital solutions for cargo tracking. The success of a transport and logistics system depends on the effective interaction of all its elements to meet customer needs.

The United States, having the most powerful transport system in the world, is actively developing it with the help of government policy. Three main programmes contribute to this development: an economic development programme, a mobility programme and a social programme related to environmental protection.

The economic development programme aims to increase traffic, reduce trade restrictions and attract small businesses. The mobility programme aims to improve the state of the transport system, increase the safety and reliability of vehicles, and reduce transport costs. The social programme focuses on reducing the negative environmental impact of transport and improving the quality of life.[6]

The European Union pays considerable attention to the development of the transport system, striving for environmentally friendly, safe and efficient mobility. The new EU strategy envisages an increase in funding for the transport sector to €26 billion by 2020, with a focus on creating nine major transport corridors. These corridors aim to improve transport infrastructure and ensure the efficient transport of goods within the European single market.[7] For Ukraine, the eighth and ninth

corridors, which end at the Ukrainian border, and the fifth corridor, which connects the sea outlets of different seas, are of particular importance.

The development of transport and logistics systems in the world is also taking place through the integration and creation of macro-logistics structures, as seen in the Benelux countries, the EU, the US and Canada, and Southeast Asia. The regional factor contributes to globalisation due to the similarity of political systems, economic level, social way of life, absence of trade barriers and other factors.

The service sector is usually more protected by the state from foreign competition than the material production sector. In addition, transport and communications, financial and insurance services, and science have traditionally been fully or partially owned or controlled by the state in many countries. Imports of services on a large scale can be seen by the public and governments of many countries as a threat to their welfare, sovereignty and security. As a result, the market for trade in services faces barriers to a much greater extent than the market for trade in goods. In the services market, there are services whose types are not suitable for participation in international economic turnover. This applies to personal consumption services. The regulation of services in the global market has certain specifics. This is due to the fact that services are distinguished by an extremely wide variety of forms and content, while forming a single market that has no common features, but has general trends that allow for global market regulation even with constant development and innovation [2, p. 36].

International relations between countries have always been determined by the movement of goods between them. By itself, the formation of transport systems took place within the framework of national economic systems. Specialisation of transport is manifested in the division of existing industries and the creation of new ones with a homogeneous product or service, as well as in the division of labour between enterprises in the industry. In the context of the transition to market relations, it is important to pay attention to the structure-forming processes taking place in the

transport sector. The structure of transport is understood as the composition, quantitative ratios and types of interconnection of individual sectors.

Transport logistics is the main component of transport links between countries and regions. It manages all traffic flows in all directions. Road transport is more common in logistics and is used to transport small-sized goods over short distances, but it has its drawbacks, including high transport costs, the possibility of theft and robbery, limited carrying capacity, road conditions and length, and a relatively short service life [8].

Transport services in Ukraine currently occupy one of the leading positions in Ukraine's exports of services. The structure of transport services exports in Ukraine is quite diversified. Pipeline transport accounts for the largest share of total exports, followed by air, rail and sea transport. The smallest percentage is accounted for by postal and courier services [3, p. 54].

Currently, most freight transport in Ukraine is provided by rail and road transport. If we compare their shares in 2020 and 2021, we can see that more than half of all cargo is transported by rail, but its share decreased by 1.7% over the year, while the share of road transport increased by 0.9%. This indicates the growing importance of road transport in Ukraine. The reasons for this include increased investment in road infrastructure, the entry of large foreign companies into the market, and problems in the railway industry. When assessing the share of road transport, it is necessary to take into account the large part of the shadow sector that is not included in official statistics. In the railway sector, the issue of rolling stock renewal is becoming increasingly important. Lack of funds for this process can lead to a significant reduction in the freight car fleet [4].

In 2023, Ukrainian rail transport demonstrated a significant increase in freight traffic in all categories of traffic, reaching 148.4 million tonnes. This period, as shown on fig. 2.1, was characterised by an average monthly increase of 23% compared to the

same period in 2022, which followed a large-scale invasion. This information was published by the press service of Ukrzaliznytsia on 17 January [4].

Despite the temporary occupation of the territories, which makes it impossible to return to pre-war freight volumes, the opening of the Ukrainian sea corridor and the operation of ports have contributed to an increase in export traffic. According to Yevhen Liashchenko, CEO of the company, the coordinated efforts of the security services, military and the Ministry of Reconstruction helped transport 8.8 million tonnes of cargo to the Black Sea ports in the five months of the corridor's operation, up 8.6% year-on-year.

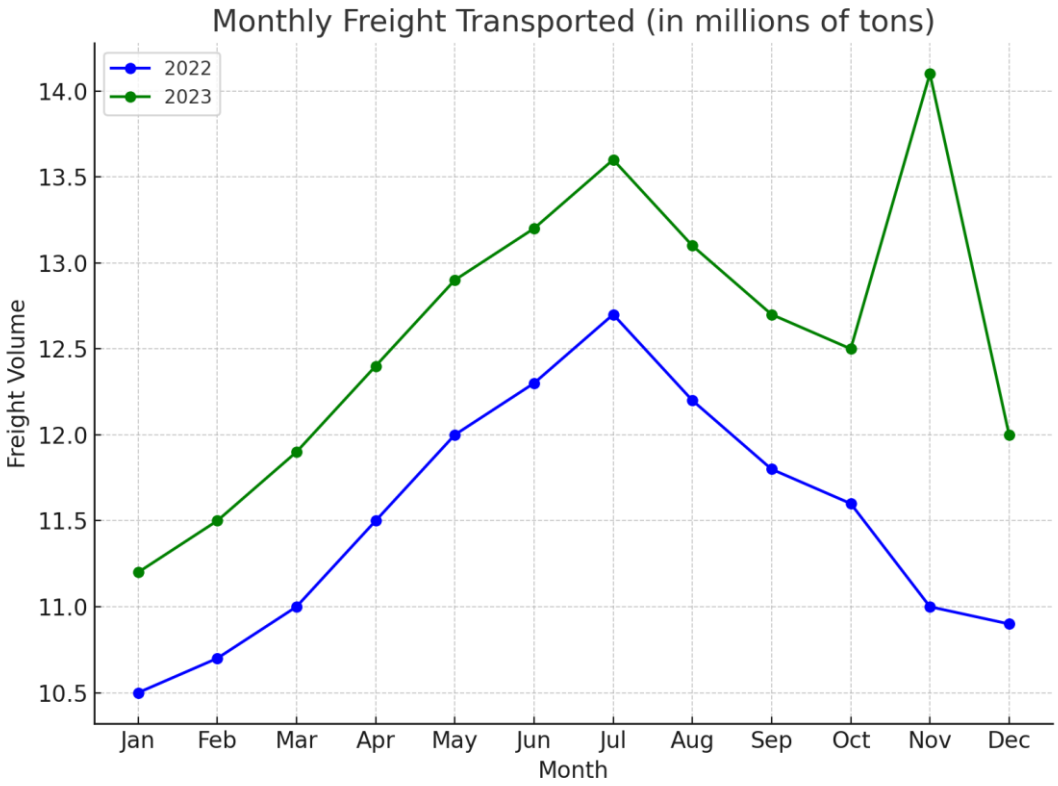

Fig. 2.1.- Monthly freight transported (in millions of tons) in 2022, 2023

Source: developed by the author based on [9]

Additionally, in December 2023, Ukrzaliznytsia recorded a record volume of 3.8 million tonnes of unloading for the Black Sea ports. Traffic volumes to the Danube ports also increased by 33%, in particular via transit routes through Moldova and Romania.

During the year, average monthly traffic volumes were over 12 million tonnes, with a record high of 14.1 million tonnes in November. Domestic traffic also stood out, up 11.4% to 84.8 million tonnes. Grain was the leading cargo type in 2023, with a volume of 30.6 million tonnes, up 5.9% year-on-year [9].

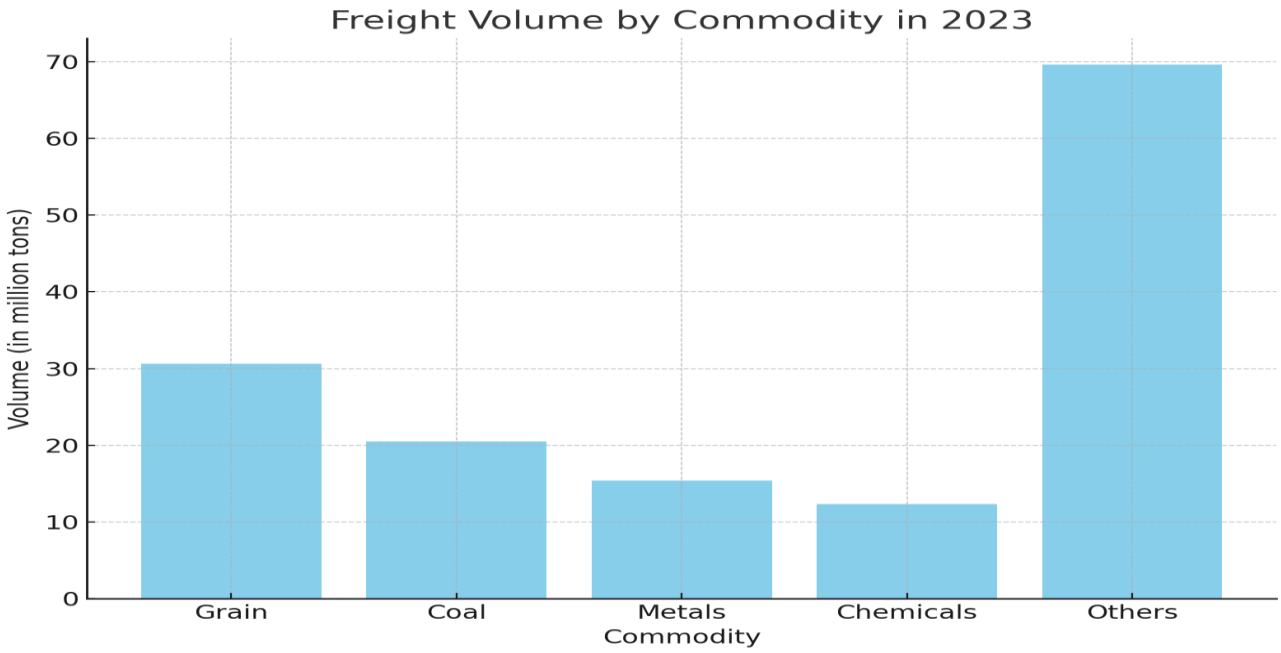

Fig. 2.2.- Freight volume by commodity in 2023

Source: developed by the author based on [9]

Transport logistics is the main component of transport between countries and regions. It manages all traffic flows in all directions. Road transport is more common in logistics and is used to transport small-sized goods over short distances, but it has its drawbacks, including high transportation costs, the possibility of theft and robbery,

limited carrying capacity, road conditions and length, and a relatively short service life.

Transport services in Ukraine are currently one of the leading items in Ukraine's exports of services. The structure of transport services exports in Ukraine is quite diversified. Pipeline transport accounts for the largest share of total exports, followed by air transport, rail and sea transport. The smallest percentage is accounted for by postal and courier services [3, p. 54].

The transport market has broad prospects, and in terms of business development, it has been showing an upward trend in recent years amid the economic crisis. However, despite the positive dynamics, the industry has many obstacles that negatively affect its development.

The creation and implementation of automation and automatic control systems will allow for a higher level of vehicle and traffic management, as well as safety and environmental friendliness. The planning function will involve the development of information technology based on logistics principles, providing means for collecting, processing, transmitting and displaying information, as well as analysing and justifying decisions. International practice seeks not to create additional transport communications (for example, multi-level interchanges that impose an information and psychological burden on road users and service providers), but to make the most of the existing infrastructure through effective traffic management. To this end, an intelligent transport system is being actively created in Ukraine, taking advantage of innovative developments in traffic system modelling and automatic traffic flow control, providing end users with more information and safety, as well as qualitatively improving the level of interaction between traditional vehicles in the system [5].

Predictive methods based on modeling and previously accumulated information can be used in intelligent transport systems. The scale of world trade we are witnessing today, along with the widespread creation of transnational corporations, involves the rapid flow of goods and resources between different countries. The

global transport complex connects producers with consumers of goods and raw materials, ensuring the efficient functioning of the market economy. The market of transport services is considered a separate branch of the world economy. According to the recognized classification, the main segments of this market include: cargo transportation, management, logistics and freight services. The main factors contributing to the further development of the transport services market are the growth of turnover and competition among product manufacturers.

