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**ANALYSIS OF ORGANIZATIONAL AND ECONOMIC
MECHANISMS OF DEVELOPMENT IN MARITIME
TRANSPORT IN CONDITIONS OF SECURITY THREATS****АНАЛІЗ ОРГАНІЗАЦІЙНО-ЕКОНОМІЧНИХ МЕХАНІЗМІВ
РОЗВИТКУ НА МОРСЬКОМУ ТРАНСПОРТІ В УМОВАХ
БЕЗПЕКОВИХ ЗАГРОЗ**

Summary. The article examines the author maritime transport in Ukraine, which is in a state of turbulence in the business environment, so the development of the transport market and the dynamics of the military impact of maritime transportation are subject to significant fluctuations. In modern conditions of international shipping companies, along with the desire to maximize current financial indicators, issues related to long-term planning of the chartering of the fleet of shipping companies. The freight transportation market and the dynamics of the military impact on the economy of Ukraine. In wartime, the prerequisite for the stable functioning of transport markets is the localization of market reproduction processes. One of the priority tasks is the development and implementation of organizational and economic mechanisms and measures for the formation of cargo transportation strategies by shipowners.

Keywords: organizational and economic mechanism, chartering, shipping companies, logistics, shipping safety, development strategies.

Анотація. У статті розглядається автором, морський транспорт в Україні який перебуває в стані турбулентності бізнес-середовища, тому розвиток транспортного ринку та динаміка військового впливу морських перевезень схильні до значних коливань. У сучасних умовах, під час аналізу роботи міжнародних судноплавних компаній, поряд із прагненням максимізувати поточні фінансові показники, важливими є також питання, пов'язані з довгостроковим плануванням фрахтування флоту судноплавних компаній, з урахуванням економічних тенденцій у зміні стану ринку вантажів та динаміки військового впливу на економіку України. Тому виникає питання пошуку подальших векторів розвитку судноплавства в контексті морського бізнесу. У воєнний час передумовою стабільного функціонування транспортних ринків є локалізація процесів відтворення ринку. Внаслідок руйнування низки підприємств транспортного сектору та припинення логістичних шляхів постачання, одним із пріоритетних завдань є розробка та впровадження організаційно-економічних механізмів та заходів щодо формування стратегій перевезень судновласниками. Перш за все, необхідно визначити об'єкт управління, яким є організаційні процеси, що відбуваються в судноплавних компаніях, та суб'єкт управління, яким є морський транспорт. Вищезазначені групи сценаріїв розвитку бізнес-середовища, оцінки динаміки реалізації логістичних маршрутів судноплавства дозволяють порівняти показники логістичної діяльності судноплавних компаній під впливом війни та перспективи повоєнного періоду в Україні. Жорстка конкуренція за домінування на світовому ринку судноплавства з надання транспортних послуг спонукає флагманів морської галузі широко впроваджувати економічні стратегії у свою діяльність та інвестувати в розвиток високих технологій, що посилюють конкурентні переваги в ефективності, швидкості, безпеці та екологічності судноплавства. Комерційне управління судном здійснюється фрахтувальником, згідно з яким фрахтувальник використовує судно для перевезення вантажів між портами в послідовних рейсах. Отже, загальний вплив економічних змінних призводить до збільшення попиту на морські перевезення.

Ключові слова: організаційно-економічний механізм, фрахтування, судноплавні компанії, логістика, безпека судноплавства, стратегії розвитку.

Problem statement. Solving the existing complex problems of maritime infrastructure development, in particular shipping enterprises, is possible only by implementing an option mechanism for chartering ships on international exchanges, which confirms the effectiveness of the organizational and economic mechanism for the development of maritime transport on the example of shipping companies. As a result of the destruction of a number of transport sector enterprises and the termination of logistics supply routes, one of the priority tasks is the development and implementation of organizational and economic mechanisms and measures for the formation of freight strategies by shipowners. The main problem goals that determine the need to renew the fleet of shipping companies have been established. First of all, it is necessary to determine the object of management, which is the organizational processes taking place in shipping companies, and the subject of management, which is maritime transport.

The above groups of business environment scenario development, assessments of the dynamics of implementation of logistics shipping routes allow us to compare the indicators of logistics activities of shipping companies under the influence of war and the prospects of the post-war period in Ukraine. The current state of technological progress increasingly affects the economic component of both individual enterprises, such as shipping companies, and the state as a whole, as it involves the introduction of innovative technologies and products into their operation.

