

DOI: [10.55643/fcaptop.3.56.2024.4408](https://doi.org/10.55643/fcaptop.3.56.2024.4408)

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Received: 04/04/2024

Accepted: 12/06/2024

Published: 30/06/2024

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# THE INFLUENCE OF EXTERNAL AND INTERNAL FACTORS ON THE REENGINEERING OF BUSINESS PROCESSES IN THE CONTEXT OF THE ACTIVITIES OF TRANSPORT ENTERPRISES

## ABSTRACT

The article investigates the impact of environmental factors on the business process reengineering of transportation companies. The focus is specifically on the activities and business processes of Ukrainian transportation enterprises. Following a review of scientific and practical sources, a scientific task was set: to determine the impact of factors on the reengineering process through a proposed methodological approach to economic-mathematical modelling. The article utilizes correlation regression analysis and analysis-synthesis methods to evaluate the dynamics of key financial indicators of transportation enterprises. It emphasizes that reengineering should be based on the influence of various factors, not necessarily related exclusively to either the external or internal environment. The approach proposed in the work involves using regression models to analyze the impact of factors on the reengineering process. The study notes that innovation is revealed through the proposed model, which considers a range of key factors and indicators of the activity of Ukrainian transportation enterprises. Meanwhile, the authors stress that using this approach allows for identifying key factors in developing an effective reengineering strategy for transportation companies to optimize their operations. The research examines how different analysis methods can be used to detect changes in the impact of various types of factors, both external and internal, on the decision-making process regarding reengineering. The scientific novelty lies in a comprehensive approach to regression modelling of factor impacts on a relevant variable to identify the most significant factors for decision-making regarding reengineering. Alongside this, the research has limitations due to the focus on the specifics of the activity of only Ukrainian transportation enterprises. The goal is set for further research to conduct a similar study for other types of enterprises, particularly the food industry, which requires changes under wartime conditions.

**Keywords:** regression models, reengineering, business processes, transport enterprises, modelling, financial performance indicators

**JEL Classification:** L62, C50, G01

## INTRODUCTION

Today, transport enterprises are going through difficult times, and this is due to the fact that the industry is gradually facing the problems of the impact of globalization and reorientation to new standards. Consequently, this involves rethinking the use of different types of fuel with an emphasis on an environmentally friendly format for car use. In addition, the very paradigm of routing and transportation is changing. The hyperdynamics of the environment require transport companies to have a high level of competitiveness, which cannot be achieved with small tactical changes. There is a need for a more strategic approach that fundamentally rethinks the way we do business. For this purpose, an effective anti-crisis process is used in the form of reengineering. At the same time, it is a properly constructed transport enterprise management system that is the basis of its success. The management of a transport enterprise itself must be anti-crisis, that is, aimed at preventing such circumstances and eliminating risks that could lead the enterprise to bankruptcy. Therefore, reengineering is of particular importance for

transport companies. The sector is highly competitive and sensitive to changing economic and technological conditions. Optimizing logistics processes, improving traffic flow management, and efficient use of vehicles and resources can significantly increase the profitability and efficiency of transport companies. Adapting to emerging technologies such as digitalization and automation opens up new opportunities to reduce costs and improve service quality.

The current stage of development of transport companies is characterized by significant transformations caused by two main factors: firstly, the need to adapt to the unique requirements of individual clients, and secondly, the widespread introduction of computerization and information technology. Such features of modern business activity require a new look at methods of organization, the development of business processes, and the use of an innovative approach that makes the most of the potential of the latest software and technologies, as well as human resources. In this context, reengineering the business processes of transport companies is of particular interest, since it opens up wide opportunities for the development of unique competencies and the creation of an effective and economically sound management model based on them. In the process of business process reengineering, analysis of external and internal factors plays a huge role. Let us note that reengineering is not some kind of closed system for implementing certain anti-crisis measures. This is an extremely complex open process, influenced by a significant number of different types and forms, factors of both external and internal environment. Ignoring weak signals both in internal and external processes can greatly worsen business implementation to such an extent that even total reengineering will no longer help. This is what actualizes the issue of studying the influence of factors in the operating environment of transport enterprises on the process of reengineering business processes.