Today's global economy, based on the rapid exchange of goods and resources between countries, requires an efficient transport sector. It provides a link between producers and consumers, playing a key role in the functioning of a market economy. The transport services market is a separate sector of the global economy, divided into several key segments:

Freight transport. This is the backbone of the transport complex, covering the movement of goods by various modes of transport - road, rail, sea and air. The efficiency of this segment is determined by the speed, safety and cost of delivery.

Transport management. Includes route planning, vehicle load optimisation, fleet management, and transportation monitoring. The use of intelligent transport systems (ITS) and predictive modelling can significantly improve management efficiency.

Logistics. This segment covers an integrated approach to supply chain management, including storage, packaging, labelling and distribution of goods. Logistics ensures the optimal use of resources and minimises costs.

Freight services. Intermediary services for organising transport, including searching for transport, paperwork and cargo insurance. Freight companies simplify the transport process for cargo owners.

The development of the transport services market is driven by the growth of trade and competition between producers. Globalisation, the creation of multinational corporations and increased consumer demand are contributing to the market

expansion. The use of new technologies, such as ITS, predictive modelling and automation, is increasing the efficiency and competitiveness of transport companies.

In the face of growing demand for transport services, effective management and optimisation of all market segments are becoming key success factors. The use of innovative approaches and modern technologies allows transport companies to ensure fast, safe and cost-effective delivery of goods, which is the key to the stable development of the global economy.

Transport is the most important component of the development of the world economy and life in general, as transport is a strategically important sector of the world economy. Acceleration of processes of interaction of all branches of the economy provokes the transport sector to constant improvements. Structural changes characterizing the processes of global production and international trade are taking place thanks to evolutionary leaps in the world transport sector.

Eliminating operational obstacles is a condition for achieving balance in the foreign economy. The modern direction of development of international trade in services is certainly also a direction of countering the crisis: popularization of cashless trade in services and development of online trade, elimination of barriers in international trade in services, promotion of secure digital payments, formulation of Ukraine's export strategy, which will provide institutional support for the promotion of new services to foreign markets with the support of the state.

Due to certain administrative problems, significant positive developments in road and air transport are observed in the country, while railway transport is declining. In the future, the development of the transport services market will be shaped on the basis of the latest technological achievements. The current shortcomings of the industry will be reflected in the further trends of computerization and digitization.

Leading technologies that can be implemented in the transportation process include intelligent transportation systems, blockchain technology, artificial intelligence, etc.

In general, the transport industry is characterized by the automation of all processes through the modernization of existing basic technologies. The market of transport services is actively developing and has become an integral part of the public infrastructure, and of course it will continue to develop, despite various obstacles, the international market needs to increase, since a trade agreement is not yet possible, neither the share of the export of knowledge-intensive, information-intensive, at the micro, nor at the macro level . intellectual services for the purpose of creation

Modern research emphasises the growing relevance of integrating artificial intelligence (AI) into the logistics of social enterprises. Scientists such as T. O. Shmatkovska emphasise the importance of efficient logistics for the successful solution of social problems by these enterprises . N. Y. Kyrlyk studies the positive impact of AI on the optimisation of logistics processes, including increased efficiency, cost reduction, and more accurate forecasting. M. I. Dziamuliciu emphasises the role of AI in increasing the transparency and responsibility of supply chains, as well as in reducing the negative impact on the environment [10]. Y. Chaliuk, studying innovations in social entrepreneurship, notes the potential of AI to achieve the strategic goals of these enterprises [11].

In general, studies point to the significant potential of AI to improve the logistics of social enterprises, but further research is needed to fully understand and effectively use this technology.

Determining the approximate cost of investing in AI technologies internationally in the transport and logistics sector, as well as calculating the return on investment (ROI) for this trend, requires data collection and analysis of several key parameters: Estimating the total cost of implementing artificial intelligence: This includes the initial investment in the acquisition and development of AI technologies,

the costs of integrating systems into existing infrastructures, and the costs of staff training and ongoing support.

Revenue analysis of AI implementation: Revenue estimates may include increased efficiency of operations, reduced logistics costs, increased customer satisfaction, and, as a result, increased revenue from additional services or products.

Calculation of ROI: ROI can be calculated using the formula:

$$ROI=(\frac{Total\ financial\ benefits-Total\ investment}{Total\ investment})\times 100\%$$

Total investment is the initial amount invested in the implementation of artificial intelligence technology. In our example, it is 500 million dollars.

The overall financial benefits include the revenue and cost savings derived from the implementation of these technologies. This is the sum of the savings ($100 million) plus additional revenues ($150 million), totaling $250 million.

$$ROI=(\frac{250-500}{500})\times 100\% = 50\%$$

This means that in the first year the total costs exceeded the total financial benefits, as a result of which the investment showed a negative return.

The implementation of artificial intelligence in the transport and logistics sector, although initially resulting in a negative return, is expected to yield substantial benefits in the long term. Several factors contribute to this positive outlook:

As AI systems become more integrated and refined, operational efficiency is anticipated to improve significantly. AI can optimize routes, reduce fuel consumption, and enhance load management, which collectively contribute to lower operational costs. For instance, AI-driven predictive maintenance can foresee and mitigate equipment failures, reducing downtime and repair costs.

AI technologies, including machine learning and data analytics, provide deeper insights into customer behavior and preferences. This allows for more personalized services and faster response times, enhancing customer satisfaction and loyalty. Over time, these improvements can translate into increased market share and revenue growth.

AI systems offer scalability that traditional logistics solutions cannot match. As demand fluctuates, AI can dynamically adjust operations, ensuring that resources are optimally allocated. This adaptability is crucial in responding to the unpredictable nature of global supply chains, especially during crises such as pandemics or geopolitical disruptions.

AI's role in logistics also extends to promoting sustainability. By optimizing routes and reducing idle times, AI helps lower greenhouse gas emissions. Companies can not only achieve regulatory compliance but also appeal to environmentally conscious consumers, thus enhancing their brand image.

Several companies have already demonstrated the successful integration of AI in logistics. For example, UPS uses AI algorithms for route optimization, saving millions of miles driven and reducing fuel consumption. Similarly, Amazon's AI-powered warehouses streamline order processing, significantly cutting down delivery times.

Looking ahead, the continuous advancement of AI technologies will likely bring about new innovations in the transport and logistics sector. The integration of AI with other emerging technologies, such as the Internet of Things (IoT) and blockchain, will further enhance supply chain transparency and security.

Investors and stakeholders must therefore adopt a long-term perspective, recognizing that the initial costs of AI implementation are an investment in future competitiveness and sustainability. As the technology matures and becomes more cost-effective, the return on investment is expected to shift positively, making AI an indispensable tool for the transport and logistics industry.

While the initial phase of AI implementation in the transport and logistics sector may present financial challenges, the long-term benefits are substantial. The improvements in efficiency, customer experience, scalability, and sustainability position AI as a critical component for the future of logistics. By embracing these technologies, companies can navigate the complexities of the global market, drive growth, and contribute to a more sustainable world economy.

2.2 Assessment of national and corporate strategies of development of global transport and logistics markets

The global transport and logistics market is a dynamic and ever-evolving landscape, shaped by national policies, corporate strategies, and technological advancements. This essay aims to assess both national and corporate strategies in this sector, highlighting key trends, challenges, and opportunities. It also delves into specific data and case studies to illustrate the complexities and nuances of this global market.

National governments play a crucial role in shaping the transport and logistics sector. They formulate policies, invest in infrastructure, and regulate the industry to ensure efficiency, safety, and sustainability.

One prominent trend in national strategies is the increasing focus on sustainability. Governments are implementing measures to reduce carbon emissions, promote green logistics, and encourage the use of alternative fuels. For example, the European Union has set ambitious targets for reducing greenhouse gas emissions from transport, and many member states are investing in electric vehicle infrastructure and incentivizing the use of cleaner fuels.

Another key trend is the growing emphasis on digitalization and technological innovation. Governments are supporting the development of smart logistics solutions, such as real-time tracking systems, autonomous vehicles, and blockchain-based

platforms. These technologies have the potential to revolutionize the industry by improving efficiency, reducing costs, and enhancing transparency.

However, national strategies also face significant challenges. One of the biggest challenges is the need to balance economic growth with environmental concerns. Transport and logistics are major contributors to greenhouse gas emissions, and governments must find ways to reduce the environmental impact of these activities without hindering economic development.

China's Belt and Road Initiative (BRI). A vast infrastructure and economic development project spanning Asia, Europe, and Africa, designed to enhance global trade and stimulate economic growth across dozens of countries through improved connectivity.[12]

China's Belt and Road Initiative (BRI), launched in 2013, is an expansive infrastructure and economic development project designed to enhance global connectivity and strengthen economic ties across continents. The BRI seeks to resurrect the historic Silk Road, linking China with Europe through Central Asia by the Silk Road Economic Belt and connecting it to Southeast Asia, South Asia, Africa, and Europe via the 21st Century Maritime Silk Road. This ambitious initiative is not just about constructing physical infrastructure such as roads, bridges, railways, sea ports, and airports across numerous participating countries, but also about fostering economic integration, cultural exchanges, and opening new markets for Chinese goods, services, and technology.

The BRI represents a substantial financial commitment from China, investing in the economies of over 60 countries. These investments are primarily in the form of loans intended for infrastructure projects, aiming to enhance trade routes and make them more efficient. However, the strategic goals of the BRI extend beyond mere economic gains. China is leveraging the initiative to bolster its geopolitical influence, positioning itself as a counterbalance to Western powers, especially in developing regions.

While the potential of the BRI to transform global trade and economic landscapes is significant, the initiative has encountered a range of criticisms and challenges. Issues such as debt sustainability are at the forefront, with some countries struggling to repay Chinese loans, leading to situations where control over critical infrastructure like Sri Lanka's Hambantota port has been ceded to China. This has sparked concerns over economic sovereignty. Additionally, the environmental impact of such large-scale construction projects cannot be overlooked, as they pose risks to sensitive ecological zones. There are also criticisms regarding the lack of transparency and fair governance in BRI projects, which are often perceived to disproportionately favor Chinese firms and labor.

Despite these challenges, the Belt and Road Initiative remains a key element of China's foreign policy and economic strategy, embodying a bold approach to international cooperation. Its success, however, will depend on how well China and the participating countries manage the complex balance of benefits and responsibilities to ensure that all stakeholders find equitable value in the projects. This endeavor requires careful, strategic management to align with the broader goals of global development and cooperation.

The financial figures and projections related to the BRI, which are illustrated by Table 2.1, demonstrate China's commitment to expanding its economic and geopolitical influence through vast infrastructure investments. These projects not only aim to foster economic growth in host countries but also strategically secure China's interests in key global regions.

Table 2.1.- China's BRI projects in different countries

Country/Region	**Project Description**	**Total Investment (USD)**	**Year Started**	**Status**
Pakistan	China-Pakistan	$62 billion	2015	Ongoing

	Economic Corridor (CPEC)			
Sri Lanka	Hambantota Port Development	$1.3 billion	2010	Completed
Kenya	Mombasa-Nairobi Railway	$3.8 billion	2014	Completed
Hungary and Serbia	Budapest-Belgrade Railway	$2.89 billion	2020	Under Construction
Indonesia	Jakarta-Bandung High-Speed Rail	$6 billion	2016	Under Construction
Central Asia	Central Asia Gas Pipeline	$7.3 billion	2008	Operational

Source: developed by the author based on [13]

Germany's Logistics 2030 Strategy. Focused on maintaining and expanding the country's position as a leading logistics hub in Europe through innovation, digital transformation, and sustainability.

Germany's Logistics 2030 Strategy is an ambitious national framework aimed at reinforcing and expanding the country's status as a premier logistics hub in Europe. This strategy is predicated on harnessing the potentials of innovation, digital transformation, and sustainability to steer the sector into the future. Let's delve into the key components and objectives of this strategy.

Innovation is at the heart of Germany's Logistics 2030 Strategy. The goal is to foster a culture of innovation within the logistics sector, encouraging companies to adopt new technologies and business models. This includes the development of advanced logistics solutions like automation and robotics in warehouse operations, which can significantly enhance efficiency and accuracy. Germany aims to be at the

forefront of logistics innovation, implementing cutting-edge technologies that set global standards.

Digital transformation is another pillar of the strategy, reflecting the need to integrate digital technologies into all aspects of logistics operations. This encompasses everything from the digital tracking of goods to the use of big data and analytics for optimizing supply chain operations. The strategy also includes the development and deployment of Intelligent Transport Systems (ITS) that enhance connectivity and communication within the logistics network. By doing so, Germany seeks to improve the resilience and flexibility of its logistics infrastructure.

