UDC 338.2(477):339.1:658.7/.8 JEL Classification: R42

VECTORS OF INCREASING THE LEVEL OF INNOVATION AND INVESTMENT ATTRACTIVENESS OF THE TRANSPORT AND LOGISTICS INFRASTRUCTURE OF THE NATIONAL ECONOMY OF UKRAINE

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UDC 338.2(477):339.1:658.7/.8 JEL Classification: R42

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Vectors of Increasing the Level of Innovation and Investment Attractiveness of the Transport and Logistics Infrastructure of the National Economy of Ukraine

In the article, based on the methods of grouping and classification, the approaches to the interpretation of transport and logistics infrastructure proposed by various scientific schools are conventionally systematized. An author's approach to defining the meaning of the terms "transport infrastructure" and "logistics infrastructure" is proposed. Financial, economic, social, and informational factors influencing the level of investment attractiveness of transport and logistics enterprises have been identified. The approach to evaluating the effectiveness of innovative activities in the transport sector is substantiated, the use of which will allow examining the current state of the government regulation processes, the decision-making and goal-setting support system, and institutional provision. An organizational model of the national innovative transport hub and an approach to evaluating its functioning are proposed. Proposals have been made for diagnosing the investment attractiveness of transport infrastructure objects, selecting priority projects for government funding, and forming public-private partnership models for the innovative development of transport infrastructure. An investment strategy has been developed, the main provisions of which should be based on the established investment policy of enterprises in the field of transport and logistics. The relevance of the problem of modernization of transport and logistics infrastructure in the context of sustainable development and recovery of the national economy of Ukraine at the current stage is proven. The key vectors of the modernization of the transport and logistics, green investment as a non-traditional source of financial support for the implementation of infrastructure projects), innovative technologies, public-private partnership, clustering, digitalization (digital logistics, digital transport technologies).

Keywords: national economy, transport and logistics system, transport logistics, transport infrastructure, logistics infrastructure, modernization, comprehensive approach, strategic directions, multimodal transportation, digitalization, clustering, green transformation, public-private partnership, sustainable development, efficiency.

DOI: https://doi.org/10.32983/2222-0712-2022-3-84-97

Fig.: 1. Bibl.: 55.

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УДК 338.2(477):339.1:658.7/.8 JEL Classification: R42

> Хаустова В. Є., Бойко О. В., Трушкіна Н. В. Вектори підвищення інноваційної та інвестиційної привабливості транспортно-логістичної інфраструктури національної економіки України

У статті на основі методів угруповань і класифікації умовно систематизовано підходи до трактування транспортної та логістичної інфраструктури, які запропоновано різними науковими школами. Запропоновано авторський підхід до визначення змісту термінів «транспортна інфраструк-

тура» і «логістична інфраструктура». Виявлено фінансові, економічні, соціальні та інформаційні чинники впливу на рівень інвестиційної привабливості транспортно-логістичних підприємств. Обґрунтовано підхід до оцінювання ефективності інноваційної діяльності у транспортній сфері, використання якого дозволить дослідити сучасний стан процесів державного регулювання, системи підтримки прийняття рішень і цілепокладання, інституційного забезпечення. Запропоновано організаційну модель національного інноваційного транспортного хабу та підхід до оцінювання його функціонування. Надано пропозиції щодо діагностики інвестиційної привабливості об'єктів транспортної інфраструктури, відбору пріоритетних проєктів для державного фінансування, формування моделей публічно-приватного партнерства для інноваційного розвитку транспортної інфра структури. Розроблено інвестиційну стратегію, основні положення якої мають базуватися на підставі сформованої інфераструктури у контексті сталого розвитку та відновлення національної економіки України на сучасному етапі. Встановлено ключові вектори модернізації транспортнологістичної інфраструктури, до яких віднесено зелену трансформацію (декарбонізація, впровадження механізму зеленої логістики і зеленого інвестування як нетрадиційного джерела фінансового забезпечення реалізації інфраструктурних проєктів), інноваційні технології, публічно-приватне партнерство, кластеризацію, діджиталізацію (цифрова логістика, цифрові транспортні технології).

Ключові слова: національна економіка, транспортно-логістична система, транспортна логістика, транспортна інфраструктура, логістична інфраструктура, модернізація, комплексний підхід, стратегічні напрями, мультимодальні перевезення, цифровізація, кластеризація, зелена трансформація, публічно-приватне партнерство, сталий розвиток, ефективність.

Рис.: 1. Бібл.: 55.

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Introduction. Modern economic conditions encourage companies to strengthen their position in the market environment of enterprises. Virtually any line of business today is characterized by a high level of competition. In order for companies to be competitive, they must intensify investment processes. Investment attractiveness plays an important role in the above processes, as it is a catalyst for enterprise expansion. These opportunities must meet the conditions of investors. For companies, one of the priority tasks regarding the improvement of investment activity consists in finding potential investors and providing them with information on the feasibility of investment. Determining the level of its own investment attractiveness is not the ultimate goal for an enterprise seeking to obtain investment. It is necessary to develop and implement measures to increase investment attractiveness, which are aimed at attracting new investors and improving investment conditions.

If there are better prospects for the development of the enterprise in the future, investors will not only be willing to invest but also to assure more favorable terms for the enterprise. Among the current factors and reserves to increase investment attractiveness, we have identified and studied in detail four groups: financial and economic, which have a direct impact on the level of attractiveness of the enterprise, and three groups of indirect factors: social, informational, and environmental.

As a result of the carried out research [1–8], it was established that the transformation of transport and logistics systems and the modernization of transport infrastructure on the basis of digitalization, multimodality, environmental nation, international-public-private partnership within the Trans-European transport network are recognized as a strategic priority for the national economies of most countries of the world. This corresponds to the main provisions of the transport policy of the European Union, which, in turn, will ensure balanced sustainable development, and increase the level of investment attractiveness and global competitiveness.

The study of issues related to the development of scientific approaches (system, integrated, logistic, etc.) in the theory of supply chain management and the organization of logistics processes are engaged in by: A.K.C. Beresford, S.J. Pettit, W. Whittaker [9]; A. Gunasekaran [10]; L. Huemer [11]; P. Blaik [12]; P. Kotler, K.L. Keller [13]; P.R. Murphy, D.F. Wood [14]; D.J. Bowersox, D.J. Closs [15].

Problems of modernization of transport infrastructure, increasing the efficiency of using transit potential, and their role and importance in the formation of transport and logistics systems of various levels in the context of sustainable development are of constant interest to scientists and practitioners. A significant number of scientific works by foreign scholars are devoted to these issues, including: K. Button [16]; G. Dalton, E. de la Pena, J. M. Vassallo, M. Acciaro [17]; C. Ferrari, A. Bottasso, M. Conti, A. Tei [18]; A. Ch. Kopiec, L. O. Siguencia, Z. G. Szostak, G. Marzano [19]; H. Dźwigoł [20]; A. Kwilinski et al. [21; 22]; T. Ishikura [23]; Ch. Wang, M. Lim, X. Zhang, L. Zhao, P. T.-W. Lee [24]; F. de Soyres, A. Mulabdic, M. Ruta [25]; E. Broniewicz, K. Ogrodnik [26]; P. Sykes, M. Bell, D. Dissanayake [27]; E. Teklemariam, Z. Shen [28]; P. Kumar, Ch. Sekhar, M. Parida [29]; J. Cheng, R. Yan, Y. Gao [30]; S. Rajagopal, P. Zhang [31]; L. Liu, M. Zhang, T. Xu [32].

A lot of attention by researchers (M. Hryhorak [33]; O. Hutsaliuk et al. [34-36]; Yu. Kharazishvili, D. Buhaiko, V. Liashenko [37]; O. Nykyforuk et al. [38; 39]; S. Ilchenko, H. Karpenko [40]; A. Kwilinski [41] and other) is devoted to the development of the theoretical, methodological and applied principles of the formation of a management system for the balanced development of the logistics services market as a component of the national logistics system; determining directions for improving the efficiency of transport and logistics activities and key tasks and priorities for the development of the transport sector in Ukraine; evaluation of indicators of innovative development of the transport system of Ukraine to substantiate strategic guidelines; identifying the global digitalization trends, which include the use of big data and cloud technologies, the spread of the Internet of Things, the development of robotics, the spread of 3D printing, blockchain technology, and crowdsourcing; development of a functional scheme of digital transformation of the transport sector of Ukraine; substantiating the conceptual provisions of the strategy for the development of the transport system of Ukraine and measures of the government policy for its implementation.