## LITERATURE REVIEW

A literature review is extremely important in the context of understanding what is important today for the scientific community and practitioners in the context of the issues raised in the article. In general, the greatest attention today is paid to the issue of crisis management when the issue of reengineering is considered. Repeatedly, such leading experts in the field of crisis management as Sylkin, et.al. (2019) and Kryshtanovych, (2022) note that modern theory and practice of enterprise management require radical changes due to the globalization of the world economy, increasing dynamism of the market environment and the development of competition. The reasons for the emergence of new approaches to management are related to changes in the business itself: the use of innovation is becoming increasingly important for the efficiency of the enterprise. This is also acceptable for the transport industry. Without innovative activity, they also cannot survive in a hyperdynamic environment. Radical changes and a rethinking of strategic scope are needed. It is appropriate to note that the optimization of business processes today is one of the most pressing problems in the context of reengineering. More and more modern scientific works are devoted to this aspect (Li et.al., 2020; Sungau, 2012). At the same time, it is important to clearly define what business optimization is. In essence, this is a process aimed at rethinking the current state of affairs and changing it under the influence of various factors, both external and internal.

It is interesting to note that during reengineering, an analysis of the implementation of processes at a given point in time is carried out and improvements to the execution model are formed that are as close as possible to the optimal one. An integral part is the development of a plan for the transition from the current to a modernized management model (Lytvyn et.al., 2022; Magutu et.al., 2010). However, at the same time, from our point of view, it should be expanded and noted that this process should develop new models, maximally focusing on changes in the operating environment of a particular open socio-economic system. One of the critical aspects in this context is the role of state regulation, which is predominantly an external factor influencing business process reengineering. Kryshtanovych et al. (2023) explore the optimization of state regulation in the field of safety and security of business, focusing on how local approaches can be tailored to enhance operational efficiencies in various sectors, including transportation. The authors argue that well-structured regulatory frameworks can lead to better management of business processes, particularly in ensuring safety and security—a paramount concern in the transport sector. Their study emphasizes that effective regulations should not only comply with international standards but also be flexible enough to adapt to local business environments and challenges.

Separately, it should be noted that a significant number of works (Dijkman et.al., 2011; Fetais et.al., 2022) are also devoted to the consequences of anti-crisis policy and reengineering in particular. Therefore, it is often noted that after business process reengineering, success is only possible in an enterprise where management is formed around key processes, that is, process managers are not temporary project managers, but key managers. We can add here that managers of this type must also take into account and respond to the most important factors influencing the process itself. The success of reengineering directly depends on how much the external environment has been analyzed and internal processes have been worked out. These gaps highlight areas in which previous research may have fallen short, thereby highlighting the importance of the new research we conducted (Table 1).

**Table 1. Main gaps in modern literature on the topic of our article.**

№	The main gaps and lacks	The essence
1	Study of the influence of external factors on the development and functioning of transport enterprises	It should be noted that there is currently a lack of modern research on transport enterprises and their activities. The external environment is a hyperdynamic space where research even from 3 years ago may no longer be relevant.
2	Insufficient use of economic and mathematical modelling	Note that not all modern works carefully and actively use mathematical modelling methods. In most cases, it is expected that a thorough biased analysis will be carried out and reengineering paths will be identified. However, our study in this regard contributes to the field by integrating such models, thereby offering a more robust and quantitative approach.
3	The need for innovative models that take into account a number of factors in transport enterprises	The existing literature most often lacks innovative models that take into account a wide range of factors, especially in the conditions of specific transport enterprises. Many studies focus on a limited set of variables or do not tailor their models to the unique problems and dynamics of the transportation sector. This study fills this critical gap by proposing a new model that takes into account multiple key factors and indicators, making it particularly relevant for developing effective strategies for transportation companies.

Taken together, these studies provide a diverse and comprehensive view of reengineering. They highlight the importance of strategic alignment, management support, and technology integration in the successful reengineering of business process initiatives. The role of digital transformation, optimization of financial resources and data-driven decision-making are becoming key topics in the modern reengineering context. These ideas are particularly relevant to transportation businesses seeking to optimize their business operations through reengineering, offering a roadmap for successful implementation and continuous improvement in a fast-evolving business environment.