Sustainability is a critical aspect of Germany's Logistics 2030 Strategy. The strategy emphasizes the reduction of the environmental impact of logistics activities, promoting the use of renewable energy sources and increasing the energy efficiency of logistics operations. This includes initiatives like electrifying vehicle fleets, improving building energy efficiencies, and optimizing route planning to reduce fuel consumption and emissions. The ultimate aim is to contribute to Germany’s broader environmental goals and commitments under international agreements like the Paris Climate Accord.

The strategic goals of Germany’s Logistics 2030 include:

- Strengthening Global Competitiveness: Ensuring that Germany remains a competitive logistics hub not only in Europe but globally. This involves improving infrastructure, streamlining customs procedures, and enhancing cross-border cooperation.
- Enhancing Interconnectivity: Developing a more integrated transport network across Germany and beyond, facilitating smoother and faster movement of goods across Europe.
- Boosting Economic Growth: By improving logistics, Germany aims to boost economic activity, as efficient logistics are a key enabler for other industries including manufacturing, retail, and e-commerce.

The implementation of the Logistics 2030 Strategy faces several challenges, including the need for significant investment in technology and infrastructure, the requirement for skilled workforce capable of managing and operating advanced logistics systems, and the ongoing need to balance economic growth with environmental sustainability. However, the opportunities, such as increased efficiency, reduced costs, and enhanced service quality, present compelling reasons to pursue this ambitious agenda.

In summary, Germany's Logistics 2030 Strategy is a comprehensive plan designed to utilize technological innovation, digital transformation, and a commitment to sustainability to maintain and enhance its position as a leading logistics hub in Europe. This approach not only aligns with global trends but also addresses the specific needs and strengths of the German economy.

Another project - **India's Sagarmala Project**, is a comprehensive national initiative aimed at harnessing the country's long coastline for economic development. Launched to enhance the performance of India's logistics sector, the project focuses on optimizing the use of coastal and inland waterways, modernizing ports, and facilitating the development of port-proximate industrial clusters. This strategic approach is designed to transform India's maritime sector and boost the overall economic growth through more efficient freight movement and improved port operations [15].

Core Components of the Sagarmala Project:

1. *Optimizing Coastal and Inland Waterways*. Recognizing the underutilized potential of India's extensive network of navigable rivers and a coastline that stretches over 7,500 kilometers, the Sagarmala Project aims to significantly boost the use of these waterways. The initiative promotes coastal shipping as a cheaper, faster, and environmentally friendly alternative to land-based transport routes, thus reducing congestion on roads and railways and lowering the logistics cost for domestic and international trade.

2. *Modernizing Ports*. A critical element of the Sagarmala Project is the modernization and expansion of India's port infrastructure. This includes upgrading existing ports with advanced technology and equipment, increasing their capacity, and improving their operational efficiency to reduce turnaround times. The project also involves the development of new ports to accommodate the growing demand for maritime trade. These efforts are geared towards establishing world-class maritime facilities that can compete on a global scale.

3. *Developing Port-Proximate Industrial Clusters Integral to the Sagarmala*. Project is the strategic development of industrial clusters near ports, known as Coastal Economic Zones (CEZs). These clusters are set up to capitalize on the proximity to the ports, enabling industries with high import and export needs to minimize their transportation costs and streamline their supply chains. These zones are expected to attract significant investments, create job opportunities, and stimulate the growth of manufacturing and export-oriented businesses.

Expected Benefits

Economic Efficiency. By improving the logistics infrastructure and reducing transportation costs, the Sagarmala Project is expected to enhance the competitiveness of Indian goods in the global market, thereby boosting trade and fostering economic growth.

Job Creation. The development of CEZs and the expansion of the maritime sector are projected to create millions of jobs, contributing to economic prosperity and regional development [16].

Reduced Environmental Impact. Encouraging the shift from road to maritime transport is anticipated to reduce carbon emissions and promote sustainable development practices within the logistics sector.

Challenges and Implementation. While the Sagarmala Project holds immense potential, its implementation faces several challenges, including regulatory hurdles, the need for massive financial investment, environmental concerns, and the

requirement for coordination among various governmental and non-governmental stakeholders. Successfully addressing these challenges requires integrated planning, effective policy support, and collaboration between the central and state governments, as well as the private sector.

The Sagarmala Project is a visionary initiative by the Government of India to revitalize its maritime sector and reposition the country as a global logistics hub. Through strategic investments in infrastructure, operational enhancements at ports, and the development of industrial hubs near the coastline, the project aims to drive the nation's economic growth and improve the efficiency of its logistics network.

Canada's Gateways Initiative [60]**.** Canada's Gateways Initiative is a good example of a national strategy aimed at improving logistics performance through targeted investments and policy reforms (key performance indicators include reductions in transit times and improvements in the reliability of transport services). According to "Evaluation of the Asia-Pacific Gateway and Corridor Initiative and the Gateways and Borders Crossing Fund", Canadian government has implemented the Asia-Pacific Gateway and Corridor Initiative (APGCI) and the Gateway and Border Crossings Fund (GBCF) in which it invested USD1.17 billion and USD3.204 billion, respectively [60]. Launched in 2006 and 2007-2008 respectively, these programs aimed to improve North America's connectivity with Asia and streamline the flow of goods and people globally.

At the project-level, both initiatives made gains in terms of reducing congestion and increasing capacity and cargo throughput at specific ports, airports, roadways, and rail terminals [60]. Based on this case study, it is possible to highlight several factors which seriously impacted the success of these initiatives and which can be taken into account by whatever countries which plan to improve their logistics performance. First of all, while implementing these strategies constant consultations with the stakeholders were held, which helped to address regulatory and governance challenges and enable stakeholders to maximize limited resources. Secondly,

transparent and objective project selection process ensured that the best projects were funded. And thirdly, huge effort was put into the researches which helped in informing project selection and ensuring relevance and effectiveness [60].

Turkey's Logistics Investments [61]**.** Turkey has notably improved its logistics performance through substantial investments in its road infrastructure. According to Coşar and Demir (2014) the share of four-lane expressways of Ukraine's neighbor national road network increased from 12% to 35% between 2003 and 2012, significantly improving the quality and efficiency of road transport. This investment accounted for approximately 15% of the export increase from interior regions, generating a 10-year discounted stream of additional export revenues that amounted to between 9% and 14% of the value of the investment. This investment improved connectivity to international gateways, leading to significant reductions in transportation costs and transit times (for example, the median export lead time decreased from 2.5 days in 2007 to 2 days in 2012). This had a big effect on exports, particularly for time-sensitive industries.

It is not a coincidence that at the exact same sample of time Turkey's overall LPI score, according to WB and IMF, increased from 3.15 in 2007 to 3.42 in 2014 [63]. In 2007, Turkey's LPI score was 2.94, below the OECD average of 3.61. By 2012, Turkey's score had risen to 3.62, nearly matching the OECD average of 3.68. The country improved its rank in the LPI's infrastructure component by 14 places and its timeliness component by 25 places between 2007 and 2012.

Mexico's Customs Modernization [62]**.** Efficient customs operations are a prerequisite for faster supply chains [64, p.1]. Mexico's Secretariat of Finance and Public Credit and its Tax Administration Service have focused on modernizing the country's customs system both logistically and technologically to improve the efficiency of foreign trade transactions. Key modernization initiatives from 2011 to 2017 included the Customs Modernization Plan, Customs S21, the Single Window for

Foreign Trade (Ventanilla Única de Comercio Exterior Mexicano), and the Technological Integration Customs Project.

The resuts were phenomenal as Mexico's score for customs efficiency (one of LPI variables) improved from 2.71 in 2007 to 3.17 in 2014; border crossing times have decreased, with significant reductions in delays and variability; border customs offices were the most productive group and showed the most improvements over the researched sample period of time, while internal customs maintained constant efficiency, and maritime customs were closest to the metafrontier in terms of technological advancement; and implementation of the Single Window for Foreign Trade resulted in a 20% decrease in average customs clearance times [62].

Table 2.2.- Summary of Key Logistics Initiatives

Country	**Initiative**	**Key Focus Areas**	**Investment**	**Outcome**
Canada	Asia-Pacific Gateway and Corridor Initiative (APGCI)	Port efficiency, Connectivity improvements	$1.17 billion	Reduced congestion, improved cargo throughput
Canada	Gateway and Border Crossings Fund (GBCF)	Improved flow of goods and people	$3.204 billion	Enhanced cross-border efficiency
Turkey	Road Infrastructure Expansion	Road quality improvements	Not specified	Increased exports, reduced transit times
Mexico	Customs Modernization Plan	Customs efficiency	Not specified	Reduced customs clearance times

Source: developed by the author based on [60][61][62]

Corporate strategies in the international transport and logistics sector, on the other hand, are seriously differentiating from national counterparts, as they are driven by the need to remain competitive in a rapidly changing market. Companies are constantly innovating, adapting, and investing in new technologies to improve their services and meet the evolving needs of customers.

International corporations are usually ahead of the curve in terms of developing and implementing the latest strategies, as they do not have to reckon with a huge

bureaucratic machine and are constantly in a state of ‘war’ with competitors. That is why breakthrough strategies to optimize supply chains, reduce costs and increase operational efficiency usually come from the private sector.

The challenge for the business is the increasing complexity of supply chains. As businesses expand globally, their supply chains become more complex as a result of global sourcing and the continued trend to ‘leaning-down’ and thus supply chain risk increases [66, p.1]. Managing these complex supply chains requires sophisticated technology, skilled personnel, and effective collaboration. Let’s take the automotive industry which is a leader in supply chain optimization. Primary example will be Toyota Motor Corporation, as a globally recognized leader in the automotive industry, which has developed a highly efficient supply chain strategy. Key components of Toyota’s supply chain strategy include:

Supplier relationships as Toyota believes in developing mutually beneficial, long-term relationships based on mutual trust. To foster that trust, Toyota pursues close and wide-ranging communication with suppliers [65, p.7]. Such mutual relationships help the corporation to maintain control over its supply chain and ensure access to necessary components and materials throughout all the time.

Quality Focus, as the company implements rigorous quality control processes at all stages of production. Based on Toyota’s philosophy of Customer First, TME develops and provides innovative, safe and outstanding high- quality products and services [65, p.5]

And lastly, *Global Approach*, as Toyota accesses the best suppliers worldwide. According to TMC, their Purchasing team’s mission is to procure the highest quality, best value and most technologically advanced goods and services from the leading global suppliers, and to build a supply chain that operates ethically and responsibly [65, p.3].

Additionally, Toyota is famous for its lean manufacturing system which is based on the principles of eliminating waste, otherwise called ‘muda mura muri’.

These are the core principles of Toyota's JIT. Considered as waste are unnecessary financing costs, storage costs, worthless stock of old items, overburden of equipment and people, unevenness or irregularities in the production process. Aforementioned principles and worldwide famous ones like Jidoka (automation with a human touch), Kaizen (continuous improvement), and Heijunka (production leveling) are all ensuring supply chain optimization [67; 68].

2.3 Peculiarities of development of global transport and logistics services markets on the sample of Southeast Asia market

Southeast Asia's transportation and logistics market is currently one of the fastest growing in the world. This trend can be explained by several factors:

1. An important strategic location at the crossroads of the most important trade routes and hubs.
2. Significant internal and external investments.
3. Favorable economic policies from governments
4. Metamorphosis of global supply chains as a result of the Covid crisis

Another important factor in the aforementioned rapid development is the ASEAN Economic Community (AEC for short). The organization was established in 1967 and has 10 members: Brunei, Malaysia, Singapore, Laos, Cambodia, Indonesia, Myanmar, the Philippines, Thailand, and Vietnam. The region is also politically stable and part of multiple multilateral trade treaties, such as the Regional Comprehensive Economic Partnership (RCEP), which aims to eliminate tariffs on 90 percent of goods traded between ASEAN member countries over the next 20 years [15].

The RCEP includes all of the above-mentioned ASEAN countries and 5 other countries with which ASEAN has already signed free trade agreements (Australia,

China, Japan, New Zealand, Republic of Korea and Republic of Korea). The South Asian logistics sector benefits from proximity to major global markets, and free trade agreements reduce transit time and costs, further increasing the attractiveness of South Asia as a logistics hub.

For the sake of developing more sophisticated and unique analysis of opportunities of Ukraine's integration into EU's transports and logistics sector, which will be discussed in section 2.4; and to develop better recommendations for national entities in CONCLUSIONS, let's deviate from the main flow of the section 2.3 for a bit and try to draw some parallels between EU's and RCEP's similarities in their logistics and transport policies. The EU comprises 27 member countries, with a population of approximately 447 million people, contributing to 15.2% (as shown in fig. 2.3) of the global GDP in 2021 [84]. RCEP consists of 15 member countries, covers nearly 30% of the global population and accounts for 32.0% of global GDP as of 2023, with India possibly joining it in a foreseeable future, contributing to additional 7.2% of the global GDP as of 2021 [84; 86]. Aggregate effect that the Single Market and free movement of goods of EU has brought in terms of output amounts to 386 billion euros in total, while RCEP, which accounts for half of world manufacturing output (half of global automotive and nearly 70% of electronics world-wide are produced in the region), aims to eliminate tariffs on 90% of goods traded between ASEAN member countries over the next 20 years [82, p. 15; 83, p. 6; 15].