The analysis of scientific literature [42-49] shows that there are ambiguous and diverse approaches of foreign and domestic researchers to the definition of infrastructure as an economic category. For the most part, the term "infrastructure" means: the main element of a market economy; component of the economic system and subsystem; factor of economic intensification; working conditions and material production; base for the development of industries; social market institute; a set of material and technical facilities and means; an aggregate of institutes, institutions, organizations, technologies, norms, systems; a set of general conditions that ensure the development of entrepreneurship; economic relations in the process of activity of various objects of both the production and the non-production nature; the system of general conditions of market development with the aim of creating a favorable economic climate for the functioning of capital; a system of interacting agents of the sphere of circulation, providing trade and economic connections between production and consumption; a set of activities that contribute to the sale of goods on the market and the formation of new demand for goods and services; a set of activities that ensure the flow of goods from producers to consumers, etc.

It is worth noting that to date scientists have not developed a unified approach to understanding the essence of transport infrastructure. Some scientists consider this concept as a component of the transport system; others – as an element of the market infrastructure; and yet others – as a transport network; some researchers prove that this is a certain type of economic activity, economic relations in the transport sphere [50; 51]. This is due to the fact that many scientific schools had been formed at the moment, which had specific approaches to the formulation of the terminological apparatus.

Currently, there is also no single approach to the interpretation of the essence of the concept of "logistics infrastructure" [52; 53]. As a rule, scientists understand logistics infrastructure as: the basis of modernization of the national economy; a set of elements that perform important logistics tasks and ensure the implementation of logistics processes; the system of economic relations of business entities and institutions; a system of means of spatio-temporal transformation of logistic flows (material, informational, financial, human); a totality of enterprises that create organizational and economic conditions for the passage of these flows by creating the potential of relevant logistics services; a complex of interconnected elements that ensure the functioning of the system of procurement, supply, storage and delivery of products to the consumer; a system that regulates the structure and speed of material and immaterial flows based on the criteria of the efficiency of the enterprise's functioning; a subsystem of the logistics system, designed to perform logistics functions in the sphere of procurement, production, storage, distribution and delivery of products in order to increase the efficiency of the functioning of material, information, financial and other flows.

In modern business conditions, it is advisable to consider the logistics and transport infrastructure from the standpoint of changing the paradigms of managerial activity and logistics management; complex approach (symbiosis and integration of evolutionary, institutional, system, process, functional, structural-logical, resource, sectoral, network approaches); modernization of the national economy; the conception of balanced sustainable development, as well as taking account of the processes of globalization, European integration, digitalization and greening of logistics activities.

Thus, the concept of "logistics infrastructure" is proposed to be interpreted as a component of a well-established integrated logistics system to ensure the functioning of procurement, supply, storage, transportation, and sales subsystems; and "transport infrastructure" – as a totality of the transport network, which includes transport communications, terminals, logistics centers and other structures, devices and equipment that ensure the operation of transport for the delivery of goods and passenger service within a certain territory (country, economic district, region, territorial community).

However, despite the wide range of scientific developments on the chosen topic, previously unresolved parts of the problem are the failure to take into account existing structural and substantive studies of the essence of transport infrastructure, modern trends in the development of transport and logistics services markets, features of the functioning of European and global transport and logistics systems, changes in the conception of logistics management, and modernization of the national economy.

In view of this, **the purpose of this paper** is to determine the strategic directions of increasing the level of innovation and investment attractiveness of the transport and logistics infrastructure as a key task of ensuring the sustainable development of the national economy of Ukraine.

The theoretical basis of the research is the scientific works of foreign and Ukrainian scientists on the national economy, transport logistics, strategic management, digital marketing, information technologies, green economy, and sustainable development. The research was conducted using general scientific methods: analysis and synthesis - to generalize existing theoretical approaches and provisions, scientific developments on the problems of the development of transport and logistics infrastructure, clarification of the terminological apparatus; classifications - for the systematization of scientific approaches to the definition of the concepts of "infrastructure", "transport infrastructure", "logistics infrastructure", which are proposed by various economic schools; structural and logical generalization - to determine the strategic vectors of the modernization of the transport and logistics infrastructure and increase the level of its innovation and investment attractiveness in the system of the national economy of Ukraine.

Results. Increasing investment attractiveness can be the result of a direct improvement in performance, such as faster working capital by reducing debt, and indirect improvement, such as increasing staff motivation, which will ultimately lead to a better financial performance. But the relationship between such factors and financial ratios is much harder to trace.

The financial and economic factors to increase investment attractiveness include: improving the efficiency of fixed assets at the enterprise; increasing the efficiency of working capital; improvement of liquidity, financial stability, solvency of the enterprise; improving the management of enterprise profits; introduction of marketing measures; increasing the efficiency of tariff policy; introduction of monitoring of prices for raw materials and components; quality management.

Social factors include: increasing the efficiency of the use of labor resources of the enterprise; improvement of social infrastructure; improvement of the quality of management staff.

The information factors and reserves include: the development and implementation of advanced information systems at the enterprise; ensuring the availability of internal information; establishing channels for the exchange of external information. The environmental factors include: improving the infrastructure of urban mobile systems, taking into account the environmental and hygienic requirements for all possible hazards, street capacity, the state of relevant fleets and parking lots, organization and improvement of traffic during the year, noise reduction, etc.; improvement of diesel work processes to increase the level of fuel efficiency.

There are many aspects to the efficiency of the use of fixed assets. It is directly determined by the ratio of the dynamics of prices for equipment and labor productivity; the liquidation value of fixed assets; the level of equipment quality; the cost structure of fixed assets, their age structure; the level of logistics and supply of components; the degree of involvement of new state-of-the-art equipment; the level of loading of equipment in the production process, the terms and intervals between repairs of fixed assets and more.

The reduction of the period of working capital in circulation is achieved mainly due to the reduction of the time spent on receivables, as well as on the current account and at the box office. It is also important to monitor the timely transfer of working capital from the sphere of circulation to the sphere of production and vice versa. The level of liquidity and solvency of the enterprise is one of the most important factors influencing its investment attractiveness. A certain degree of liquidity in the company's assets is always present, but potential investors are interested so that if there is an immediate need, they could get the invested funds as soon as possible. If all the assets of the enterprise consist of cash, i. e., are absolutely liquid, the possibility of the immediate return of funds to their depositors is resolved. However, the implementation of the maintenance process and, as a consequence, the increase in value added is impossible. Therefore, in the process of increasing liquidity, its measure is very important. Quantitatively, this is achieved by complying with the established limits of liquidity.

Solvency means that the company has cash and cash equivalents sufficient to settle accounts payable, which requires immediate repayment. The main features of solvency are the sufficient value of working capital, the availability of sufficient funds in the current account and the absence of overdue accounts payable.

Analyzing financial stability, one usually considers its main characteristic, namely the ratio of the own and borrowed funds. Thus, in the US the ratio of 70% of equity and 30% of loan capital is considered optimal, in Europe – 50% to 50%, the Japanese model considers it optimal to have only 20-30% of the equity in total capital, emphasizing that the most efficient companies enjoying the trust of banks are the main investors in the country. We usually recommend a share of 60–70% of equity. Finding this indicator within the specified limits indicates complete independence from creditors, along with the effective use of borrowed funds.

In the presence of profit, its effective use is the key to the high popularity of the company among potential investors. Thus, for joint-stock companies, stable payment of dividends is a very important characteristic, as it allows to have a high level of stock potential, which together with the return on one hryvnia of share capital are the most important in determining the overall investment attractiveness of the company. Still it is known that the increase in dividends leads to a decrease in self-financing of the enterprise, which in the future may be an obstacle to further revenue growth.

The influence of another economic factor in the formation of investment attractiveness of the enterprise – marketing activities – is a very significant problem. Encouraging the wide provision of services through an appropriate advertising policy of motor transport services, competent access and maintenance in various market segments, etc., will allow the company to significantly improve the entire performance.

No less important is the factor of improving the efficiency of pricing management for the services of a trucking company. It is very closely related to the previous factor, as the marketing department itself must examine the market segments in which the provision of motor services is implemented or planned.