## AIMS AND OBJECTIVES

The main purpose of the article is to study the influence of factors in the operating environment of transport enterprises on the reengineering of business processes. This study attempts to accomplish the following task within the context of meeting the set goal: to propose a methodological approach to economic-mathematical modelling to determine the impact of factors on the process of business process reengineering.

## METHODS

The econometric modelling method involves the use of mathematical models to simulate real economic processes. In our case, we used modelling to represent the relationships between factors and the efficiency of business processes of transport companies. This allowed us to better understand how different external conditions affect the performance of these enterprises.

Correlation and regression analysis. This method is used to determine the degree of dependence of one set of data on another. Using this analysis, we discovered a correlation between external factors and key performance indicators of transport companies' business processes. This helped us identify which factors have the greatest influence on the reengineering process.

Methods of analysis and synthesis. These methods involve systematically breaking down complex data into simpler elements (analysis) and then combining them into a coherent structure (synthesis). In the context of our study, analysis and synthesis were used to understand the individual impact of each factor and their interaction in the context of the commercial activities of transport enterprises and their influence on the formation of reengineering strategies.

To respond to external influences on a company, constant monitoring of the external environment is necessary, as well as assessment and forecasting of the nature of these influences, rapid response to changes and adaptation to them. To do this, it is necessary to analyze the influence of individual factors on the final indicators, in particular, using correlation and regression analysis. The linear regression model is presented in the following format (1):

$$Y = a_n * x_n + \varepsilon \tag{1}$$

де  $Y$  - resulting indicator;  $a_n$  - regression coefficients;  $x_n$  - independent variables (in our case, factors);  $\varepsilon$  - random error.

Creating a regression equation involves defining parameters. This method ensures that the parameters add up to the sum of the squared differences between the actual results and the theoretically least calculated data, which means that the following equation (2) holds:

$$\varepsilon = \sum_{i=1}^n (Y - Y^{\wedge})^2 - \min \quad (2)$$

where  $Y$  represents actual values;  $n$  represents the number of levels in the dynamic's series.

To determine the values of the unknown parameters  $a_n$ , it is necessary to equate the time derivatives  $\varepsilon/a_n$ . This allows us to obtain the following system of equations (3):

$$\begin{cases} Y = a_0 * n + a_n \sum x \\ \sum Y * x_n = a_n \sum x_n^2 \end{cases} \quad (3)$$

As a result of applying these methods, we were able to develop a comprehensive model that will reflect the influence of various external and internal factors on the efficiency of business processes. This model allows not only to analyze the current state of affairs but also to predict future trends, which is the key to developing effective business process reengineering strategies in a dynamic external environment.

## RESULTS

To create a regression model, it is necessary to identify a set of environmental factors that influence fluctuations in the productivity of transport companies. At the same time, according to the results of a survey of leading specialists in transport and crisis management (both among current practitioners and among scientists), it was found that the most significant are the following factors: low production efficiency of the industrial sector, which is the largest client of transport enterprises in Ukraine; problems of building a logistics system under martial law; low personnel potential and low level of innovative activity of enterprises. In this case, the influence of these factors is best determined by analyzing the relevant indices, which are: The industrial production index; Logistics efficiency Index; Share of the average number of full-time employees; Inflation index; Innovation Index. It is important to note that modern transport enterprises are very dependent on the production activities of the industrial sector. The reason for this is that most of their shipments are based on the volume of industrial products produced.

Figure 1 shows the initial data for calculating the regression model of dependence.