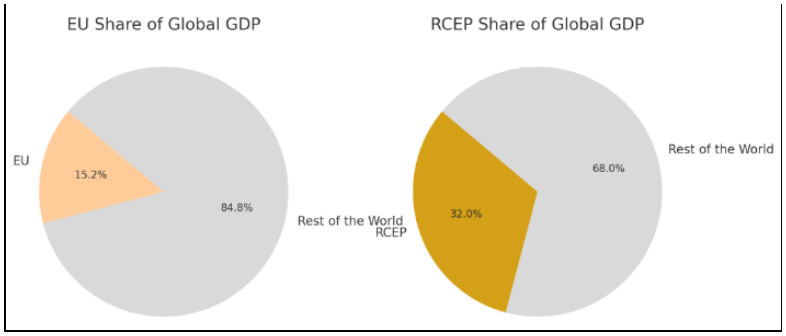

Figure 2.3.- EU and RCEP shares of global GDP.

Source: developed by the author based on [84; 85]

The EU has implemented over 50 regulations to standardize road, rail, air, and maritime transport, such as Regulation (EC) No 1071/2009, which introduces common rules concerning the conditions to be complied with to pursue the occupation of road transport [87, p. 1]. According to Economic Research Institute for ASEAN and East Asia (ERIA), mutual recognition of conformity-assessment procedures (the process of ensuring products meet regulatory requirements) in RCEP can yield substantial reductions in compliance costs. For TBT measures, the reduction can be as high as 27.6%, while for SPS measures, the reduction can be about 15.1% [88, p.14].

$$\text{Average Reduction} = \frac{TBT\ Reduction + SPS\ Reduction}{2} = \frac{27.6\% + 15.1\%}{2} = 21.35\%$$

Thus, the overall average percentagewise reduction in compliance costs for different industries due to harmonizing standards through mutual recognition agreements within the RCEP is approximately 21.35%.

The EU's Trans-European Transport Network (TEN-T) needs, as studies have identified, infrastructure development which represent approximately €700 billion of financial investment until 2030 [89]. Moreover, the budget allocated to CEF transport, the key EU funding instrument to support investment in the area of transport infrastructure, amounts to EUR 25.8 billion for the period from 2021-2027 [90]. At the same time, RCEP countries, supported by China's Belt and Road Initiative mentioned earlier, have seen over $1 trillion in investments, significantly enhancing regional connectivity [12].

Digitalization. According to the EU's Digital Transport and Logistics Forum (DTLF), which promotes digitalization in transport, EU Regulation (EU) 2020/1056 on electronic freight transport information (eFTI) and therefore reduced administrative costs in transport and logistics will save up to EUR 27 billion over the next 20 years [91]. The ASEAN Single Window (ASW) reduces customs clearance times by 40%, and smart logistics systems are being adopted to enhance supply chain

transparency. In RCEP, countries like Singapore rank 1st in the World Bank's Logistics Performance Index (as shown on Table 2.3), reflecting high efficiency.

Table 2.3.-Key Logistics Performance Indicators in ASEAN Countries

Country	**LPI Rank (2023)**	**Major Logistics Investment**	**Key Strategic Initiative**
Singapore	1st	PSA Terminal Expansion	Continual upgrade of port infrastructure
Malaysia	33rd	Expansion in Penang	National Transport Policy (2019-2030)
Indonesia	65th	Development of Toll Roads and Railways	National Logistics System (Sislognas)
Philippines	49th	Modernization of Manila Port	Various regional infrastructure projects
Thailand	39th	Development of Eastern Economic Corridor	Enhancement of transport and logistics sectors
Vietnam	52nd	Improvement of Hai Phong Port	Investment in north-south expressway project

Source: developed by the author based on [58]

And lastly, *environmental sustainability*. The EU's Green Deal targets a 90% reduction in transport emissions by 2050, with supposed investments in sustainable transport solutions amounting to EUR 20 billion through the Sustainable and Smart Mobility Strategy [92, p.2]. Japan’s Green Growth Strategy within RCEP targets a 46% reduction in greenhouse gas emissions by 2030 [93]. China aims for 20% of all new vehicles to be electric by 2025 [94].

There can be much more other similarities drawn between these two different organizations, howeverm this ones will be enough for the level of research popularity this topic currently has, being rather less-developed. This comparison was drawn to develop more sophisticated and unique analysis of opportunities of Ukraine's integration into EU's transports and logistics sector (by taking a lessons of RCEP countries integration experience), which will be discussed in section 2.4; and to develop better recommendations for national entities in CONCLUSIONS. Although, these few paragraphs also helped to reveal some peculiarities of development of global transport and logistics services markets on the sample of Southeast Asia market itself. Now, this is the end of this short fascinating deviation and time to go back to the general flow of the section 2.3.

Singapore. Singapore, as a global logistics hub, is an example of the region's capabilities. Its proximity to key maritime chokepoints and strategic investment in port infrastructure, such as deep-water berths and advanced container terminals, as well as technological sophistication (40% of the country's industrial production is accounted for by electronics, dominated by semiconductors) have positioned Singapore as a global maritime hub for transshipment and logistics services [17, p.8]. In 2023, according to the World Bank, Singapore demonstrated the highest Logistics Performance Index and Logistics Competence Score in the world, with 4.3 and 4.6 respectively, according to these indicators (see Appendix A). Despite its small local market, Singapore has capitalized on its central location and advanced infrastructure to boost its international trade and logistics network, by functioning as a trans-shipment hub offering value-added logistics services [15]. Leading manufacturers like Henkel and Infineon base their SCM hubs and Distribution Centers in Singapore to orchestrate their regional and global supply chains. Singapore is home to the busiest transshipment port, PSA, and Changi Airport, one of Asia's largest cargo airports.

Malaysia. Malaysia has emerged as a hub for online enterprises due to its rapidly expanding economy and infrastructure development. According to the World Bank, Malaysia was ranked 33rd in the LPI in 2023 (see Appendix A), climbing 15 notches in the World Bank's Logistics Performance Index (LPI) 2023, and took the second place behind Singapore among its ASEAN partners. From 2023 to 2027, the country's eCommerce industry is expected to expand at a CAGR of 6% [18]. The country, due to its end-technology manufacturing, like Singapore, hosts huge investments from more than 3,000 suppliers. Favorable strategic location of the state, favorable ecosystem of the region continue to attract large technology companies. Malaysia's logistics infrastructure is expanding: DHL Supply Chain, for instance, is adding significant warehouse space and improving transportation capabilities in Penang and other regions of the country [15].

Indonesia. Indonesia's logistics sector is being driven by the rapid growth of the e-commerce market. The country's large population and high internet penetration (75.47% in 2022) are contributing to this growth. Thus, the growing number of buyers shopping on e-commerce has had a big impact on logistics companies. Since 2016, Indonesia’s logistics sector has made significant progress, along with an increase in the number of toll roads and railways being built and upgraded throughout the country. Furthermore, legislation has become supportive of home-grown logistics operators, and online retailing is now well-established [22, p.3]. Many logistics companies in Indonesia such as JNE, J&T, SiCepat Express, Pos Indonesia, and others have experienced very significant increases [19, p.2].Major cities such as Jakarta, Surabaya, and Bandung have become important e-commerce centers. Indonesia is projected to become the world's fourth largest economy by 2030 [20, p.4], so the logistics sector will need to develop rapidly to support this growth.

When it comes to individual countries, we can certainly look at countries such as Singapore, touting the country's economic sophistication, overall highly developed infrastructure and world-class logistics services. However, when it comes to the

whole region, the situation is not so smooth. In most other ASEAN members, such as Indonesia and the Philippines, the logistics infrastructure usually has significant gaps, to varying degrees, depending on the country. Uneven development is the first serious risk for the continent. Income inequalities in the ASEAN region were increasing before the onset of the pandemic. There is little prospect of them being mitigated in the absence of renewed growth [23, p.9]. As historical examples show, such economic divisions rarely end on a good note.

But still, these are more predictions that do not have enough basis to be considered legitimate. But there is another, really urgent problem that is common to the entire region. This is the tense relationship between the two superpowers of our time, the United States and China. As mentioned earlier, the location has so far played in favor of Southeast Asian states, but this advantage may turn into a serious disadvantage in the near future, as the region may become a zone of transit escalation. Over the past thirty years, the region has prospered through increased integration into a China-centric regional economy, while the United States' security role has limited concerns over asymmetric interdependence [21]. However, China's rapid economic and military development, as well as internal U.S. problems, may soon change this status quo.

As for the region's opportunities, the prospects for e-commerce stand out. This is an extremely developed region in this direction and the main challenge for further development is to further optimize logistics processes for a geographically unique region (for example, Indonesia, which consists of 17,000 islands, etc.). The key function of logistics operators is to optimize the process of product acquisition, storage, transportation and distribution, as well as to facilitate the tracking of online orders for e-commerce marketplaces - a process that ensures the delivery of products to customers in a timely manner [22, p.2].

Economic Policies and Trade Agreements: Regional policies and trade agreements play a vital role in shaping the logistics landscape. The Regional

Comprehensive Economic Partnership (RCEP) aims to remove tariffs on 90% of goods traded within ASEAN over the next 20 years, facilitating smoother and more cost-effective trade flows . Countries in the region are implementing national policies to bolster logistics capabilities. Malaysia's National Transport Policy (2019-2030) and Indonesia's National Logistics System (Sislognas) are examples of strategic initiatives aimed at improving logistics infrastructure and processes.

Big international players such as DHL and FedEx still have the edge in cross-border logistics in the region because they've been around so long, know the countries very well, and thoroughly understand customs rules and regulations. DHL Supply Chain, for instance, plans to invest EUR 350 million over the next five years to expand its warehousing capacity, workforce, and sustainability initiatives in Southeast Asia [15]. These giants also have tried to further expand into the region's domestic markets. FedEx has been working with partners in Indonesia, for example, and DHL offers e-commerce solutions in Thailand, Malaysia, and Vietnam. But barriers to domestic markets have risen as a result of pressure from local players, so there still are not as many logistics companies that can offer an end-to-end solution throughout Southeast Asia.Leading logistics companies are making significant investments in the region to capitalize on its growth potential. This investment will increase its warehouse space by 25%, enhancing its ability to meet the growing logistics demands of the region .

The development of the transportation and logistics services market in Southeast Asia is characterized by rapid growth driven by various factors such as the expansion of e-commerce, increasing urban urbanization, and significant investment in infrastructure.

The logistics market in Southeast Asia is projected to grow at a rate of 5.96% from 2024 to 2032, as shown in fig. 2.3, as well as in the table 2.4 a bit later. The growth of the market is due to the growing demand for efficient logistics solutions, caused by the development of e-commerce and international trade. The e-commerce

logistics market in the region is expected to increase by USD 85.12 billion between 2023 and 2028, at a CAGR of 21.25%. This growth is fueled by increased demand for fast and reliable delivery, as well as increasing internet penetration and social commerce [16].

The logistics market in Southeast Asia covers various modes of transport, including road, sea, rail and air. Each of these modes of transport is important to different sectors of the economy, such as manufacturing, consumer goods, retail, food and beverage, IT equipment, healthcare, chemical, construction, automotive, telecommunications, oil and gas.