A separate factor in increasing the investment attractiveness of the enterprise is the availability of adequate information on prices for raw materials and components. Therefore, it is necessary to form special institutions on the market, the main activity of which would consist in monitoring. They will be able to give trucking companies the opportunity to get accurate information about prices in the market of trucking services and choose the best option.

The effectiveness of environmental protection measures can be related to many factors and does not always depend on the enterprise itself. Legislation defining liability for environmental pollution contains certain economic levers to encourage the introduction of environmentally friendly technologies.

An important factor influencing the competitiveness of the trucking company is improving the quality of services. This requirement applies not only to improving the quality of services provided but also to their compliance with international quality standards.

Having a huge number of quality requirements greatly increases the costs associated with the provision of services and their testing, allowing you to enter the international market with world-class prices for services.

Social factors and reserves for the growth of investment attractiveness include the use of effective models to stimulate high performance, progressive forms of payment and incentives, encouragement and compensation payments, which ultimately lead to the improved financial and economic performance of the enterprise. Their influence can be traced during the calculation of the investment attractiveness rating and is reflected in its final value.

In improving the efficiency of management at the enterprise, the most important thing is to ensure sufficient motivation of qualified specialists-managers in maximizing the financial and economic results of the enterprise.

Among the information factors for the growth of investment attractiveness and, in particular, the introduction of advanced technologies and information systems, it is necessary to highlight the need for integration of individual automated control systems in the enterprise. The integration of different management systems is not a one-time operation but should represent a serious and long-term process.

Among other information components of the investment attractiveness of the enterprise should be noted the degree of openness of internal information to potential investors, who, in the absence of the necessary data, can immediately classify a potential recipient as a high-risk investment, i. e., low investment attractiveness.

Considering the information flows of the enterprise, they should not be regarded as a closed system. Not only sound education but his alertness and dedication too are most required. Within the country's economy, the most necessary measures are to simplify relations with the tax administration, and the transition to exclusively electronic payments to counter-parties. Improving the efficiency of investment management of the enterprise involves the creation of a mechanism for identifying and optimal use of reserves to increase investment attractiveness. Simultaneous use of all reserves to increase investment attractiveness is not really possible, primarily owing to a lack of funds, qualified specialists, and a full array of information needed to implement appropriate measures. Practice proves the inefficiency of the dispersal of efforts in many areas of investment activity. Everything needs to be focused on the custom, most important investment projects. This requires the development of specific recommendations for identifying the most influential aspects and measuring the degree of impact and the final consequences.

It is proposed to increase investment attractiveness in stages. In the first stage, the assessment of the actual level of investment attractiveness of a potential recipient enterprise is carried out. The second stage involves determining the list of factors and reserves for the growth of investment attractiveness in accordance with the organizational and legal form of the enterprise, field of activity and specific business conditions. In the third stage, the assessment of the significance of certain specific factors to increase the investment attractiveness of the enterprise is conducted. Among the identified factors and reserves for the growth of investment attractiveness in the next stages are selected primarily those that do not require significant capital investment and do not require large expenditures of time. The following are the measures that should potentially have the greatest effect, but which involve significant costs and large time losses.

The fourth stage is associated with the formation of a specific set of measures to increase investment attractiveness. In the fifth stage, the investment attractiveness of the enterprise is assessed after taking into account the impact of individual factors and the mobilization of available reserves. The evaluation should be carried out according to the same method as in the first stage. This allows you to track the effect of taking appropriate measures. The use of reserves to increase investment attractiveness leads to a change in financial ratios, the value of which, in turn, is reflected in the general indicator of the attractiveness of the enterprise. After the implementation of these measures to increase investment attractiveness, if they are effective, the company will receive a higher rating than in the first stage.

The investment attractiveness of an enterprise largely depends on the development of a clear strategy, which is related to the implementation of its investment potential in the future, as well as ensuring compliance with the general strategy of financial and economic development and the main objectives of the enterprise. The investment strategy should be formed with a focus on the available and potential financial, organizational, personnel, technological, raw materials, energy and other resources that are accessible to the company and which can be attracted on favorable terms.

The importance of forming the investment strategy of transport enterprises is determined by the fact that transport is one of the components of the state economy, which provides living conditions for society, and is considered an important tool for achieving dynamic socioeconomic development of the country and its regions. The development and implementation of the investment strategy of transport companies consist primarily in the formation of long-term goals related to the implementation of the purpose of the enterprise both from the standpoint of society, determined by market demand for freight and passenger services, and from the standpoint of income. The investment strategy contains the definition of long-term priorities in the field of implementation of investment objectives, prioritization of their achievement and anticipation of possible financial and economic consequences for the company in case of deviations from certain rates and proportions of its main systems.

In addition, an integral part of the investment strategy is the substantiation and choice of methods to achieve investment goals. Therefore, the investment strategy has the following components: definition of the purpose, the purposes and directions of activity of the enterprise; assessment and analysis of the external political, legal, and economic environment; assessment of the advantages and weaknesses of the financial and economic activities of the enterprise; analysis of strategic alternatives; choosing an appropriate version of the strategy and planning its implementation.

The investment strategy plays a significant role in the activities and development of the enterprise, namely:

- provides a mechanism for implementing long-term plans of the enterprise;
- allows for a realistic assessment of investment opportunities of the enterprise;
- contributes to ensuring the maximum use of production and financial and economic potential of the enterprise and creates an opportunity for active maneuvering of its investment resources;
- provides an opportunity to quickly implement the prospects of the enterprise and increase its competitiveness;
- helps to minimize the negative consequences that have arisen as a result of the harmful effects of negative environmental factors on the activities of the enterprise;
- creates advantages for the company in investment activities over its competitors;
- creates favorable conditions for the transition to alternative fuels;
- ensures traffic safety and environmental safety;
- ensures the safety of goods and their timely delivery;
- provides a clear relationship between all types of enterprise management (from strategic to operational);
- is one of the basic prerequisites for strategic changes in the overall organizational structure of management and the organizational and economic culture of the enterprise.

We believe that the investment strategy of the enterprise should be based on the following principles:

- formation of investment sources in accordance with market requirements;
- the optimal combination of long- and medium-term investments;
- complexity and systematicity of investment;
- optimization of the investment portfolio from the standpoint of profitability.

It is advisable to form a strategy for the investment activities of the enterprise at three levels: enterprises as a whole; certain strategic areas of investment; certain types of motor transport services. The basis for developing a strategy for investment activities of road transport enterprises is to determine the mission, the structure of production and economic activities and the overall strategy of economic development of the enterprise. This makes it possible to determine the priority areas of investment activity for the long term within time horizons with acceptable probability. The scheme of formation of strategy of investment development of the motor transport enterprise is presented in Figure.

The main principles of forming the investment strategy of motor transport enterprises should be:

- consideration of the enterprise as an open system capable of self-regulation;
- taking into account the basic strategies of operating activities of the enterprise;
- predominant focus on the entrepreneurial style of strategic investment management;
- coverage of all levels of investment management of the enterprise;
- an adaptation of the investment strategy to changes in environmental factors;
- providing alternatives to strategic investment choices;
- taking into account the level of investment risk in the process of making strategic investment decisions;
- focus on the professionalism of investment managers of the enterprise in the process of implementing the investment strategy of the enterprise.

The development of the strategy of investment activity of transport enterprises is carried out in the following stages:

- determining the general period of investment strategy formation;
- 2) research of the factors of the external investment environment of the enterprise and the situation of the investment market;
- research of factors of the internal environment of the enterprise and features inherent in its investment activity;
- 4) formation of strategic goals of investment activity of the enterprise;
- 5) analysis of strategic alternatives and choice of strategic directions and forms of investment activity of the enterprise;
- 6) formation of investment policy on the main aspects of investment activity of the enterprise;
- 7) determination of strategic directions of formation of investment resources of the enterprise;
- development of a system of organizational and economic measures to ensure the implementation of the investment strategy of the enterprise;
- 9) evaluation of the effectiveness of the developed investment strategy.