Therefore, in the analytical study, the authors propose to form an organizational and economic mechanism for development in maritime transport, which is understood as a complex system of functional relationships between objects, subjects, approaches, principles, functions and other components of economic activity, which will ensure the realization of the competitive advantages of the maritime industry of Ukraine on the world stage and will contribute to increasing the pace of their development and increasing the quality and volume of transport services. Commercial management of the vessel is with the charterer, according to which the charterer uses the vessel to transport cargo between ports in consecutive voyages. The overall impact of economic variables leads to an increase in demand for maritime transport. The main factors influencing the fleet renewal processes have been identified: freight market trends, the volume of transport work in already developed markets. The possibilities of entering new markets, the level of prices for vessels, the state of the competitive environment.

Analysis of recent research and publications.

The analytical study has formed an organizational mechanism for the development of shipping companies, which aims to stabilize their financial condition, realize the competitive advantages of

maritime transport in Ukraine and bring them to a more effective level of functioning by activating the economic activity of the subjects of the maritime complex of Ukraine. When analyzing the work of international shipping companies, along with the desire to maximize current financial performance, issues related to long-term planning of chartering the fleet of shipping companies are also important, taking into account economic trends in the changing state of the freight market. The production cannot exist without transport infrastructure, and transport service can positively affect the economic sustainable development of enterprises. Kolodynskyi S.B. [1], Hutsalyuk O.M. [2], Yevdokimova O.M. [4, 14], Manita O.V. [3, 8], Kramskyi S.O. [5, 6, 11], Tseller V.I. [9, 10, 13], Zakharchenko O.V. [7, 12] and others, they focus their attention on mechanisms sustainable development in ports in the field turbulence they study. Therefore, the question arises of finding further vectors for the development of shipping in the context of the maritime business environment. In wartime, the prerequisite for the stable functioning of transport markets is the localization of market reproduction processes.

The purpose of the study is to substantiate the theoretical foundations, methodological approaches and practical recommendations for the development and implementation of an organizational and economic mechanism for the development of maritime transport in Ukraine.

To achieve this goal, the following tasks were set: to consider the types of freight strategies and determine their impact on the activities of shipping companies;

- to investigate existing strategies for the formation of organizational and economic mechanisms for the development of the fleet of shipping companies;

- to identify the main trends in the development of the world freight system;

- to analyze the current state and level of strategic development of leading shipping companies in the global level and Ukraine;

- to form an organizational and economic mechanism for the development of strategies for maritime transport in Ukraine in the post-war period.

Summary of the main research material.

Maritime transport reflects changes in the world economy and trade activity of shipping business. It remains the basis of globalized trade and the production supply chain, since more than 4/5 of global trade in goods by volume is carried out by sea. Since the beginning of hostilities, cargo flows from the Black Sea have decreased, freight rates have fallen significantly, and a significant part of the tonnage has stopped entering the Black Sea and has been relocated to other regions due to military risks. Due to Russia's military aggression against Ukraine, the situation in the Black and Azov Seas and the

related consequences for world shipping remain one of the key topics of international maritime practice. Russian military aggression in Ukraine, challenging both domestic and global maritime security, accumulates new challenges for shipping companies. The logistics routes for delivering products have changed significantly, both for the domestic and foreign transport markets, sales costs have increased while sales volumes have decreased, and the cost of products has increased [1, p. 36].

The fact of opening the grain corridor has made it possible to significantly relieve the congestion that has developed along the Sulina and divide the export cargo flow into two directions – the shallow water of the Danube ports and the deep water of the ports of "Great Odesa". The improvement in the situation with congestion along the Sulina clearly showed that a significant part of large exporters have gone to deep water, with which part of the fleet has also gone. The growth in export volumes from deep-water Ukrainian ports has led to the stabilization of freight rates in the region as a whole. The start of the "grain corridor" not only contributed to the reduction of freight rates from the Danube ports, but also had a positive impact on the size of the queue and waiting times of vessels at Sulina. Thus, fleet renewal is, on the one hand, one of the options for the development strategies of a shipping company, on the other hand, the replacement of old vessels to ensure the maintenance of existing market positions [2, p. 351].