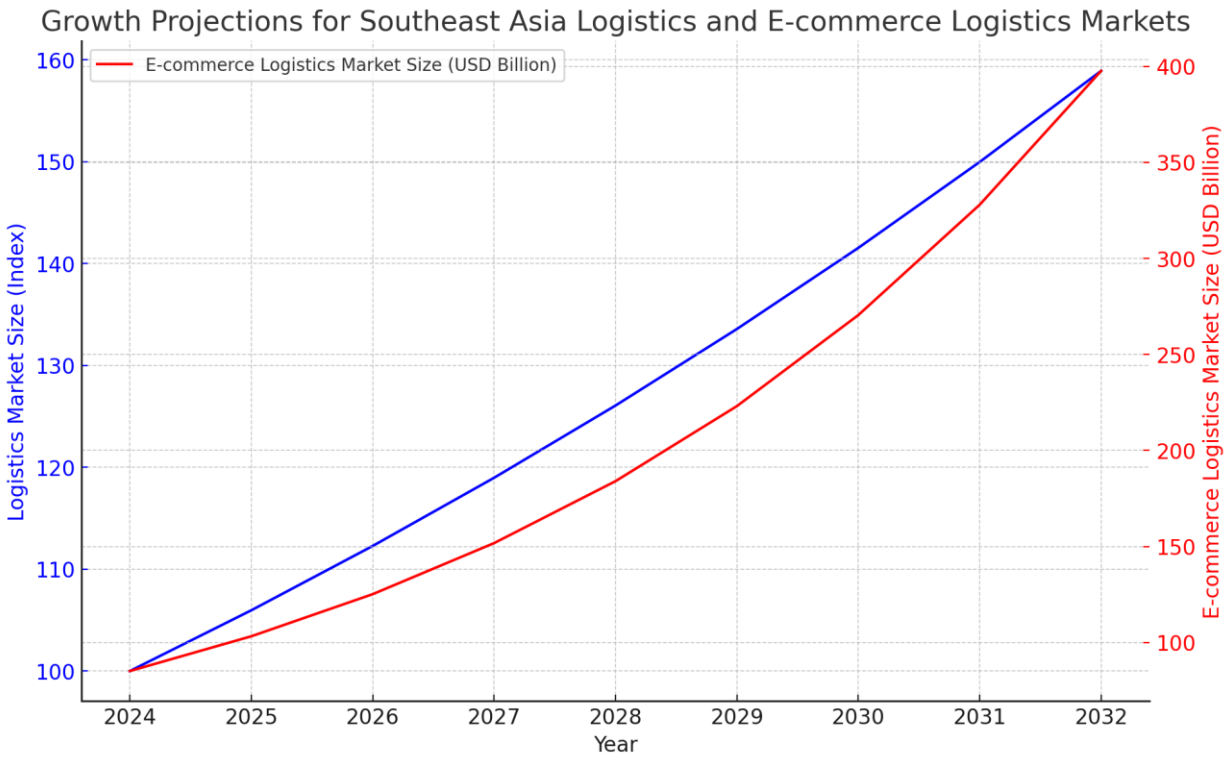

Figure 2.3.- Growth projections for Southeast Asia logistics and e-commerce logistics markets

Source: developed by the author based on [16]

The warehousing and distribution market in the ASEAN region is also showing strong growth, supported by the needs of the logistics sector and the growth of e-

commerce. Major players such as DHL, Agility Logistics, DB Schenker Logistics, CJ Century Logistics and Keppel Logistics are actively expanding their services and presence in the region [17].

Significant investments and expansions in warehousing, such as the acquisition of LF Logistics by Maersk and the acquisition of Keppel Logistics by Geodis, are aimed at improving warehousing capabilities in the region.

The main drivers of the market development are the boom in e-commerce, significant investment in infrastructure and a growing urban population with increased income levels. At the same time, the lack of qualified workers in the field of logistics and supply chain management is a challenge that prevents the full use of the potential of modern logistics solutions.

The logistics market in Southeast Asia shows significant potential for growth in the coming years. The market is expected to grow at a compound annual growth rate (CAGR) of 5.96% from 2024 to 2032. This growth will be driven by growing demand for efficient logistics solutions, particularly due to the expansion of e-commerce and international trade.

The e-commerce logistics market in Southeast Asia is expected to grow by USD 85.12 billion between 2023 and 2028, at a compound annual growth rate (CAGR) of 21.25%. The main factors behind this rapid growth are increased demand for social commerce, increasing internet penetration and consumer demand for fast and reliable delivery [55].

Table 2.4.- Southeast Asia E-commerce Logistics Market Growth

Year	**E-commerce Logistics Market Size (USD Billion)**
2024	85.12
2025	103.21
2026	125.14
2027	151.73

2028	183.97

Source: developed by the author based on [16][17]

Overall, the logistics market in Southeast Asia will continue to grow due to significant investment in infrastructure, increasing urbanization and rising middle class incomes. However, the lack of qualified workers in the field of logistics and supply chain management remains a challenge that needs to be resolved in order to fully utilize the potential of modern logistics solutions.

2.4 Effective participation of Ukraine in the global transport and logistics markets: challenges and opportunities

Logistics is the lifeblood of the economy, a collection of operations carried out to deliver products to consumers. These operations mainly involve transportation, storage, and distribution of goods in the market. Therefore, logistics is viewed as external operations related to the primary production of goods. The goal of logistics is to make the desired product available to the consumer in the right quantity and at the right time, at the best point of sale, and to do all this with the least possible costs.

The logistics sector is one of the most critical and essential areas during wartime, and it has undergone significant changes. Let’s analyze the contribution of the logistics sector to the national economy of Ukraine. Logistics services significantly contribute to Ukraine's economic development, with the GDP in 2021 amounting to 12,176,378 million UAH, of which 669,354 million UAH came from the transport sector (Table 1). The total output of goods and services increased from 2016 to 2021, peaking in 2021 (12,176,378 million UAH), but there was a sharp decline in 2022 (5,191,028 million UAH) [18].

Comparing GDP growth dynamics from 2016 to 2021, it increased by 224.84%, while the logistics sector grew by 195.75%. The share of added value from transport,

warehousing, postal and courier activities in the GDP structure decreased by 0.81% from 2016 to 2021, standing at 5.5% at the end of 2021 [18].

The economic situation in Ukraine has undergone significant changes due to the war. According to the State Statistics Service, GDP in 2022 amounted to 5,191,028 million UAH, and the added value of the transport, warehousing, postal, and courier activities sector amounted to 204,547 million UAH. The share of the logistics sector in the GDP structure was 3.94%, decreasing by 2.37% compared to 2016 (look at table 2.5) [18].

Table 2.5.- Gross Domestic Product by Production Method and Gross Value Added by Economic Activity at Current Prices

Indicator	**Unit of Measurement**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Output of goods and services at market prices	million UAH	5,420,433	6,721,741	8,037,021	8,927,367	9,291,883	12,176,378	5,191,028
Transport, warehousing, postal and courier activities	million UAH	341,938	420,484	503,326	582,500	594,010	669,354	204,547
Share of transport, warehousing, postal and courier activities	%	6.31	6.26	6.26	6.52	6.39	5.50	3.94

Source: developed by the author based on [18]

The data indicates an overall increase in the production of goods and services from 2016 to 2021, but a sharp decline in 2022. In the future, Ukraine has no choice but to actively participate in the global value chain. This approach is key to ensuring the country's sustainable economic development. One of the critical aspects of this process is the restoration of industrial potential [19].

The industrial sector, which produces goods and services, drives economic growth. However, its efficient functioning requires modern and effective logistics infrastructure. In Ukraine, compared to European countries, the contribution of logistics to national GDP is less than 4%, whereas in Europe this indicator ranges from 6.5% to 10%. This indicates the potential for growth and development of the logistics sector in Ukraine [19].

The development of production and logistics is closely linked, with a correlation between their development. An important indicator is also the level of gross capital investments, which in Ukraine did not exceed 14% (as of 2021), compared to other countries such as Poland, Romania, Germany, and the Czech Republic, where this indicator is higher [19].

However, given the need to restore infrastructure after wartime events, an increase in gross capital investments is expected in Ukraine. A large number of logistics centers and industrial parks will be needed to meet the needs of the country's economy, which will, in turn, lead to increased demand and quick investment payback.

The increase in efficiency and development of transport and logistics infrastructure improves logistics processes, which is critical for the successful export-import activities of the country. Ensuring efficient and fast transportation of goods, storage in warehouses, and prompt postal and courier services are key factors for the development of international trade.

Strategic decisions in the field of transport and logistics contribute to the restoration of the country's economic potential and the creation of a favorable

environment for sustainable development of foreign economic activity. Improving logistics infrastructure increases the competitiveness of Ukrainian goods and services in the international market, which, in turn, boosts export volumes and the country's importance in global economic relations. Let's analyze the dynamics and structure of Ukraine's import-export operations from 2016 to 2022.

Table 2.6.- Dynamics of Exports and Imports

Indicator	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Import	39.3	49.61	57.19	60.8	54.37	72.84	54.53
Export	36.4	43.27	47.3	50.06	49.19	68.07	44.17
Balance	-2.9	-6.3	-9.8	-10.7	-5.2	-4.8	-10.4

Source: developed by the author based on [19]

Analysis of the data presented in table 2.7 indicates trends and changes in Ukraine's foreign economic activity. The overall trend shows an increase in the country's foreign trade activity, but with certain fluctuations over the years. There was a general increase in import and export volumes from 2016 to 2021, except for 2020, when there was a decrease. The highest import and export figures were recorded in 2021, but there was a decline in 2022.

The foreign trade balance was negative from 2016 to 2021, and the trend of decreasing balance worsened in 2022 (a decrease of 10.4 billion units). The negative trade balance indicates a need for additional external financing to maintain Ukraine's economic stability.

Let's analyze the structure of Ukraine's import-export operations by types of transport, for which we will compile analytical table 2.8.

The realities of war impose restrictions on all spheres of life, especially on delivery connections. The danger of using transport, the risk of losing goods during storage, the need to change routes directly during movement – this is only a small part

of what logistics faces during the war in Ukraine. There are only two ways left – to optimize processes and adapt, or to recognize the impossibility of this for the company.

Over 30 million tons of imported goods were delivered to Ukraine last year. Of these, almost 11 million tons were by road transport. The volume of imports increased most rapidly from March to May 2022. During this period, the industry managed to return to the volume of international road freight transportation that Ukraine had before Russia's full-scale invasion. From May to the last day of 2022, the volume of imported goods brought into the country by road transport continued to gradually increase.

The second largest import volume was by rail (9.89 million tons), and the third by sea transport (7.16 million tons).

Table 2.7.- Structure of Exports and Imports by Types of Transport in 2022 .

Indicator	**Total**	**By Types of Transport**
		Road Transport
Import by Value		
- billion USD	54.53	34.85
- %	100	64%
Import by Volume		
- million tons	30.34	10.67
- %	100	35%
Export by Value		
- billion USD	44.17	16.23
- %	100	36.5%
Export by Volume		
- million tons	99.75	12
- %	100	12%

Source: developed by the author based on [20]

The most exported goods among sectors remain agricultural and food prod ucts, accounting for 53% of total goods exports in 2022. Corn and wheat are Ukraine's two main export products. The leader in goods exports last year was sea transport with 53.86 million tons. The second was rail transport (33.73 million tons), and the third was road transport (12 million tons).

The first quarter of 2023 was quite successful. In January – June 2023, goods exports from Ukraine amounted to $19.4 billion, or 85.7% of the previous year's figure. The basis of exports consisted of three groups of goods: cereals (30.7% of Ukraine's total goods exports), fats and oils (14.2% share), seeds, and fruits of oil plants (8% share). The stable export of these three groups of goods is carried out through the implementation of the Black Sea Grain Initiative, as well as supplies to neighboring EU countries.[20]

The decline in export-import activity led to a decrease in freight volumes both in value and in physical terms, but the key factor in these changes was the war and, accordingly, the loss of logistics infrastructure due to military actions. Let's analyze these losses in terms of transport infrastructure:

Before the war, sea transportation and ports of Ukraine were the main ways of exporting agricultural products, which in 2021 brought in $27.9 billion. Additionally, they were main export routes for metallurgy ($16 billion), the chemical industry ($2.7 billion), mineral fertilizers ($8.42 billion), and other products. The total losses of water transport infrastructure are estimated at over 13 billion UAH or about $471 million, creating significant difficulties for the restoration and normalization of this sector's operation in Ukraine. The assessment of losses includes both the infrastructure of sea ports and the objects[20] of inland water transport damaged by military actions. The loss of four ports indicates a serious impact of the war on key nodes of the country's trade and transport system. The relatively moderate destruction of ports can be explained by two factors. First, the complexity and spatial

arrangement of ports, consisting of numerous large parts, make their complete destruction difficult with a limited number of precise missile strikes. Second, the aggressor used the ports for exporting various resources, such as grain or ferrous metals, and therefore ensured their partial functionality for their own needs.

The loss of port infrastructure requires immediate measures for its restoration and modernization aimed at effectively restoring the country's economic potential and ensuring sustainable development during post-war reconstruction [4]. Currently, three small ports at the mouth of the Danube are fully operational and increasing their cargo handling: Izmail, Reni, and Ust-Danube ports. In peacetime, they accounted for slightly less than 5% of exports. The Danube ports currently cannot fully replace the throughput capacity of the sea ports because:

- Physically, they can handle up to 10 million tons per year, while sea ports can handle up to 250 million tons.
- Only small ships and barges can enter the Danube ports, meaning the batches will be small, which physically limits the geography of cargo delivery and increases delivery costs.
- The throughput capacity of river ports is smaller, which physically limits the cargo flow.