In the process of forming the investment strategy, the enterprise should take into account the existing system of objectives of the overall strategy of economic development (e. g., capital growth, change in the proportion of real and financial

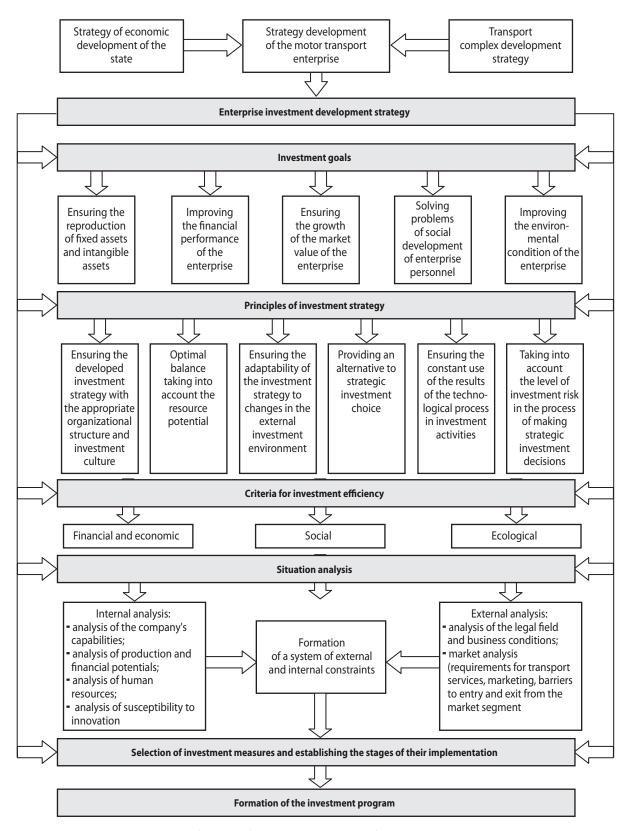


Fig. 1. Formation of strategy of investment development of the motor transport enterprise

Source: author's development

investment, change the sectoral and regional focus of investment programs). At the same time, it should be established that the level of development and dynamism of investment processes in modern conditions form the strategic basis for sustainable economic growth. And the policy of sustainable economic growth should replace the existing policy of growth of mainly regenerative character.

Undoubtedly, the strategy of investment development of motor transport enterprises should be focused on strengthening the innovation component and increasing labor productivity.

Intensive development of investment activities and increasing the competitiveness of domestic producers is an extremely important task, as its solution promotes Ukraine's entry into global commodity markets and the creation of foreign exchange reserves necessary for the modernization of production. This increases the interest in developing an investment and innovation strategy for economic growth.

The defining provisions of an effective state investment policy, which is the basis for the formation of an investment strategy, can determine the following:

- the basis for determining the amount of direct public investment should be the demand for transport services both in the current period and in the long run;
- in conditions of acutely limited resources, selective support should be carried out on the basis of the choice of individual objects of investment direction;
- each priority area should be implemented in public investment programs because one of the factors increasing the investment potential of economic development is the centralization of public funds in the budget;
- investment activities must have clear legislative support.

An urgent issue today is the development and adoption of a «Comprehensive Program to stimulate domestic and foreign investment in Ukraine's economy,» which will determine the direction of the country's economy out of the investment crisis and intensify investment activities. This document should provide the prerequisites for increasing the volume of investment and tasks to stimulate them, areas of government support for investment activities and organizational and legal mechanisms of investment.

The main principles of successful implementation of the investment strategy should be:

- increase in the volume of capital investments of enterprises owing to profit and depreciation;
- improvement of credit principles of investment financing;
- increase in the number of investment resources formed on the stock market due to the savings of the population;
- introduction of an economic mechanism for investment risk insurance;
- ensuring the stability of legislation governing the investment regime.

Before choosing an investment strategy for the enterprise, it is necessary to form a set of alternative strategies and conduct a thorough analysis. Within the chosen basic strategy, several areas of action are possible, which are called strategic alternatives.

Basic strategies in investment management can be formed in relation to this branch of management as a whole, or in relation to any of its subsystems (real or financial investments). The most common basic strategies are growth, stabilization, reduction (crisis).

With the growth of the main strategic priorities are connected the desire to diversify production, to actively cooperate with investors, and care to increase the level of investment attractiveness.

When stabilizing, the main strategic priorities add the desire to reduce costs, to ensure the stability of external and internal support.

During the crisis (reduction) the main strategic priorities are the restructuring of the existing investment management system, reducing the intensity of investment, and redistribution of investment resources.

Ultimately, the development of the investment strategy of the trucking company should be aimed at ensuring the stability and reliability of its production and economic activities, improving the quality and increasing the volume of traffic, expanding the types of transport services.

The development of the investment strategy of the motor transport enterprise is considered an integral part of a system of planning its activity in the current and long-term periods. In this regard, considerable attention should be paid to the application of modern methods of financial planning and control over budgeting. Capital budgeting itself involves planning of the enterprise's investment in fixed and current assets to ensure that the return on those investments is estimated over the long term, that is, over several years. Each element of capital budgeting should be designed as a separate investment project, for which a cash flow forecast is made. The conclusion on the feasibility of investment is made on the basis of comparing the volume of investment and projected cash flows, taking into account the cost of capital that is planned to rise to finance investments.

In general, the initial components of investment planning are the search for and formation of investment options, determining the relative and absolute size of their profitability, establishing funding opportunities from various sources and assessing the reliability of implementation and success of a particular investment option. To solve such complex and sometimes uncharacteristic management problems, it is advisable to involve research and consulting firms or temporarily hire specialists in this field of scientific and practical knowledge. The correctness of the adopted scientific and technical decisions is confirmed by the favorable impact of investment on the quality of transport services, expanding their range, increasing the profits of truckers.

The company determines the volume and direction of investment, the limits of expansion of its activities, the principles and conditions of investment, and the line of conduct in the investment market in connection with possible changes in the economic situation in the country and regions [54-55].

The investment strategy is developed on the basis of the formed investment policy of the enterprise, the essence and direction of which consists in the choice of the most rational

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ways of preservation and expansion of production potential. Therefore, the following should be highlighted as its main provisions:

- achieving economic, scientific, technical, and social effects from investing;
- application for each investment object of specific methods of efficiency assessment, on the results of which the selection and implementation of investment projects that ensure maximum efficiency of the enterprise is based;
- the company receives the largest return on invested capital;
- rational spending of funds for the implementation of non-profit projects, i. e., reducing the cost of achieving scientific, technical, social or economic effect;
- se of government support by the enterprise to increase the efficiency of investments in the form of budget loans, government guarantees, etc.;
- ensuring the minimization of investment risks associated with the implementation of specific projects. The impact of commercial risks (construction, production, transport, etc.) can be assessed due to the probability of changes in the expected return on investment projects and the corresponding decrease in their effectiveness. Such risks can be reduced by project customers and attracted investors through self-insurance, i. e., the creation of financial reserves, investment portfolio diversification and commercial insurance. Protection against non-commercial risks is fulfilled by providing government guarantees and investment insurance;
- ensuring the liquidity of investments. This provision should be adhered to because of significant changes in the external investment environment, transport market conditions or enterprise development strategy. Due to this, the profitability of individual investment objects may decrease significantly, which will have a negative impact on the investment attractiveness of the enterprise. Therefore, taking into account the influence of these negative factors, it is sometimes advisable to make a decision on the timely withdrawal from inefficient projects and the reinvestment of released capital.

When developing the investment strategy of the transport company should take into account the following factors:

- the financial condition of the enterprise;
- technical level of production;
- the company has both its own financial resources and the ability to raise funds in the form of loans and borrowings;
- financial conditions for investing in the capital market;
- commercial and budgetary efficiency of investment projects to be implemented;
- conditions of insurance and obtaining appropriate guarantees against non-commercial risks.

Successful implementation of the investment strategy of the enterprise is possible under the condition of increasing and maintaining the intellectual potential of investment activity, stimulating the increase of its creative return, formation of an economic mechanism, which would make the process of scientific and technological progress vital and profitable [55].

The infrastructure plays an important role in reducing the duration of the investment cycle and increasing its efficiency. From these positions it is necessary to strengthen the repair and maintenance base of motor transport enterprises, the system of production and technological equipment, warehousing and other production services.

Conclusions. Therefore, based on the above, it is safe to say that the investment strategy of trucking companies is one of the most important components of strategic management and results in developing a system of measures that are mutually consistent in time, resources, and performers and is aimed at making a profit through investment in the most promising, from the standpoint of market conditions, areas of transport enterprises.