This allowed to increase the draft of vessels from 3.9 to 6.5–7 meters, which dramatically increased the tonnage of the fleet that could enter the ports. Optimization: USPA introduced night passage of vessels and optimized dispatching. Private investments volume: according to the Ministry of Infrastructure and (USPA), during 2022–2023, private business invested about \$100 million in the development of the infrastructure of the Danube cluster. Result: These investments were aimed at the construction of new temporary and capital transshipment complexes, the purchase of cranes and the expansion of warehouse space. During this period, 23 new terminals and transshipment points were opened. If in 2021 the Danube ports processed 5.5 million tons, then in 2022 – 16.5 million tons. In 2023, the Danube cluster set an absolute historical record, processing 31 million tons of cargo. The Danube became a lifeline for Ukrainian agro-export. However, this logistics was expensive and had limited capacity, which stimulated the search for new solutions. New reality (2024–2025): Diversification and "smart" sustainability.

The end of 2023 and 2024 brought new changes that again reformatted investment priorities. 1. Launch of the Ukrainian Sea Corridor (from August 2023): The successful operation of the new corridor, protected by the Armed Forces of Ukraine, allowed

the ports of "Greater Odesa" to resume full operation. This became a revolution. The consequence: cargo flow instantly began to return from the Danube and the western borders back to deep-water ports. This led to a "correction" on the Danube. In 2024, the cargo turnover of Danube ports is expected to decrease compared to the peak of 2023 (for example, Reni – a drop of more than 60%). This is not a failure of investments. It means that the system has found a new balance: the Danube remained an important alternative and niche route (for containers, metal), and the main flow of grain returned to Greater Odesa. 2. Investments in the Western Border (2024–2025): Realizing the risks of queues at the border with the EU (which intensified due to protests by Polish carriers), investments in 2024–2025 focused on "dry ports" and intermodal terminals [2, p. 353]. Military conflicts around the world and economic shocks negatively affect the international market of the maritime industry and shipping in particular.

The transport sector, especially the maritime industry, is of particular importance in world economic relations. The maritime industry to widely implement economic strategies in their activities and invest in the development of high technologies that strengthen competitive advantages in efficiency, speed, safety and environmental friendliness of shipping. The main determining factor in maritime trade in goods, and therefore the demand for shipping, is the world economy. To consider the international aspects of maritime chartering practice, if a shipper waits until the last moment to book a slot, he may be offered a freight rate equal to the marginal cost of transporting one container, rather than leaving the slot empty. This approach, which assumes only marginal costs, can ultimately reduce the overall structure of ship chartering for a particular maritime route [3, p. 312]. All these factors create high volatility in operators' income. To reflect their success, liner shipping operators have also begun to vertically integrate to provide these services.

Large operators such as (Maersk Line) have joined terminal management to reduce port handling costs and increase vessel productivity in ports, thereby reducing costs. In order to survive financially, operators who previously competed for market share enter into slot sharing agreements. Under such an agreement, an operator allows another operator to use a free rate slot on its vessel in exchange for the right to use a similar number of slots on another operator's vessel. In addition, there are slot or space agreements that are common in liner and specialty trades. For a shipowner, this can be insurance against falling spot markets or when they have cargo contracts that they cannot fulfill with their existing fleet of vessels. For example, in terms of freight structure, the parties may adhere to profit-sharing instruments. In the long-term strategies of a shipowner, current and expected freight

rates, expected sea trade, ship construction costs and other relevant variables determine the supply of ships and therefore freight rates. However, during a global economic crisis and depression, they must return to market freight rates due to the excess tonnage available on the world market. On the contrary, a shipowner who seeks to position himself as a market strategist and wants his name to be associated with quality will undoubtedly have higher costs than those mentioned in the previous case. Thus, the trend in freight rates (including time charter rates, ship rental rates), which reflects the possibilities of using the ship, determines the trend in the average value of ships [4, p. 376].

The freight rate and the underlying asset of the shipowner, which is not subject to storage, make transport markets unique in their nature. At the same time, for the strategy of the shipping company of these projects of both types, the amount of cash outflows is affected by the cost of using borrowed funds (interest rate), and the inflows of cash are affected by the cost of the vessel upon sale. Taking into account the fact that shipping companies pay for bunkers when operating vessels under voyage charter (in tramp shipping) or in the linear shipping sector (also in consecutive voyages), its price also determines the amount of cash outflows. As is known, cash flow is formed from cash inflows and outflows. For a shipping company, income is formed on the basis of freight rates, therefore cash inflows under fleet renewal projects are based on freight rates (time charter and voyage charter). It should be noted that (as emphasized above) fleet replenishment is most often focused on its own commercial operation (with the possible participation of companies engaged in commercial management of vessels). Therefore, in modern international strategies of shipping companies [5, p. 161], new approaches to assessing cash flows of fleet renewal projects have appeared on the basis of the time charter equivalent indicator, which assesses the efficiency of vessel operation. Based on the structure of inflows and outflows of cash of shipping companies, a scheme of factors influencing the outflows and inflows of cash for fleet renewal projects and projects for the acquisition of vessels by entities that are not shipping companies has been formed. The income of companies for which the vessel is exclusively an instrument of capital growth is based either on the difference in the cost of purchasing and selling the vessel, or on leasing payments (bareboat charter rates) [7, p. 120].