Despite relatively minor infrastructure damage, the water transport sector faces enormous indirect losses. The total indirect losses associated with the sea port and inland water transport infrastructure are estimated at over 80 billion UAH or 2.7 billion USD [4]. This amount is defined as lost income due to the aggressor's control over the Black Sea waters, the use of the fleet and missile installations in Crimea, and the installation of sea mines. As a result, maritime trade traffic has been completely halted, and some ports, such as Mariupol, Berdyansk, and Skadovsk, are occupied.

The ports of Mykolaiv, Odesa, and Kherson have practically ceased their activities, and water traffic on the Dnipro has stopped due to the river mouth's blockage. Only the Danube ports continue to operate, with cargo turnover through

them increasing fourfold compared to the pre-war period. This situation in the transport market requires careful analysis and strategic decisions to restore the efficiency and stability of the industry in conflict conditions.

Railway Infrastructure

With the onset of the war, the Ukrainian railway demonstrated its critical role as an element of critical infrastructure, taking on the responsibility of evacuating millions of Ukrainian citizens and businesses located in the combat zone. The railway was involved in the supply of critically important materials, equipment, and weapons.

Preliminary estimates indicate that the total length of damaged railway track is up to 200 km, and approximately 1200 km of railway tracks are located in temporarily occupied territories. Notably, 57 stations and terminals were damaged due to military actions [4]. It's also important to consider the movable property of Ukrzaliznytsia, which remained in occupied territories, creating additional challenges for the restoration and effective functioning of the railway system in conflict conditions.

This has led to problems with product exports due to railway congestion and bottlenecks. The reasons for this include:

- Capacity constraints at checkpoints.
- Technological limitations associated with changing the wheelsets of wagons to another gauge size (from Ukrainian 1520 mm to European 1435 mm).
- Constraints in conducting control procedures by border guards, customs officers, and phytosanitary inspection on both the Ukrainian and neighboring countries' sides.
- Restrictions at the junctions of different types of transport: European ports cannot handle such a volume of grain in wagons.
- Capacity limitations of the railway infrastructure of neighboring countries (sorting stations, track and route capacity, number of rolling stock).

- Warehouse infrastructure constraints: physical absence of warehouses for transshipment/storage and accumulation of grain, etc.

The total losses of the railway are estimated at 3.1 billion USD. Considering the significant social burden on Ukrzaliznytsia, indirect losses in railway infrastructure are estimated at 4.4 billion USD [20].

Air Transport

The aviation industry began to suffer losses from military aggression even before it started. In early 2022, international insurance companies announced the termination of aircraft insurance due to the high likelihood of a Russian military invasion. With the onset of hostilities, the airspace over Ukraine was closed to civil aviation flights. This makes operational activities impossible for both Ukrainian and foreign airlines, particularly for cargo transportation. It should be noted that out of the 35 available airfields, 19 were damaged, including 12 civilian and 7 dual-purpose airfields.

The total damage to the aviation industry, including airports, airfields, and aviation equipment, is estimated at over 57.3 billion UAH (2.04 billion USD). Indirect losses in the aviation industry for the 21 months of the war amount to approximately 154.7 billion UAH (5.3 billion USD). This amount is distributed as follows [20]:

- Airport losses amount to 13.6 billion UAH (0.46 billion USD).
- Airline losses – 125.2 billion UAH (4.28 billion USD).
- State Air Traffic Service Enterprise of Ukraine (UkSATSE) – 7.4 billion UAH (0.25 billion USD).[19]
- Losses of other business entities at airports – 8.4 billion UAH (0.29 billion USD).

Road Transport

According to analytical calculations, the direct damage caused to municipal enterprises and private carriers due to destroyed transport amounts to 25 billion UAH

or 0.9 billion USD. This concerns destroyed trolleybuses, trams, and buses [4]. The largest losses of municipal property were in the Luhansk and Donetsk regions, as well as in Kharkiv.

The assessment of private passenger vehicle losses is based on officially registered vehicle data and does not consider possible losses of unregistered transport in the regions. Direct losses of private passenger vehicles are estimated at 28.5 billion UAH or 1 billion USD, equivalent to the loss of 105 thousand cars. Additionally, 623 fire trucks were lost, amounting to 900 million UAH or 30 million USD, excluding other specialized equipment and freight vehicles [20].

Due to active hostilities and losses of passenger transport, urban and suburban passenger transportation has almost completely stopped in frontline and occupied regions. According to estimates, indirect losses of passenger auto carriers amount to approximately 5.9 billion UAH or almost 200 million USD.

Warehouse Logistics

The total amount of direct damage caused by Russia to Ukrainian infrastructure, industrial facilities, and production logistics has increased to nearly 50 billion USD since the start of Russia's aggression in Ukraine. According to the Government Office for Investment Attraction and Support, UkraineInvest, due to Russia's full-scale aggression in Ukraine, 22% of warehouse facilities have been destroyed and damaged [5]. At the beginning of 2022, there were over 2.5 million square meters of warehouse infrastructure, mainly in the Kyiv region. It is noted that more than 382 thousand square meters of warehouse space were completely or partially destroyed, mostly in the Kyiv region [5].

Among the companies that felt the consequences of Russia's aggression in the Kyiv region were warehouses of large firms such as MHP, Rozetka, Foxtrot, Fozzy Group, ATB, NOVUS, Bohnenkamp Ukraine, Good Wine, Ekol Logistics Ukraine, Logistic Plus, Watsons, SAVService, DC Ukraine, and Mary Kay, as well as numerous other manufacturers, developers, sellers, and suppliers.

Some destroyed logistics complexes have been restored or are in the process of restoration. For example, the ATB supermarket chain has begun restoring two of its warehouse facilities, and the RLC company is reconstructing damaged warehouses in Brovary. Dragon Capital also successfully restored one of the buildings destroyed by the enemy, a large logistics complex West Gate Logistic near the village of Stoyanka.

In total, over the past year, more than 40 thousand square meters of new warehouse space have been restored and built, which were frozen at the beginning of the war. However, the task is not only to restore the destroyed but also to modernize the logistics infrastructure, which requires a high level of digitalization, automation, and the creation of modern class "A" warehouse facilities.

One of the strengths of Ukraine's logistics complex is its ability to adapt to new business realities. Adaptation is one of the essences of logistics, which cannot stop, because a stoppage means the absence of trade and exchange of goods, practically the absence of consumption, which in the modern world equals the absence of life. Despite the great shock experienced by Ukraine's transport and logistics system at the beginning of the war, it coped with the challenge and managed to ensure the transportation of necessary goods to and from Ukraine.

The priority for the Ukrainian government in stabilizing the transportation and logistics market should be the construction and modernization of railway tracks towards the EU border and Danube ports. Business investments in developing transport hubs, road overpasses, and European gauge railway tracks are considered primary.

Key logistics projects include expanding narrow-gauge railways, developing a network of dry ports, simplifying customs procedures, and expanding the capabilities of checkpoints on the border with the EU. To facilitate the normal functioning of infrastructure and speed up the processing of goods from Ukraine, it is already possible to modernize railway tracks, continue the narrow-gauge railway with terminals to the western stations of Ukraine, deploy points for changing rolling stock

from wide gauge to narrow gauge at all border crossings with the EU, and simplify customs procedures during crossing the border with the EU [22].

Due to the reorientation of transport flows, increasing the throughput capacity of export-import transportation with EU countries has become the most pressing issue. This segment and containerization of cargo flows are the most investment-attractive.

Promising for further development, according to experts, are railway crossings on the border between Ukraine and Poland. One of the most attractive is the European gauge section from Kovel to the Polish town of Chełm. Overall, it is important to build new transshipment complexes and cross-border terminals in western Ukraine, develop river transport, and other components of the logistics complex for exporting Ukrainian agricultural products.

Long-term Opportunities [based on 76]. *Granting Ukraine Candidate Status to the European Union.* Ukraine's candidate status for European Union membership will facilitate the gradual opening of the EU market, providing a significant boost to the country's transport and logistics sector. The next stage is the full implementation of the Association Agreement and the realization of all the possibilities of EU candidate status. This will mean closer cooperation in politics and security and gradual economic integration into the EU's single market [77].

Joint Transport Agreement with the EU. The Joint Transport Agreement with the EU liberalizes road freight transport to EU countries. This agreement eases the movement of goods between Ukraine and the EU, reducing logistical bottlenecks and increasing trade efficiency.

According to Ministry for Communities, Territories and Infrastructure Development of Ukraine [78], key results of the Agreement signed on 29 June 2022 are:

1. Exports of Ukrainian goods by road to the EU increased by 40% in 2022 compared to the previous year and by 30% in 2023 compared to 2021;
2. Imports of goods to Ukraine from the EU increased by 11% in 2022 and by 25% in 2023 compared to 2021 – before the signing of the Agreement;
3. 48% more goods were exported to the EU by road in the first year and a half of the Agreement than in the same period before it was signed. Imports increased by 44% during this period.

Joining International Conventions. Joining the Convention on a Common Transit Procedure and the Convention on the Simplification of Formalities in Trade in Goods will streamline customs operations and coordination with Ukraine's neighboring countries. These Conventions enable goods to move much more easily between the EU and the Common Transit Countries (Norway, Iceland, Switzerland, North Macedonia, Serbia, Turkey and UK). Simplified rules, such as mutually recognised financial guarantees and less controls, help to cut down on costs for EU and partner country businesses, while facilitating and boosting trade [79]. This will reduce queues at the border and speed up the movement of goods, facilitating smoother trade flows.

Integration into the Trans-European Transport Network (TEN-T). Integration into the TEN-T will ensure that Ukraine's transport infrastructure meets EU interoperability requirements. This will involve significant investments in modernizing railways, roads, and other transport infrastructure, enhancing connectivity with the EU and improving overall transport efficiency. With an integration of the UA rail system into the EU rail system in terms of operational procedures, time schedules, capacity allocation etc. the UA rail system can benefit from the recent years of technological and operational development of the EU rail system. Moreover, economic activity will be enhanced through the improvement of the border crossing procedures with the EU. Finally, as part of the future revised

TEN-T regulation there will be opportunities for enhanced coordination in the medium and long-term development of the lines [80, p.83].

Additional portion of opportunities based on deviation in 2.3, which compared RCEP and EU in some particular fields. Drawing on lessons from Southeast Asian countries, which have successfully enhanced regional connectivity and integrated into broader economic frameworks, there are several recommendations for Ukraine's integration. Firstly, Ukraine should prioritize aligning its transport and logistics regulations with EU standards. This includes adopting EU vehicle standards, safety regulations, and environmental norms. Simplifying and digitizing customs procedures in line with EU practices is also crucial. Implementing electronic customs systems similar to the ASEAN Single Window can reduce clearance times by up to 40%. Ukraine can aim to reduce average customs clearance time from the current 5-7 days to 1-2 days within five years and Mexico's national strategy provided in section 2.2 can also be helpful and provide some serious lessons for Ukraine here.

Secondly, significant investments in transport infrastructure, such as the the China's BRI also must be example for Ukraine, which should develop and enhance key transport corridors that connect it to the EU. For this, it is important to ocus on projects that improve rail, road, and port infrastructure, ensuring they meet EU standards (emphasis on it was already stated earlier in this section).

Effective regional cooperation within ASEAN has been important in boosting collective bargaining power and achieving common goals. Ukraine should strengthen alliances with neighboring countries to develop joint infrastructure projects and harmonize regulations. Collaborative projects can attract more significant investment and improve regional connectivity. Actively participating in EU forums and working groups focused on transport and logistics is vital. Ukraine should aim to join EU initiatives like the Connecting Europe Facility to access funding and technical support for large-scale projects.

CONCLUSIONS

During the research, the theoretical foundations of the competitive development of markets in the global services sector and the factors, institutions, models, trends, strategies, challenges and opportunities for the development of the world market of transport and logistics services were summarized and studied, taking into account external and internal risks in relation to the global logistics system. On the basis of the obtained results, recommendations were substantiated for more effective use of its potential by domestic business entities.

In accordance with the first task, theoretical concepts and models related to the sector of transport and logistics services were defined and analyzed. The evolution of economic activity and the growing importance of the service sector as countries develop were studied. In this context, international logistics and transport services have become critical components of the service sector, supporting the movement of goods and people across borders and enhancing global connectivity. Key economic factors, technological innovations, policy and regulatory frameworks, environmental issues and institutional arrangements affecting this market have also been considered.

The factors that influence the development of the world market of logistics services were discovered. It examines how economic conditions, such as GDP growth, inflation rates, and exchange rates, affect demand for logistics services and operating costs. It also examines how changing consumer behavior, such as the transition to e-commerce, affects the structure of demand for logistics.