For the effective implementation of the investment strategy of transport enterprises, it is necessary to apply the mechanism of public-private partnership. The Public-Private Partnership in Infrastructure survey, conducted by the Center for Transport Strategies and Deloitte, shows that 85% of respondents (experts from international financial organizations (IFIs), shippers, and current port and railway operators control more than 90% of Ukraine's freight traffic) consider attracting private capital as a key goal of public-private partnership (PPP) for the development of large infrastructure projects. 77% of respondents consider PPP as an option when the government cannot implement the project on its own. Other project objectives include improving the quality of infrastructure (35%); reducing corruption (35%); improving the level and quality of infrastructure services (31%); decrease of project cost (19%); reducing the level of government risks and simplification of implementation (12%).

All participants in the transport services market recognize PPP as the best mechanism for financing projects. However, the respondents did not agree on the advantages of PPP compared to budget funding. Shippers, port operators and MFIs call the most significant factor in reducing the risks of inefficient and excessive spending of budget funds (58% of experts); railway operators – rapid implementation of transport infrastructure modernization plans (46%). At the same time, 35% of respondents assert that PPP will be an important factor in increasing the investment attractiveness of the country. 46% of respondents consider the quality of constructed facilities and terms of implementation to be clear advantages. Also, business (50% of respondents) prefers PPP as the most transparent investment mechanism compared to the budget, but MFIs do not share this view.

It should be noted that 85% of respondents say that sea and river ports have the highest potential for PPP development in Ukraine. 65% of respondents see the development of PPP in the railway industry; 54% – in the field of road transport. Only 27% named airports and 8% – municipal transport. The majority of respondents (92%) call concession the main form of partnership between the state authorities and business: port operators and MFIs (100%), shippers (89%), and railway operators (83%). Despite the fact that the concession is recognized as a priority tool, for each infrastructure project the choice of cooperation mechanism should be individual: 50% of respondents consider joint activity to be the optimal form of PPP; 44% – property lease; 35% – privatization of the state-owned property. At the same time, 23% of respondents agree that the management of the state-owned property is not the best example of PPP.

According to the results of the study "Improving the management of the port industry of Ukraine" conducted by the World Bank, for the management of the port industry in the regions it is advisable to implement the "port landlord" model used in some countries (e. g., Antwerp, Rotterdam, Singapore). This management model provides for the existence of a port administration that controls port property, which allows it to develop land-use policy and consistent planning, transferring access to the property to service providers and investors through contracts (concessions).

The Port Landlord model is based on the following principles: the port administration, which has ownership or otherwise controls the use of port areas, is responsible for the planning and integrated development of ports; private operators carry out stevedoring activities under a concession or lease agreement for assets and land with the port administration.

Implementation of the mechanism of the internationalprivate-public partnership will contribute to the successful modernization of transport infrastructure and the provision of integrated multimodal logistics services; effective provision of connectivity between different modes of transport and their integration with cities and local communities; increasing the economic potential of transport and logistics infrastructure facilities to attract private investment; reducing the cost of organizing logistics activities.

Strategic development of investment activities in the field of road transport should focus on creating a highly efficient economy, both socially oriented and receptive to STP, ensuring a high quality of life of the population of Ukraine, effective motivation for entrepreneurship, strengthening equal partnerships in terms of global economic communication.

Further research is planned to generalize conceptual approaches to the essence and content of the term "transport and logistics system"; to develop recommendations on the possibility of applying European practice on the modernization of transport infrastructure in the modern conditions of the regional economy of Ukraine.

LITERATURE

 Кизим М. О., Хаустова В. Є. Український досвід формування кластерних структур. Проблеми економіки. 2012. № 1. С. 3–11.

2. Хаустова В. Є. Промислова політика та відмінності у розвитку промисловості в інтеграційних об'єднаннях // Дослідження та оптимізація економічних процесів : кол. моногр. / за ред. О. В. Манойленко. Харків : НТУ «ХПІ», 2014. С. 323–343.

3. Kochanska E., Kyzym M., Khaustova V., Klimek A. R., Adamkiewicz I. The Benchmarking Analysis of Prospects for Development of Cluster Initiatives in Poland and Ukraine. ACTA INNOVATION. 2016. No. 21. P. 26–50.

4. Кизим М. О., Хаустова В. Є., Бєлікова Н. В., Козирєва О. В. Методичне забезпечення інтегрального оцінювання складових сталого розвитку регіонів України (на прикладі екологічної складової). *Бізнес Інформ*. 2022. № 6. С. 31–42.

DOI: 10.32983/2222-4459-2022-6-31-42

5. Ma X., Gryshova I., Khaustova V., Reshetnyak O., Shcherbata M., Bobrovnyk D., Khaustov M. Assessment of the Impact of Scientific and Technical Activities on the Economic Growth of World Countries. *Sustainability*. 2022. Vol. 14. Iss. 21. Article 14350.

DOI: 10.3390/su142114350

6. Сич Є. М., Бойко О. В., Шишкіна О.В. Розвиток монопрофільних виробничих структур ринку: транспортно-економічний аспект : монографія. Київ : Логос, 2011. 220 с.

7. Бойко О. В., Томарева-Патлахова В. В., Бондар Ю. А., Карпуніна М. С. Методичний підхід до забезпечення кластернологістичного розвитку ринку послуг транспортних систем України. *Економічні інновації*. 2020. Т. 22. Вип. 4 (77). С. 29–38.

DOI: 10.31520/ei.2020.22.4(77).29-38

8. Trushkina N., Buhaieva M., Skoptsov K. Modernization of Transport Infrastructure in the Context of Sustainable Development of the National Economy: European Practice and Ukrainian Realities // Innovations for Achieving the Sustainable Development Goals: Science, Education and Economics : collective monograph. Ljubljana : Ljubljana School of Business, 2022. P. 242–264.

9. Beresford A. K. C., Pettit S. J., Whittaker W. Improving supply chain performance through quality management in a global distribution environment. *International Journal of Services and Operations Management*. 2005. Vol. 1. No. 1. P. 75–89.

DOI: 10.1504/IJSOM.2005.006319

10. Gunasekaran A. Editorial: New service and manufacturing environments: challenges for operations management researchers and practitioners. *International Journal of Services and Operations Management*. 2005. Vol. 1. No. 1. P. 1–6.

DOI: 10.1504/IJSOM.2005.006313

11. Huemer L. Supply Management: Value creation, coordination and positioning in supply relationships. *Long Range Planning*. 2006. Vol. 39. No. 2. P. 133–153.

DOI: 10.1016/j.lrp.2006.04.005

12. Blaik P. Logistyka. Koncepcja zintegrowanego zarzadzania. Warszawa : Polskie Wydawnictwo Ekonomiczne, 2010. 480 s.

13. Kotler P., Keller K. L. Marketing Management. 14th edition. Upper Saddle River, New Jersey : Prentice Hall, 2014. 720 p.

14. Мэрфи Пол Р., Вуд Дональд Ф. Современная логистика. Москва : Вильямс, 2017. 720 с.

15. Бауэрсокс Дональд Дж., Клосс Дэйвид Дж. Логистика: интегрированная цепь поставок. Москва : Олимп-Бизнес, 2017. 640 с.

16. Button K. Transport Economics. 3rd ed. Cheltenham, Northampton : Edward Elgar Publishing, 2010. 528 p.

17. Dalton G., Pena de la E., Vassallo J. M., Acciaro M. Transport Infrastructure. Expert group report. Luxembourg : Publications Office of the European Union, 2017. 44 p.

18. Ferrari C., Bottasso A., Conti M., Tei A. Economic Role of Transport Infrastructure: Theory and Models. 1st ed. Elsevier, 2018. 310 p.

DOI: 10.1016/C2016-0-03558-1

 Kopiec A. Ch., Siguencia L. O., Szostak Z. G., Marzano G. Transport infrastructures expenditures and costs analysis: The case of Poland. *Procedia Computer Science*. 2019. Vol. 149. P. 508–514. DOI: 10.1016/j.procs.2019.01.169

20. Dźwigoł H. Research methods and techniques in new management trends: research results. *Virtual Economics*. 2019. Vol. 2. No. 1. P. 31–48.

DOI: 10.34021/ve.2019.02.01(2)

21. Dzwigol H., Dźwigoł–Barosz M., Kwilinski A. Formation of Global Competitive Enterprise Environment Based on Industry 4.0 Concept. *International Journal of Entrepreneurship*. 2020. Vol. 24. No. 1. P. 1–5.