Making sound strategic decisions regarding the investment development of shipping companies requires the use of the most effective methodological approaches to assessing its innovative potential and choosing a mechanism for the development of shipping companies. The formation of an effective and market-relevant mechanism is an objective necessity for ensuring effective innovative development of

shipping companies in modern military conditions of Ukraine. Comparative analysis of organizational and economic mechanisms, among its other types, is justified by the combination of functions of stimulating the emergence of innovations, ensuring the process of their commercialization and further development, which determines the highest effect during its implementation. Therefore, in the study, organizational and economic mechanisms were considered as a single organizational and economic mechanism that forms a system of strategic management for functional areas of innovative development of the enterprise using the example of shipping companies [6, p. 200].

It was established that from the point of view of the strategies of maritime industry enterprises, it is more expedient to consider the development of the functioning of shipping companies in the context of ship chartering, this significantly affects the dynamism of the economic development of the maritime business environment. It is proposed to consider the development of shipping companies as a process of implementing the results of the creative potential of the enterprise in order to obtain positive financial, economic and socio-economic effects, increase the level of business activity and competitiveness of shipping companies. (In fig. 1).

The principles and functions are determined, methods and approaches are selected for assessing and implementing innovative development. When developing the mechanism, the author proposed to be guided by the principles:

1. Integrity, which involves ensuring the unity of a set of elements of the enterprise management system, each of which plays its own specific role, integral to the entire mechanism.

2. Actualization (correspondence), which involves identifying all possible functions of the system elements and the relationships between them, establishing their quantitative and qualitative certainty and conscious maintenance of these relationships to achieve the goal set for the enterprise. It determines the degree of effectiveness of the mechanism.

3. Organization, which is characterized by conscious maintenance of the processes occurring in the development of increasing the level of efficiency of the business environment management system.

4. Balance, which boils down to the optimal distribution of limited resources necessary for the development of maritime transport, in order to eliminate emerging imbalances [8, p. 185].

5. Acceleration, which involves the intensification of scientific and technological progress (the emergence of new types of universal vessels, cargo operations, energy-saving technologies, prevention of environmental pollution by vessels, etc. under the influence of the growth and complication of social needs.

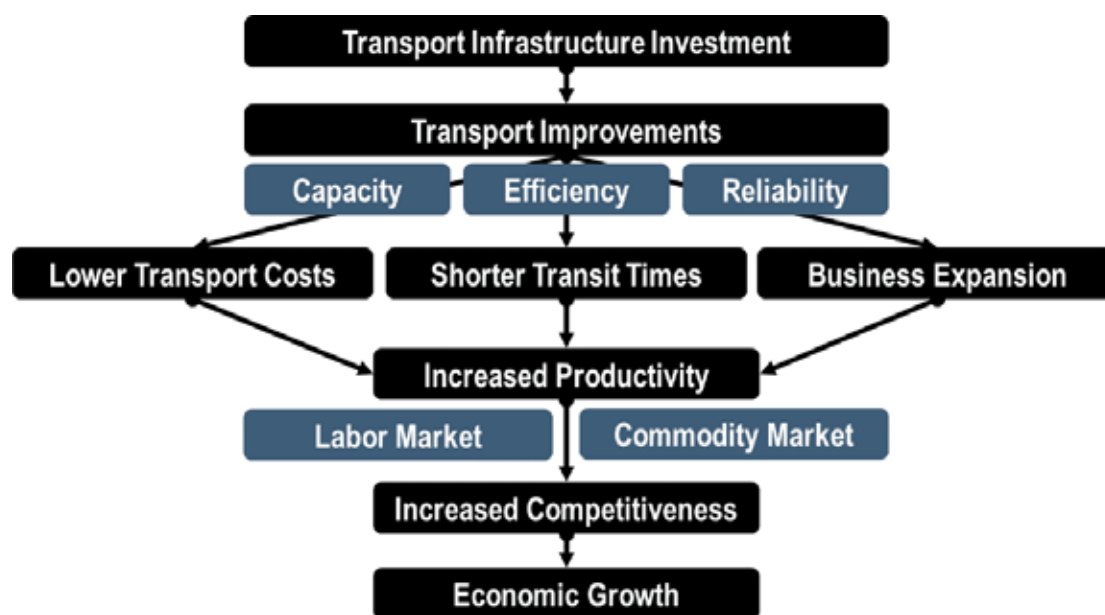


Figure 1 – Strategy of development of maritime transport infrastructure

Source: development author by [2, 7]

6. Continuity, which involves the orientation of the business entity to continuous, stable, high-quality forward movement to ensure its stable development.