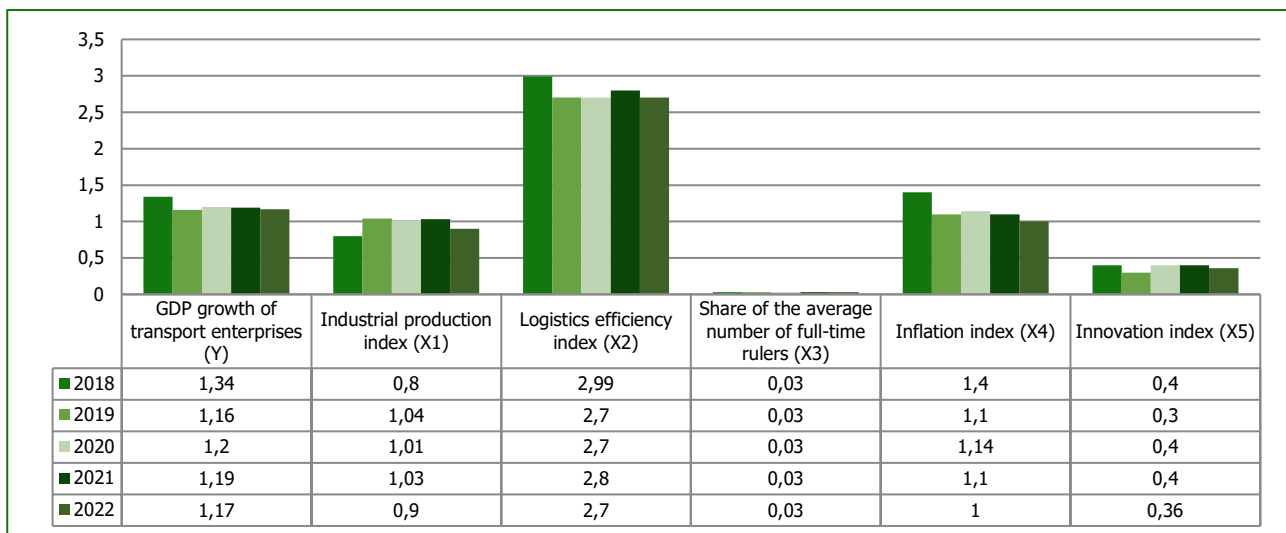


Figure 1. Initial data for calculating the regression model of dependence. (Source: State Statistics Service of Ukraine, 2023)

Creating a regression model based on the system of equations (3) involves solving a set of six equations with six unknowns. Accordingly, the system of equations will look like this (4):

$$\begin{cases} 6,06 = a_0 5 + a_1 4,9 + a_2 3,4 + a_3 1,8 + a_4 5,8 + a_5 1,8 \\ 6,02 = a_0 4,9 + a_1 4,9 + a_2 3,3 + a_3 0,2 + a_4 5,7 + a_5 1,8 \\ 4,1 = a_0 3,3 + a_1 3,32 + a_2 2,3 + a_3 0,12 + a_4 3,9 + a_5 1,2 \\ 0,21 = a_0 0,18 + a_1 0,17 + a_2 0,11 + a_3 0,01 + a_4 0,2 + a_5 0,06 \\ 7,15 = a_0 5,8 + a_1 5,7 + a_2 3,9 + a_3 0,2 + a_4 6,9 + a_5 2,1 \\ 2,3 = a_0 1,8 + a_1 1,8 + a_2 1,2 + a_3 0,06 + a_4 2,2 + a_5 0,7 \end{cases} \quad (4)$$

To better understand the numerical values presented in (4), note that these are 6 equations with 6 unknowns. That is why (4) is the result of calculating the system coefficients. As a result of solving this system of equations, the regression equation (5) was obtained:

$$Y = 1,7 + 1,8x_1 + 0,22x_2 - 0,26x_3 - 0,3x_4 + 0,64x_5 \tag{5}$$

This model is suitable for further analysis provided it is statistically significant. To evaluate it, the coefficient of determination will be used, calculated according to the following formula (6):

$$R^2 = (\sigma^2_{Y_t} - \sigma^2_{\epsilon}) / \sigma^2_{Y_t} \tag{6}$$

where  $\sigma^2_{Y_t}$  represents the variance of actual values.