22. Kharazishvili Y., Kwilinski A., Grishnova O., Dzwigol H. Social Safety of Society for Developing Countries to Meet Sustainable Development Standards: Indicators, Level, Strategic Benchmarks (with Calculations Based on the Case Study of Ukraine). *Sustainability*. 2020. Vol. 12. Iss. 21. Article 8953.

DOI: 10.3390/su12218953

23. Ishikura T. Regional economic effects of transport infrastructure development featuring trade gateway region-asymmetric spatial CGE model approach. *Transportation Research Procedia*. 2020. Vol. 48. P. 1750–1765.

DOI: 10.1016/j.trpro.2020.08.211

24. Wang Ch., Lim M. K., Zhang X., Zhao L., Lee P.T.-W. Railway and road infrastructure in the Belt and Road Initiative countries: Estimating the impact of transport infrastructure on economic growth. *Transportation Research Part A: Policy and Practice.* 2020. Vol. 134. P. 288–307.

DOI: 10.1016/j.tra.2020.02.009

25. Soyres de F., Mulabdic A., Ruta M. Common transport infrastructure: A quantitative model and estimates from the Belt and Road Initiative. *Journal of Development Economics.* 2020. Vol. 143. Article 102415.

DOI: 10.1016/j.jdeveco.2019.102415

26. Broniewicz E., Ogrodnik K. Multi-criteria analysis of transport infrastructure projects. *Transportation Research Part D: Transport and Environment*. 2020. Vol. 83. Article 102351.

DOI: 10.1016/j.trd.2020.102351

27. Sykes P., Bell M., Dissanayake D. Using Scenario-Based Elicitation in Analysis of Uncertainty in a Transport Infrastructure Project. *Transportation Research Procedia*. 2020. Vol. 45. P. 963–970.

DOI: 10.1016/j.trpro.2020.02.070

28. Teklemariam E.A., Shen Z. Determining transit nodes for potential transit-oriented development: Along the LRT corridor in Addis Ababa, Ethiopia. *Frontiers of Architectural Research.* 2020. Vol. 9. Issue 3. P. 606–622.

DOI: 10.1016/j.foar.2020.03.005

29. Kumar P. P., Sekhar Ch. R., Parida M. Identification of neighborhoodtypologyforpotentialtransit-oriented development. *Transportation Research Part D: Transport and Environment.* 2020. Vol. 78. Article 102186.

DOI: 10.1016/j.trd.2019.11.015.

30. Cheng J., Yan R., Gao Y. Exploring spatial heterogeneity in accessibility and transit mode choice. *Transportation Research Part D: Transport and Environment*. 2020. Vol. 87. Article 102521.

DOI: 10.1016/j.trd.2020.102521

31. Rajagopal S., Zhang P. How widespread is the usage of the Northern Sea Route as a commercially viable shipping route? A statistical analysis of ship transits from 2011 to 2018 based on empirical data. *Marine Policy*. 2020. Article 104300.

DOI: 10.1016/j.marpol.2020.104300

32. Liu L., Zhang M., Xu T. A conceptual framework and implementation tool for land use planning for corridor transit oriented development. *Cities*. 2020. Vol. 107. Article 102939.

DOI: 10.1016/j.cities.2020.102939

33. Григорак М. Ю. Інтелектуалізація ринку логістичних послуг: концепції, методологія, компетентність : монографія. Київ : Сік Груп Україна, 2017. 516 с. **34.** Гуцалюк О. М., Бондар Ю. А. Безпековий менеджмент авіаційного транспорту в контексті сталого розвитку національної економіки. *Управління економікою: теорія та практика. Чумаченківські читання* : зб. наук. пр. / НАН України, Ін-т економіки пром-сті. Київ, 2020. С. 82–94.

DOI: 10.37405/2221-1187.2020.82-94

35. Гуцалюк О. М., Ремзіна Н. А. Методичні основи формування єдиного наскрізного тарифу мультимодальних перевезень. Центральноукраїнський науковий вісник. Економічні науки. 2020. Вип. 4 (37). С. 169–176.

36. Гуцалюк О. М., Бондар Ю. А. Управління стратегічним розвитком транспортної інфраструктури національної економіки. Науковий вісник Івано-Франківського національного технічного університету нафти і газу. Сер. : Економіка та управління в нафтовій і газовій промисловості. 2021. № 1 (23). С. 98–107.

DOI: 10.31471/2409-0948-2021-1(23)-98-107

37. Харазішвілі Ю. М., Бугайко Д. О., Ляшенко В. І. Сталий розвиток авіаційного транспорту України: стратегічні сценарії та інституційний супровід : монографія / за ред. Ю. М. Харазішвілі. Київ : НАН України, Ін-т економіки пром-сті, 2022. 276 с.

38. Розвиток інфраструктурних секторів як чинник реалізації пріоритетних напрямів економічної політики України : кол. моногр. / за ред. О. І. Никифорук. Київ : ІЕПр НАНУ, 2017. 522 с.

39. Никифорук О. І., Стасюк О. М., Чмирьова Л. Ю., Федяй Н. О. Цифровізація в транспортному секторі: тенденції та індикатори розвитку. Частина 1. *Статистика України*. 2019. № 3. С. 70–81.

DOI: 10.31767/su.3(86)2019.03.08

40. Ilchenko S. V., Karpenko H. Y. Assessment of the transport infrastructure impact on the regional development. *Економічні інновації.* 2017. Вип. 65. С. 67–72.

DOI: 10.31520/ei.2017.19.3(65).67-72

41. Kwilinski A. Implementation of Blockchain Technology in Accounting Sphere. *Academy of Accounting and Financial Studies Journal.* 2019. Vol. 23 (SI2). P. 1–6. URL: https://www.abacademies. org/articles/Implementation-of-Blockchain-Technology-in-Accounting-Sphere-1528-2635-23-SI-2-412.pdf

42. Крикавський Є. В., Чорнописька Н. В. Логістичні системи. Львів : Вид-во НУ «Львівська політехніка», 2009. 264 с.

43. Григорак М. Ю., Костюченко Л. В., Соколова О. Є. Логістична інфраструктура. Київ : Автограф, 2010. 190 с.

44. Заблодська І. В., Бузько І. Р., Зеленко О. О., Хорошилова І. О. Інфраструктурне забезпечення розвитку транспортної системи регіону : кол. моногр. Сєвєродонецьк : Вид-во СНУ ім. В. Даля, 2016. 193 с.

45. Глазкова А. С. Індустріально-логістична інфраструктура як основа інноваційної модернізації економіки. *Інфраструктура ринку*. 2016. Вип. 2. С. 49–51.

46. Сумець О. М., Бабенкова Т. Ю. Логістична інфраструктура: теоретичний аспект. Київ : Хай-Тек Прес, 2017. 58 с.

47. Степаненко В. О. Морська транспортна інфраструктура: сутність, класифікація та переваги. *Бізнес Інформ*. 2019. № 11. С. 187–194.

DOI: 10.32983/2222-4459-2019-11-187-194

48. Садчикова І. Концептуальні положення обґрунтування сутності категорії «інфраструктура». *Проблеми і перспективи економіки та управління.* 2020. № 4 (24). С. 155–169.

49. Харченко М. В. Транспортно-логістична інфраструктура та її місце в соціально-економічній системі підприємств України. *Економічний простір.* 2020. Вип. № 153. С. 83–88. DOI: 10.32782/2224-6282/153-15 **50.** Петрова І. П., Трушкіна Н. В. Щодо розвитку транспортної інфраструктури в Україні на засадах публічно-приватного партнерства. *Інфраструктура ринку*. 2017. Вип. 13. С. 63–72.

51. Ляшенко В. І., Трушкіна Н. В., Шевченко А. І. Теоретичні підходи до визначення поняття «транспортна інфраструктура економічного району». *Інфраструктура ринку*. 2020. Вип. 49. С. 186–193.

DOI: 10.32843/infrastruct49-32

52. Цвірко О. О., Трушкіна Н. В. Логістична інфраструктура: сутність і роль у забезпеченні сталого розвитку національної економіки. *Moderní aspekty vědy* : XIX. Díl mezinárodní kolektivní monografie. Česká republika, Jesenice: Mezinárodní Ekonomický Institut s.r.o., 2022. Str. 258–279.