7. Adaptability, which involves an operational and adequate response to political and macroeconomic challenges [9, p. 256].

8. Economic efficiency, which involves the financial efficiency of the implementation of innovations that meet the financial capabilities of the enterprise.

9. Systematicity, which involves the study and analysis of the object as a single whole, a single system that includes other systems that are in a certain interaction, as well as an object that is part of another, higher-level system in which it interacts with other subsystems [10, p. 241].

The application of this principle in the functioning of shipping companies is based on the mutual coordination of its components, acting in the interests of the effective functioning of the entire system [11, p. 286].

The functions performed by the proposed mechanism include organization, planning, monitoring and evaluation. The organizational and economic mechanism aims to assess the investment potential of shipping companies and bring their activities to a qualitatively new level [12, p. 36]. The elements of this mechanism determine the mutual influence of such components as monitoring internal and external factors of influence, assessing the production, financial and innovative development of shipping companies, which allow determining the optimal option for investment development and establishing the most effective directions and ways to improve the development strategies of shipping companies.

The author [13, p. 83]. has formed an organizational and economic mechanism of strategies for shipping companies, the constituent elements of which are the object and subject of management, principles, functions, methods, approaches; enterprise diagnostics, which involves monitoring factors influencing the activities of shipping companies, assessing the production, financial and innovative development of the maritime business environment; implementing a methodological approach to assessing the investment development of shipping companies. The basis for building the mechanism is a diagnostic system for a comprehensive assessment of the economic development of a seaport in order to determine the optimal strategy for its innovative development. The organizational and economic mechanism for the strategic development of shipping companies proposed in the study creates the prerequisites for effective innovative development of shipping companies and opens up prospects for improving the maritime complex as a whole [14, p. 126].

Conclusions. However, as the study shows, these strategies are limited to the use of investment funds for measures to build, modernize and reconstruct the production capacities of shipping companies and do not include freight costs for the introduction of innovative products, which provide not only quantitative, but also qualitative reflection in the production and financial indicators of its activities. Therefore, the author of the scientific and analytical study has formed an organizational and economic mechanism for the strategic development of shipping companies, which aims to stabilize their financial condition, realize the competitive advantages of

the maritime industry of Ukraine and bring them to a more effective level of functioning by activating innovative activity of maritime economic complex entities. The analysis of the activities of the international freight system in shipping confirmed the need to attract significant long-term investments that will be directed at the strategic development of global shipping companies (APMOLLER-MAERSK, MSC, COSCO, Fredriksen Group, Angelicoussis Shipping Group, Ocean Network Express, Oldendorff Carriers and others), namely the modernization of technical resources, increased automation of processes, reduced energy consumption, implementation of modern computer technologies at all stages of the logistics process of passage and registration of ships in ports, etc. Thus, the following conclusions can be drawn: options for fleet renewal are: ship construction, ship acquisition, leasing (bareboat charter), short- and medium-term ship rental (time charter). The type of project strategy for the acquisition of vessels of various types is justified in the research, thus an international shipping company can acquire it through financial holdings, leasing companies as a means of

increasing its capital, and not as a means of ensuring a certain volume of cargo transportation.

In the case of purchasing a vessel for a specific cargo flow, taking into account the characteristics of the region of operation and ports of call, the nature of the cargo flow, it is possible to form requirements for the size of the vessel, which are most appropriate from the point of view of the final financial results. In other cases, the final choice of tonnage size should be made on the basis of an analysis of the most likely options for the development of demand in different segments of the freight market. The author conducted a comparative analysis of organizational and economic mechanisms for the strategic development of shipping companies, which is understood as a complex system of functional relationships between objects, subjects, approaches, principles, functions and other components of economic activity, which ensures the implementation of competitive advantages of the maritime industry of Ukraine in the world arena and contributes to increasing the pace of their development and increasing the quality and volume of transport services.

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