During the study of the main trends of logistics services in the world market, it was found that among the key trends, a growing emphasis on digitalization and technological innovations was identified. Governments are supporting the development of intelligent logistics solutions such as real-time tracking systems, autonomous vehicles and blockchain-based platforms. These technologies have the

potential to revolutionize the industry by increasing efficiency, reducing costs and increasing transparency.

According to one of the tasks that was set in the work in the second chapter, national and institutional strategies for market development are evaluated, with a special emphasis on Southeast Asia. The Chinese initiative "One Belt, One Road", the logistics strategy of Germany until 2030, the Indian project "Sagarmala" as an object for study and a few other projects from Canada, Turkey and Mexico were assessed. These logistics projects look and have the largest scope and prospects for the implementation of the plan. Their main features were studied , as well as their potential benefits and challenges.

An important stage of our thesis was the study of challenges and opportunities for Ukraine's participation in the world market. The impact of the war on the transport infrastructure of Ukraine is analyzed, in particular the loss of ports, railway infrastructure, airports, road transport and warehouse logistics. The need to restore and modernize these facilities was discussed, as well as the prospects for the development of the transport and logistics industry in Ukraine.

The peculiarities of the development of the world markets of transport and logistics services are analyzed using the example of the South-East Asian market. Key indicators of logistics performance in ASEAN countries were assessed, including their LPI rating, key logistics investments and key strategic initiatives. In-depth research of Southeast Asian transport and logistics market and research of parallels between RCEP and EU, in particular, also helped to come up with the few opportunities and strategies for Ukraine’s integration into EU, which were discussed at the end of the section 2.4.

The recommendations refer to more effective use of the potential of the world market of transport and logistics services by domestic national and commercial entities. The priority for the Ukrainian government in stabilizing the transport and logistics market should be the construction and modernization of railway tracks in the

direction of the border with the EU and the Danube ports, aligning its transport and logistics regulations with EU standards, and collaborative projects and alliances with neighbouring countries to develop joint infrastructure projects and harmonize regulations. Commercial investments are considered to be of primary importance in the development of European-level transport hubs, roads and railways.

Summarizing the work, it is worth noting that it considered a wide range of issues related to the development of the world market of transport and logistics services. Theoretical foundations, key trends, national and corporate strategies, as well as challenges and opportunities for Ukraine were also analyzed. The results of the study can be useful for politicians, business structures and scientists who dealwith issues of the development of transport logistics.

REFERENCES

1. Hadzhynskyy A. M. (2019) Praktykum iz lohistyky [Workshop on logistics]. Informatsiyno-vprovadzhuvalnyy tsentr [Information and implementation center]. «Marketynh», 116 p. (in Ukrainian)
2. Hordon M. P. (2020) Dosvid vzayemodiyi postachalnytsko-zbutovykh ta transportnykh orhanizatsiy z perevezen vantazhiv [Experience of interaction of supply and sales and transport organizations in cargo transportation]. (in Ukrainian)
3. Kuz′oma O. Y. (2018) Yevrovektor zovnishnoyi torhivli Ukrayiny v konteksti rozshyrennya ES [Eurovector of Ukraine's foreign trade in the context of EU expansion]. Visnyk Kyyivskoho natsionalnoho universytetu [Bulletin of Kyiv National University. Series: Economy]. Issue 98, pp. 13–17.
4. Ofitsiynyy sayt Svitovoyi orhanizatsiyi torhivli [Official website of the World Trade Organization]. Available at: https://www.wto.org (accessed 22 June 22 2022).
5. Period zrostayuchoho navantazhennya: analiz rynku avtomobil′nykh i zaliznychnykh perevezen′ Ukrayiny [The period of increasing load: analysis of the road and rail transportation market of Ukraine]. Available at: https://pro-consulting.ua/ua/pressroom/periodvozrastayushej-nagruzki-analiz-rynka-avtomobilnyh-i-zheleznodorozhnyhperevozok-ukrainy (accessed 22 June 22 2022).
6. US Transport System [Electronic resource] /Amerikos.com. – Access mode: http://amerikos.com/usa/transportation-s/. Cap. from the screen.
7. Note by the Secretariat of the Economic Commission for Europe on changes in transport in the European Union [Electronic resource] / UN; ESS ; EEC; seventy-sixth session, paragraph 17. – Geneva – 2014. – pp. 2–4. – Journal access mode:

http://www.unece.org/fileadmin/DAM/trans/doc/2014/itc/ECE-TRANS-2014-29r.pdf. - Cap. from the screen

8. Cargo transportation in Europe: efficiency and equal conditions for all [Electronic resource] / Motor transport portal. – Access mode: http://transler.ru/content/arxiv_perevozhic/perevozhic_08/perevozhic_99/Opyt_kolleg_quotGruzoperevozki_v_Evrope_effektivnost_i_ravnye_usloviya_dlya_vsehquot . - Cap. from the screen
9. Ukrzaliznytsia transported almost 150 million tons of cargo in 2023. APC-Inform. URL: https://www.apk-inform.com/uk/news/1539111 (date of access: 08.06.2024).
10. Dzyamulych M. I., Shmatkovska T. O. Influence of modern information systems and technologies on the formation of the digital economy. Economic Forum. 2022. No. 2. P. 3–8.
11. Chalyuk Y. O. Determinants of digitization of the economy and society. Intelligence XXI. 2020. No. 5. P. 138–143
12. Blanchard, Jean-Marc F. (2021). "Belt and Road Initiative (BRI) Blues: Powering BRI Research Back on Track to Avoid Choppy Seas". Journal of Chinese Political Science. 26: 235–255.
13. Simon; Klaus, Ian (2024). The Belt and Road City: Geopolitics, Urbanization, and China's Search for a New International Order. New Haven and London: Yale University Press.
14. Asian Development Bank. "Meeting Asia's Infrastructure Needs". February 2017. Manila, Philippines: Asian Development Bank. Available at: https://www.adb.org/publications/asia-infrastructure-needs (Accessed: 20 June 2024).
15. Sagarmala Projects. Drishti IAS. URL: https://www.drishtiias.com/daily-news-analysis/sagarmala-projects (date of access: 07.06.2024).

16. Southeast Asia Logistics Market Size, Share, Forecast 2032. *Market Research Company, Reports and Consulting Services | IMARC*. URL: https://www.imarcgroup.com/southeast-asia-logistics-market (date of access: 08.06.2024).
17. ASEAN E-commerce Logistics Market - Companies, Trends & Analysis. *Market Research Company - Mordor Intelligence™*. URL: https://www.mordorintelligence.com/industry-reports/asean-e-commerce-logistics-market (date of access: 08.06.2024).
18. Derzhavna sluzhba statystyky Ukrainy. [Elektronnyi resurs]. – Rezhym dostupu: https://www.ukrstat.gov.ua
19. Torhivlia 2022 za vydamy transportnykh perevezen. [Elektronnyi resurs]. – Rezhym dostupu:https://export.gov.ua/news/4413torgivlia_2022_roku_za_vidami_transportnikh_perevezen
20. Audyt zbytkiv, ponesenykh vnaslidok viiny. [Elektronnyi resurs]. – Rezhym dostupu:https://www.kmu.gov.ua/storage/app/sites/1/recoveryrada/ua/audit-of-war-damage.pdf
21. Lohistychna skladova povoiennoho vidnovlennia: pidkhody ta poshuky resursiv. [Elektronnyi resurs]. – Rezhym dostupu: https://www.ukrinform.ua/rubric-vidbudova/3700927-logisticna-skladova-povoennogo-vidnovlenna-pidhodi-ta-posuk-resursiv.html
22. Po dorozi: ukrainska transportno-lohistychna haluz prokhodyt shliakh vid stuporu na pochatku viiny do intehratsii u yevromerezhi. [Elektronnyi resurs]. – Rezhym dostupu: https://logist.fm/publications/ekonomika-ukrayini-ta-logistichniy-sektor-pid-chas-viyni-problemimodernizaciyi-ta
23. Po dorozi: ukrainska transportno-lohistychna haluz prokhodyt shliakh vid stuporu na pochatku viiny do intehratsii u yevromerezhi. [Elektronnyi resurs]. – Rezhym

dostupu: https://delo.ua/transport/po-dorozi-ukrayinska-transportno-logisticna-galuz-proxodit-slyax-vid-stuporuna-pocatku-viini-do-integraciyi-u-jevromerezi/

24. Zmina tendentsii: pidsumky 2022 roku na rynku skladskoi lohistyky. [Elektronnyi resurs]. – Rezhym dostupu: https://rau.ua/novyni/pidsumki-2022-skladskoi-logistiki/
25. Vitrenko A. (2016) Servisna ekonomika: teoriya, suchasni vikliki ta globalni trendi [Service economics: theory, current challenges and global trends]. Kyiv: Znannya, 413 p. (in Ukranian)
26. Ovdiyk O., Shvets T. (2020) Strategichni aspekti rozvitku vitchiznyanogo rinku sferi poslug [Strategic aspects of development of the domestic services market]. *Efektivna ekonomika*. Available at: http://www.economy.nayka.com.ua/?op=1&z=8194 (accessed 24 December 2021).
27. Kosichenko I. (2019) Geneza servisnoï ekonomiki: golovnij trend postindustrialnogo suspilstva [The genesis of the service economy: the main trend of post-industrial society]. *Prichornomorski studyi*, no. 48–1, pp. 29–35.
28. Pugachevska K. (2016) Sfera poslug v Ukraini: osoblivosti rozvitku ta strategichni perspektivi [Services in Ukraine: features of development and strategic perspectives]. *Naukovij visnik mizhnarodnogo gumanitarnogo universitetu. Zbirnik naukovih prac*, no. 18, pp. 52–56.
29. Vitrenko A. (2017) Rozvitok sferi poslug v umovah postindustrialnih transformacij [Development of the service sector in the conditions of post-industrial transformations]. Kyiv, 40 p. (in Ukranian)
30. Nazarenko Y. (2017) Formuvannya kriteriyv yakosti poslug pasazhirskogo transportu v umovah evropejskoy integraciy Ukrainy [Formation of criteria for the quality of passenger transport services in the context of Ukraine's European integration]. *Ekonomika ta upravlinnya na transporti*, no. 17, pp. 72–77.

31. Ivanechko N. (2015) Marketingovi strategii pidpryemstv na rinku torgovelno-rozvazhalnih poslug [Marketing strategies of enterprises in the market of shopping and entertainment services]. Ternopil, 20 p. (in Ukranian)
32. Dombrovska S. (2019) Derzhavna politika formuvannya servisno-orientovanoi ekonomiki sfery poslug [State policy of formation of service-oriented economy of services]. *Investiciy: praktika ta dosvid*, no. 10, pp. 105–110.
33. Transforming our world: the 2030 Agenda for Sustainable Development: Resolution adopted by the General Assembly on 25 September 2015 [without reference to a Main Committee (A/70/L.1)]. General Assembly. 2015. 21 October. URL:https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_70_1_E.pdf
34. Lidiia Savchenko, Dmytro Bugayko, Svitlana Smerichevska. Environmental and social responsibility in supply chains / Economics, management and administration in the coordinates of sustainable development: Scientific monograph. Edited by Serhii Smerichevskyi, Tetiana Kosova. Riga, Latvia: Baltija Publishing, 2021. 716 pages (P. 596-615).
35. Transport logistics. [Electronic resource]. - Link: https://olimprem.ru/uk/transportnaya-logistika-analiz-razlichnyh-vidov-transporta.html.
36. D. Bugayko, Y. Kharazashvili. Antonov Airlines. Approaches of the International Civil Aviation Organisation (ICAO) to air transport risk management in the context of the COVID19 pandemic. "Problems of organisation of aviation, multimodal transport and application of aviation in economic sectors": Proceedings of the International Scientific and Practical Conference - Kyiv, 27 November 2020: a collection of scientific papers. K. NAU, 2020. PP. 58-62.
37. Dmytro Bugayko, Yuliya Ierkovska, Fariz Aliev, & Mariia Bahrii. The concept of national integrated risk management of aviation transport of Ukraine.

Intellectualisation of logistics and Supply Chain Management, (10). K.2021. P. 6-18.