53. Трушкіна Н. Логістична система: до питання термінології. Věda a perspektivy. 2022. № 3(10). Str. 84–96.

DOI: 10.52058/2695-1592-2022-3(10)-84-96

54. Tsimoshynska O., Koval M., Kryshtal H., Filipishyna L., Arsawan W. E., Koval V. Investing in road construction infrastructure projects under public-private partnership in the form of concession. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*. 2021. No. 2. 184–192.

DOI: 10.33271/nvngu/2021-2/184

55. Lyulyov O., Vakulenko I., Pimonenko T., Kwilinski A., Dzwigol H., Dzwigol-Barosz M. Comprehensive Assessment of Smart Grids: Is There a Universal Approach? *Energies*. 2021. Vol. 14. Iss. 12. Article 3497.

DOI: 10.3390/en14123497

REFERENCES

Bauersoks, D. Dzh., and Kloss, D. Dzh. *Logistika: integrirovannaya tsep postavok* [Logistics: Integrated Supply Chain]. Moscow: Olimp-Biznes, 2017.

Beresford, A. K. C., Pettit, S. J., and Whittaker, W. "Improving supply chain performance through quality management in a global distribution environment". *International Journal of Services and Operations Management*, vol. 1, no. 1 (2005): 75-89.

DOI: 10.1504/IJSOM.2005.006319

Blaik, P. Logistyka. Koncepcja zintegrowanego zarzadzania. Warszawa: Polskie Wydawnictwo Ekonomiczne, 2010.

Boiko, O. V. et al. "Metodychnyi pidkhid do zabezpechennia klasterno-lohistychnoho rozvytku rynku posluh transportnykh system Ukrainy" [A Methodical Approach to Ensuring the Clusterlogistic Development of the Transport System Services Market of Ukraine]. *Ekonomichni innovatsii*, vol. 22, no. 4(77) (2020): 29-38.

DOI: 10.31520/ei.2020.22.4(77).29-38

Broniewicz, E., and Ogrodnik, K. "Multi-criteria analysis of transport infrastructure projects". *Transportation Research. Part D: Transport and Environment*, art. 102351, vol. 83 (2020).

DOI: 10.1016/j.trd.2020.102351

Button, K. *Transport Economics*. Cheltenham, Northampton: Edward Elgar Publishing, 2010.

Cheng, J., Yan, R., and Gao, Y. "Exploring spatial heterogeneity in accessibility and transit mode choice". *Transportation Research*. *Part D: Transport and Environment*, art. 102521, vol. 87 (2020).

DOI: 10.1016/j.trd.2020.102521

Dalton, G. et al. *Transport Infrastructure. Expert group report.* Luxembourg: Publications Office of the European Union, 2017.

Dzwigol, H. "Research methods and techniques in new management trends: research results". *Virtual Economics*, vol. 2, no. 1 (2019): 31-48.

DOI: 10.34021/ve.2019.02.01(2)

Проблеми **економіки** № 3 (53), 2022

Dzwigol, H., Dzwigol-Barosz, M., and Kwilinski, A. "Formation of Global Competitive Enterprise Environment Based on Industry 4.0 Concept". *International Journal of Entrepreneurship*, vol. 24, no. 1 (2020): 1-5.

Ferrari, C. et al. *Economic Role of Transport Infrastructure: Theory and Models*. Elsevier, 2018.

DOI: 10.1016/C2016-0-03558-1

Gunasekaran, A. "Editorial: New service and manufacturing environments: challenges for operations management researchers and practitioners". *International Journal of Services and Operations Management*, vol. 1, no. 1 (2005): 1-6.

DOI: 10.1504/IJSOM.2005.006313

Hlazkova, A. S. "Industrialno-lohistychna infrastruktura yak osnova innovatsiinoi modernizatsii ekonomiky" [Industrial and Logistics Infrastructure as the Basis of Innovative Modernization of the Economy]. *Infrastruktura rynku*, no. 2 (2016): 49-51.

Hryhorak, M. Yu. Intelektualizatsiia rynku lohistychnykh posluh: kontseptsii, metodolohiia, kompetentnist [Intellectualization of the Logistics Services Market: Concepts, Methodology, Competence]. Kyiv: Sik Hrup Ukraina, 2017.

Hryhorak, M. Yu., Kostiuchenko, L. V., and Sokolova, O. Ye. *Lohistychna infrastruktura* [Logistics Infrastructure]. Kyiv: Avtohraf, 2010.

Huemer, L. "Supply Management: Value creation, coordination and positioning in supply relationships". *Long Range Planning*, vol. 39, no. 2 (2006): 133-153.

DOI: 10.1016/j.lrp.2006.04.005

Hutsaliuk, O. M., and Bondar, Yu. A. "Bezpekovyi menedzhment aviatsiinoho transportu v konteksti staloho rozvytku natsionalnoi ekonomiky" [Safety Management of Air Transport in the Context of Sustainable Development of the National Economy]. In *Upravlinnia ekonomikoiu: teoriia ta praktyka. Chumachenkivski chytannia*, 82-94. Kyiv: NAN Ukrainy, In-t ekonomiky prom-sti, 2020.

DOI: 10.37405/2221-1187.2020.82-94

Hutsaliuk, O. M., and Bondar, Yu. A. "Upravlinnia stratehichnym rozvytkom transportnoi infrastruktury natsionalnoi ekonomiky" [Management of the Strategic Development of the Transport Infrastructure of the National Economy]. *Naukovyi visnyk Ivano-Frankivskoho natsionalnoho tekhnichnoho universytetu nafty i hazu. Ser. : Ekonomika ta upravlinnia v naftovii i hazovii promyslovosti*, no. 1(23) (2021): 98-107.

DOI: 10.31471/2409-0948-2021-1(23)-98-107

Hutsaliuk, O. M., and Remzina, N. A. "Metodychni osnovy formuvannia yedynoho naskriznoho taryfu multymodalnykh perevezen" [Methodological Foundations of the Formation of a Single End-to-end Tariff for Multimodal Transportation]. *Tsentralnoukrainskyi naukovyi visnyk. Ekonomichni nauky*, no. 4(37) (2020): 169-176.

Ilchenko, S. V., and Karpenko, H. Y. "Assessment of the transport infrastructure impact on the regional development". *Ekonomichni innovatsii*, no. 65 (2017): 67-72.

DOI: 10.31520/ei.2017.19.3(65).67-72

Ishikura, T. "Regional economic effects of transport infrastructure development featuring trade gateway region-asymmetric spatial CGE model approach". *Transportation Research Procedia*, vol. 48 (2020): 1750-1765.

DOI: 10.1016/j.trpro.2020.08.211

Kharazishvili, Y. et al. "Social Safety of Society for Developing Countries to Meet Sustainable Development Standards: Indicators, Level, Strategic Benchmarks (with Calculations Based on the Case Study of Ukraine)". *Sustainability*, art. 8953, vol. 12, no. 21 (2020).

DOI: 10.3390/su12218953

Kharazishvili, Yu. M., Buhaiko, D. O., and Liashenko, V. I. Stalyi rozvytok aviatsiinoho transportu Ukrainy: stratehichni stsenarii ta instytutsiinyi suprovid [Sustainable Development of air Transport of Ukraine: Strategic Scenarios and Institutional Support]. Kyiv: NAN Ukrainy, In-t ekonomiky prom-sti, 2022.

Kharchenko, M.V. "Transportno-lohistychna infrastruktura ta yii mistse v sotsialno-ekonomichnii systemi pidpryiemstv Ukrainy" [Transport and Logistics Infrastructure and its Place in the Socioeconomic System of Enterprises of Ukraine]. *Ekonomichnyi prostir*, no. 153 (2020): 83-88.

DOI: 10.32782/2224-6282/153-15

Khaustova, V. Ye. "Promyslova polityka ta vidminnosti u rozvytku promyslovosti v intehratsiinykh obiednanniakh" [Industrial Policy and Differences in the Development of Industry in Integration Associations]. In *Doslidzhennia ta optymizatsiia ekonomichnykh protsesiv*, 323-343. Kharkiv: NTU «KhPI», 2014.

Kochanska, E. et al. "The Benchmarking Analysis of Prospects for Development of Cluster Initiatives in Poland and Ukraine". ACTA INNOVATION, no. 21 (2016): 26-50.

Kopiec, A. Ch. et al. "Transport infrastructures expenditures and costs analysis: The case of Poland". *Procedia Computer Science*, vol. 149 (2019): 508-514.

DOI: 10.1016/j.procs.2019.01.169

Kotler, P., and Keller, K. L. *Marketing Management*. Upper Saddle River, New Jersey: Prentice Hall, 2014.

Krykavskyi, Ye. V., and Chornopyska, N. V. *Lohistychni systemy* [Logistics Systems]. Lviv: Vyd-vo NU «Lvivska politekhnika», 2009.

Kumar, P. P., Sekhar, Ch. R., and Parida, M. "Identification of neighborhood typology for potential transit-oriented development". *Transportation Research Part D: Transport and Environment*, art. 102186, vol. 78 (2020).

DOI: 10.1016/j.trd.2019.11.015

Kwilinski, A. "Implementation of Blockchain Technology in Accounting Sphere". Academy of Accounting and Financial Studies Journal. 2019. https://www.abacademies.org/articles/Implementation-of-Blockchain-Technology-in-Accounting-Sphere-1528-2635-23-SI-2-412.pdf

Kyzym, M. O. et al. "Metodychne zabezpechennia intehralnoho otsiniuvannia skladovykh staloho rozvytku rehioniv Ukrainy (na prykladi ekolohichnoi skladovoi)" [The Methodological Provision of Integral Assessment of the Components of Sustainable Development of the Regions of Ukraine (Example of the Ecological Component)]. *Biznes Inform*, no. 6 (2022): 31-42.

DOI: 10.32983/2222-4459-2022-6-31-42

Kyzym, M. O., and Khaustova, V. Ye. "Ukrainskyi dosvid formuvannia klasternykh struktur" [The Ukrainian Experience of Formation and Development of Cluster's Structures]. *Problemy ekonomiky*, no. 1 (2012): 3-11.

Liashenko, V. I., Trushkina, N. V., and Shevchenko, A. I. "Teoretychni pidkhody do vyznachennia poniattia «transportna infrastruktura ekonomichnoho raionu»" [Theoretical Approaches to Defining the Concept of «Transport Infrastructure of an Economic District»]. *Infrastruktura rynku*, no. 49 (2020): 186-193.

DOI: 10.32843/infrastruct49-32

Liu, L., Zhang, M., and Xu, T. "A conceptual framework and implementation tool for land use planning for corridor transit oriented development". *Cities*, art. 102939, vol. 107 (2020).

DOI: 10.1016/j.cities.2020.102939

Lyulyov, O. "Comprehensive Assessment of Smart Grids: Is There a Universal Approach?" *Energies*, art. 3497, vol. 14, no. 12 (2021).

DOI: 10.3390/en14123497

Ma, X. et al. "Assessment of the Impact of Scientific and Technical Activities on the Economic Growth of World Countries". *Sustainability*, art. 14350, vol. 14, no. 21 (2022).

DOI: 10.3390/su142114350

Merfi, P. R., and Vud, D. F. *Sovremennaya logistika* [Modern Logistics]. Moscow: Vilyams, 2017.

Nykyforuk, O. I. et al. "Tsyfrovizatsiia v transportnomu sektori: tendentsii ta indykatory rozvytku. Chastyna 1" [Digitization in the Transport Sector: Trends and Indicators of Development. Part 1]. *Statystyka Ukrainy*, no. 3 (2019): 70-81.

DOI: 10.31767/su.3(86)2019.03.08

Petrova, I. P., and Trushkina, N. V. "Shchodo rozvytku transportnoi infrastruktury v Ukraini na zasadakh publichno-pryvatnoho partnerstva" [Regarding the Development of Transport Infrastructure in Ukraine on the Basis of Public-private Partnership]. *Infrastruktura rynku*, no. 13 (2017): 63-72.

Rajagopal, S., and Zhang, P. "How widespread is the usage of the Northern Sea Route as a commercially viable shipping route? A statistical analysis of ship transits from 2011 to 2018 based on empirical data". *Marine Policy*, art. 104300 (2020).

DOI: 10.1016/j.marpol.2020.104300

Rozvytok infrastrukturnykh sektoriv yak chynnyk realizatsii priorytetnykh napriamiv ekonomichnoi polityky Ukrainy [The Development of Infrastructure Sectors as a Factor in the Implementation of the Priority Directions of the Economic Policy of Ukraine]. Kyiv: IEPr NANU, 2017.

Sadchykova, I. "Kontseptualni polozhennia obgruntuvannia sutnosti katehorii «infrastruktura»" [Conceptual Provisions for Substantiating the Essence of the «Infrastructure» Category]. Problemy i perspektyvy ekonomiky ta upravlinnia, no. 4(24) (2020): 155-169.

Soyres de, F., Mulabdic, A., and Ruta, M. "Common transport infrastructure: A quantitative model and estimates from the Belt and Road Initiative". *Journal of Development Economics*, art. 102415, vol. 143 (2020).

DOI: 10.1016/j.jdeveco.2019.102415

Stepanenko, V. O. "Morska transportna infrastruktura: sutnist, klasyfikatsiia ta perevahy" [The Maritime Transport Infrastructure: Essence, Classification and Advantages]. *Biznes Inform*, no. 11 (2019): 187-194.

DOI: 10.32983/2222-4459-2019-11-187-194

Sumets, O. M., and Babenkova, T. Yu. *Lohistychna infpastpuktupa: teopetychnyi aspekt* [Logistic Infrastructure: Theoretical Aspect]. Kyiv: Khai-Tek Ppes, 2017.

Sych, Ye. M., Boiko, O. V., and Shyshkina, O. V. *Rozvytok monoprofilnykh vyrobnychykh struktur rynku: transportno-ekonomichnyi aspekt* [Development of Mono-profile Production Structures of the Market: Transport and Economic Aspect]. Kyiv: Lohos, 2011.

Sykes, P., Bell, M., and Dissanayake, D. "Using Scenario-Based Elicitation in Analysis of Uncertainty in a Transport Infrastructure Project". *Transportation Research Procedia*, vol. 45 (2020): 963-970.

DOI: 10.1016/j.trpro.2020.02.070

Teklemariam, E. A., and Shen, Z. "Determining transit nodes for potential transit-oriented development: Along the LRT corridor in Addis Ababa, Ethiopia". *Frontiers of Architectural Research*, vol. 9, no. 3 (2020): 606-622. DOI: 10.1016/j.foar.2020.03.005

Trushkina, N. "Lohistychna systema: do pytannia terminolohii" [Logistics System: To the Question of Terminology]. *Veda a perspektivy*, no. 3(10) (2022): 84-96.

DOI: 10.52058/2695-1592-2022-3(10)-84-96

Trushkina, N., Buhaieva, M., and Skoptsov, K. "Modernization of Transport Infrastructure in the Context of Sustainable Development of the National Economy: European Practice and Ukrainian Realities". In Innovations for Achieving the Sustainable Development Goals: Science, Education and Economics, 242-264. Ljubljana: Ljubljana School of Business, 2022.

Tsimoshynska, O. et al. "Investing in road construction infrastructure projects under public-private partnership in the form of concession". *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*, no. 2 (2021): 184-192.

DOI: 10.33271/nvngu/2021-2/184

Tsvirko, O. O., and Trushkina, N. V. "Lohistychna infrastruktura: sutnist i rol u zabezpechenni staloho rozvytku natsionalnoi ekonomiky" [Logistics Infrastructure: Essence and Role in Ensuring Sustainable Development of the National Economy]. In *Moderni aspekty vedy*, 258-279. Ceska republika, Jesenice: Mezinarodni Ekonomicky Institut s.r.o., 2022. Wang, Ch. et al. "Railway and road infrastructure in the Belt and Road Initiative countries: Estimating the impact of transport infrastructure on economic growth". *Transportation Research. Part A: Policy and Practice*, vol. 134 (2020): 288-307.

DOI: 10.1016/j.tra.2020.02.009

Zablodska, I. V. et al. *Infrastrukturne zabezpechennia rozvytku transportnoi systemy rehionu* [Infrastructural Support for the Development of the Transport System of the Region]. Sievierodonetsk: Vyd-vo SNU im. V. Dalia, 2016.

Стаття надійшла до редакції 04.08.2022 р.