38. DO Bugayko, AO Antonova, Zamiar Zenon. Identification of Air Transport Ecological Component Level in the Context of Ensuring Sustainable Development of the National Economy. Intellectualisation of logistics and Supply Chain Management. Vol.3. K.2020: Viold. P.38-53.
39. Oksana Ovdiienko, Mariia Hryhorak, Volodymyr Marchuk, Dmytro Bugayko. An assessment of the aviation industry's impact on air pollution from its emissions: worldwide and the Ukraine.
40. Environmental problems of transport logistics. [Electronic resource]: http://uchebniks.net/book/318-transportna-logistika-navchalnij-posibnik-smirnov-ig/11-16-formuvannya-rinku-transportno-logistichnix-poslug-v-ukrayini.html.
41. The concept of business digitalisation: areas and necessity. [Electronic resource]. - Link: https://evergreens.com.ua/ua/articles/business-digitalization.html.
42. Cloud technologies. [Electronic resource]. - Link: https://valtek.com.ua/ua/system-integration/it-infrastructure/clouds/cloud-technologies.
43. Andrzej Szymonik. Ekonomika transportu dla logistyki i logistyki. Teoria i praktyka. Łódź, 2013, 231 ul. \
44. Integration of Ukraine into the transport and logistics system of the European Union. Black Sea Economic Studies. 2016. Issue 7. C. 55-58. 3. Tridid O.M. Logistics: a textbook. K.: Znannya, 2008. 566 c
45. Logistics: Textbook for higher and secondary specialised educational institutions - Marketing, 1998. 228 p.
46. Monitoring and logistics of production processes in the industry [Electronic resource]: a course of lectures for students of speciality 7.05170108 "Technologies of storage, preservation and processing of milk" full-time and part-time forms of education / compiled by N.V. Chepel - K.: NUFT, 2014. - 126 p.

47. Drozdov P.A. Logistics: a textbook / P.A. Drozdov: Vyssha Shkola, 2015. - 357 p.
48. Sokur I.M. Transport logistics: a textbook for students of higher education institutions / I.M. Sokur, L.M. Sokur, V.V. Gerasymchuk - K.: Centre for Educational Literature, 2009. 222 p.
49. Jean-Paul Rodrigue, Claude Comtua, Brian. Geography of transport systems. New York, 2013, 411 p.
50. Christopher, M. Logistics and supply chain management, 4th edition, Pearson, Great Britain. 2011, 276 p.
51. Trushkina N. Improvement of the organisational and economic mechanism for managing the logistics activities of the enterprise. International scientific electronic journal. 2019. Issue 5. No. 4. pp. 156-172.
52. Wang, X., Chen, Y., and Zhang, L. (2013). Construction of a system for evaluating the efficiency of transport of logistics companies. Journal of Industrial Engineering and Management, 2013. Issue. 6. No. 4, art. 1084-1104.
53. IMARC Group. (2023). Southeast Asia Logistics Market Size, Share, Forecast 2032. Retrieved from https://www.imarcgroup.com/southeast-asia-logistics-market
54. Global Logistics Market (2022 to 2027) - Industry Trends, Share, Size, Growth, Opportunity and Forecasts - ResearchAndMarkets.com: https://www.businesswire.com/news/home/20220404005541/en/Global-Logistics-Market-2022-to-2027---Industry-Trends-Share-Size-Growth-Opportunity-and-Forecasts---ResearchAndMarkets.com
55. Mordor Intelligence. (2024). Southeast Asia E-Commerce Logistics Market Report (2024). Retrieved from https://assets.ctfassets.net/xhb8a7jtuvut/3YGahaPtXo6dgwVTArthyL/0ad39bb00cdb11dfe4e51b046c2ab9bf/_2024__Southeast_Asia_E-Commerce_Logistics_Market_Report.pdf

56. Luwjistik. (n.d.). Outlook of the Logistics Industry in Southeast Asia. Retrieved from https://luwjistik.com/outlook-of-the-logistics-industry-in-southeast-asia/

57. East Ventures. (n.d.). Exploring Southeast Asia's logistics horizon. Retrieved from https://east.vc/news/insights/exploring-southeast-asias-logistics-horizon/

58. World Bank. 2023. Logistics Performance Index top. URL: https://lpi.worldbank.org/international/global

59. Precedence Research. Logistics Market (By Transportation Type: Airways, Waterways, Railways, Roadways; By Logistics Type: First Party, Second Party, Third Party; By End User: Industrial and Manufacturing, Retail, Healthcare, Oil & Gas) - Global Industry Analysis, Size, Share, Growth, Trends, Regional Outlook, and Forecast 2024-2033. URL: https://www.precedenceresearch.com/logistics-market

60. Transport Canada Evaluation and Advisory Services. Evaluation of the Asia-Pacific Gateway and Corridor Initiative and the Gateways and Borders Crossing Fund. 2017. URL: https://tc.canada.ca/sites/default/files/migrated/publication_final_english_report__asia_pacific_gateway_and_corridor_initiative_and_the_gateways_and_borders_crossing_fund.pdf

61. Coşar, A. Kerem; Demir, Banu (2014) : Domestic Road Infrastructure and International Trade: Evidence from Turkey, Working Paper, No. 1406, Koç University-TÜSİAD Economic Research Forum (ERF), Istanbul. URL: https://www.econstor.eu/bitstream/10419/108648/1/erf_wp_1406.pdf

62. Alda, Erik; Giménez, Víctor; Paz Castro, Irvin Gilberto; [et al.]. «Modernization plans for the Mexican customs system : have they really worked? A productivity impact assessment». Applied Economics, February (2023). 16 pàg. Taylor and Francis Group. URL: https://ddd.uab.cat/pub/artpub/2023/279267/Modernization_plans_for_the_Mexican_customs_system.v3.pdf

63. LOGISTICS DEVELOPMENT STRATEGIES AND PERFORMANCE MEASUREMENT © OECD/ITF 2016. URL: https://www.itf-oecd.org/sites/default/files/docs/logistics-strategy-performance-management.pdf
64. M. Kilibarda, M. Andrejić, V. Popović. Efficiency of logistics processes in customs procedures. 2017. URL: https://www.researchgate.net/publication/317821875_Efficiency_of_logistics_processes_in_customs_procedures
65. Toyota Motor Europe. Sustainable Purchasing Guidelines. 2023. URL: https://www.toyota-europe.com/content/dam/toyota/tme/assets-without-cars/2022/image/lifestyle/sustainability/chemical-management/toyota/2023/TME-Sustainable-Purchasing-Guidelines-2023.pdf
66. M.Christopher, H. Peck. Building the Resilient Supply Chain. 2004. URL: https://www.researchgate.net/publication/228559011_Building_the_Resilient_Supply_Chain
67. AN INSIGHT INTO TOYOTA SUPPLY CHAIN. 2023. URL: https://dfreight.org/blog/an-insight-into-toyota-supply-chain-strategy/#Muda_Muri_Mura
68. Toyota Blog. Muda, Muri, Mura – Toyota Production System guide. 2013. URL: https://mag.toyota.co.uk/muda-muri-mura-toyota-production-system/
69. Daniel Bell. The Coming of Post-Industrial Society: A Venture in Social Forecasting. 1973. Source: New York University Library
70. Different types of economies in the world. URL: https://www.studysmarter.co.uk/explanations/geography/regenerating-places/types-of-economies/
71. CHANGES OVER TIME AND SPACE. URL: https://maxwatsongeography.wordpress.com/section-b/economic-activity-and-energy/changes-over-time-and-space/

72. Factors behind the Development of Transport Systems. URL: https://transportgeography.org/contents/chapter3/transportation-and-economic-development/factors-behind-the-development-of-transport-systems/
73. Y. Huang. Strategic Environment Analysis of Logistics Enterprise based on SWOT-PEST- Michael Porter's Five Forces Model. 2019. URL: https://www.researchgate.net/publication/338090512_Strategic_Environment_Analysis_of_Logistics_Enterprise_based_on_SWOT-PEST-_Michael_Porter's_Five_Forces_Model_--_Taking_SF_Express_as_an_Example
74. ITF. L. Ojala, D. Celebi. The World Bank's Logistics Performance Index (LPI) and drivers of logistics performance. 2015. URL: https://www.itf-oecd.org/sites/default/files/docs/ojala.pdf
75. S. Su, J. Ke. National Logistics Performance Benchmarking: A Process-based Approach Using World Bank Logistics Performance Index Database. 2017. URL: https://www.researchgate.net/publication/313349490_National_Logistics_Performance_Benchmarking_A_Process-based_Approach_Using_World_Bank_Logistics_Performance_Index_Database
76. A. Novikova, S. Lytvynenko, T. Yashchenko, P. Ovchar. SWOT analysis of Ukraine's transport industry. 2024. URL: https://www.researchgate.net/publication/377660011_SWOT_analysis_of_Ukraine's_transport_industry
77. Delegation of the EU to Ukraine. How Ukraine can strengthen the EU's strategic autonomy in the areas of security, human capital, and economy – results of EuroSummit of CSOs. 2024. URL: https://www.eeas.europa.eu/delegations/ukraine/how-ukraine-can-strengthen-eu%E2%80%99s-strategic-autonomy-areas-security-human-capital-and-economy-%E2%80%93_en?s=232
78. Ministry for Communities, Territories and Infrastructure Development of Ukraine. Ukraine-EU agreement liberalizing carriage of freight by road increases

Ukrainian road exports by at least 30%. 2023. URL: https://www.kmu.gov.ua/en/news/uhoda-pro-liberalizatsiiu-vantazhnykh-perevezen-mizh-ukrainoiu-ta-ies-dozvolyla-zbilshyty-ukrainskyi-eksport-vantazhivkamy-shchonaimenshe-na-30

79. European Commission. Customs: Ukraine to join the Common Transit Convention and the Convention on the Simplification of Formalities in Trade in Goods on 1 October 2022. 2022. URL: https://taxation-customs.ec.europa.eu/news/customs-ukraine-join-common-transit-convention-and-convention-simplification-formalities-trade-goods-2022-09-05_en
80. Jaspers, European Investment Bank, European Commission. Strategy for the EU integration of the Ukrainian and Moldovan rail systems. 2023. URL: https://transport.ec.europa.eu/system/files/2023-07/Integration_of_the_UAMD_railway_system_into_the_EU_transport_system.pdf
81. J.H.R. van Duin, S. Dharmasastha, J.P.S. Piest. TOWARDS AUTOMATED CONTAINER TRANSPORTATION BY INTEGRATING BLOCKCHAIN TECHNOLOGY: A CASE STUDY AT XL BUSINESSPARK IN ALMELO. 2021. URL: https://vervoerslogistiekewerkdagen.com/wp-content/uploads/2021/11/TOWARDS-AUTOMATED-CONTAINER-TRANSPORTATION.pdf
82. European Parliament. Contribution to growth: free movement of goods. 2019 URL:https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/631063/IPOL_IDA(2019)631063_EN.pdf
83. European Parliament. Short overview of RCEP. 2021. URL:https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/653625/EXPO_BRI(2021)653625_EN.pdf
84. Eurostat. Purchasing power parities in Europe and the world. 2024. URL: https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240530-2

85. World Economics. Regional Comprehensive Economic Partnership. 2024. URL: https://www.worldeconomics.com/Regions/RCEP/

86. The Economic Times. ASEAN wants India to join RCEP for greater market access: Secretary-General Kao. 2023. URL: https://economictimes.indiatimes.com/news/economy/foreign-trade/asean-wants-india-to-join-rcep-for-greater-market-access-secretary-general-kao/articleshow/105376278.cms?from=mdr

87. Official Journal of EU. European Parliament legislative resolution of 21 May 2008 on the proposal for a regulation of the European Parliament and of the Council establishing common rules concerning the conditions to be complied with to pursue the occupation of road transport operator (COM(2007)0263 — C6-0145/2007 — 2007/0098(COD)). 2009. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52008AP0217&from=LT

88. O. Cadot, L. Ing. Non-tariff Measures and Harmonisation: Issues for the RCEP. 2015. URL: https://www.eria.org/ERIA-DP-2015-61.pdf

89. European Commission. Commission identifies the infrastructure priorities and investment needs for the Trans-Europen Transport Network until 2030. 2015. URL:https://ec.europa.eu/commission/presscorner/detail/en/IP_15_3341

90. European Commission. Connecting Europe Facility. URL: https://transport.ec.europa.eu/transport-themes/infrastructure-and-investment/connecting-europe-facility_en

91. Digital Transport and Logistics Forum, European Commission. Digital Transport and Logistics Forum. URL: https://transport.ec.europa.eu/transport-themes/digital-transport-and-logistics-forum-dtlf_en

92. Internal Council on Clean Transportation. The role of the European Union's vehicle CO2 standards in achieving the European Green Deal. 2021. URL: https://theicct.org/wp-content/uploads/2021/06/EU-vehicle-standards-green-deal-mar21.pdf

93. Ministry of Foreign Affairs of Japan. Japan's initiative toward netzero GHG emissions by 2050. 2021. URL: https://www.mofa.go.jp/files/100256809.pdf
94. Electric Vehicles. 2024. URL:https://www.iea.org/energy-system/transport/electric-vehicles

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