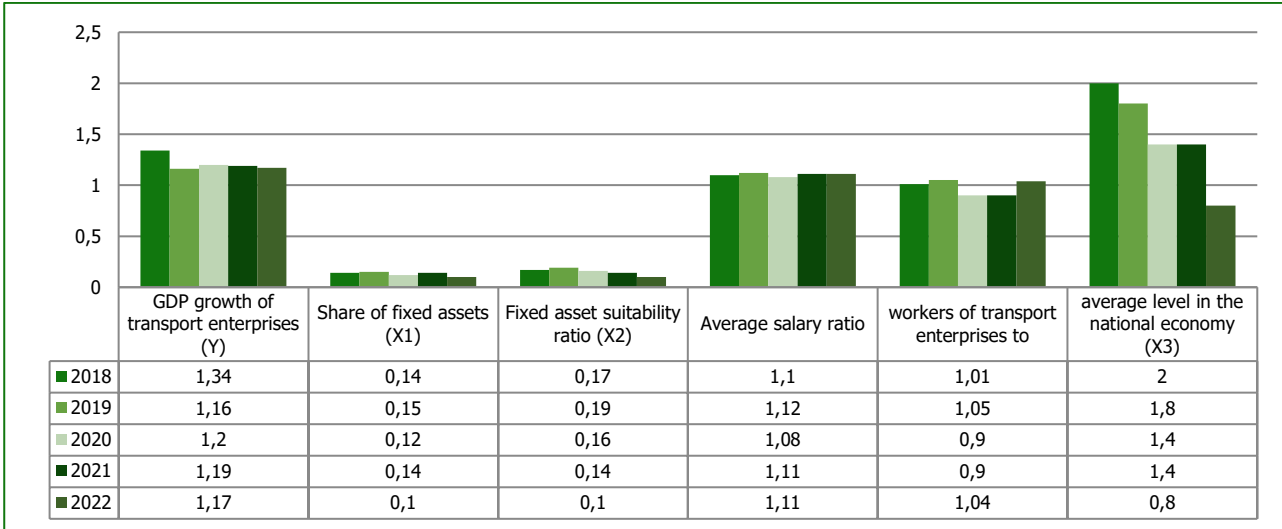
The coefficient of determination  $R^2$  shows the extent to which changes in the dependent variable are determined by changes in the independent variable. In other words, the closer the  $R^2$  value is to one, the stronger the relationship between these variables can be considered to be statistically significant.

Detailed calculations of the coefficient of determination for model (5) are presented in Table 2. From the calculations, it follows that the coefficient of determination is equal to 0.64 (the result of calculating the dispersion of the actual values of the dynamics series), which exceeds 0.5. This indicates the statistical reliability of the model, which makes it applicable for analyzing the influence of environmental factors on business reengineering processes in transport enterprises. Analysis of the regression model (5) shows that the industrial production index has the main influence on the growth of the gross output of transport companies. This reflects the specifics of the operating activities of these enterprises, based primarily on the provision of services for the transportation of products from key sectors of the national economy. The Innovation Index is the second most important factor because innovation plays a crucial role in the development of any industry. The influence of other factors, such as logistics efficiency, average number of full-time employees and inflation index, is approximately the same. It is important to note that the influence of the average number of full-time employees and the inflation index is the opposite, that is, with an increase in these factors, the gross output of transport enterprises decreases.

**Table 2. Calculations to evaluate statistical authenticity.**

Year	Y <sub>t</sub>	Y <sup>^</sup> <sub>t</sub>	(Y <sub>t</sub> -Y)	(Y <sub>t</sub> -Y) <sup>2</sup>	(Y <sub>t</sub> -Y <sup>^</sup> <sub>t</sub> )	(Y <sub>t</sub> -Y <sup>^</sup> <sub>t</sub> ) <sup>2</sup>
2018	1.34	1.3	0.12	0.001	0.03	0.001
2019	1.16	1.14	-0.06	0.003	0.02	0
2020	1.2	1.2	0.002	0	-0.02	0
2021	1.19	1.18	-0.03	0.001	0.005	0
2022	1.17	1.7	-0.03	0.001	0.006	0
Σ	6.06	6.52	0.002	0.006	0.041	0.001

The obtained result of the influence of external factors on the efficiency of transport enterprises has a significant impact on the reengineering of their business processes. In a similar way, an analysis was carried out of the influence of internal factors in the formation of a strategy for reengineering the business processes of transport enterprises. At the same time, we note that the most significant low incomes are: vehicles and problems with fixed assets. In this case, a significant factor is low wages compared to foreign transport enterprises. Taking this into account, the following indicators should be highlighted (Figure 2).



**Figure 2. Initial Data for Calculating the Regression Model of Dependence in the Context of Internal Factors.**

Next, like external factors, we present a system of equations (7):

$$\begin{cases}
 6,06 = a_0 5 + a_1 0,6 + a_2 0,7 + a_3 5,5 + a_4 5,1 + a_5 7,5 \\
 0,8 = a_0 0,6 + a_1 0,08 + a_2 0,1 + a_3 0,7 + a_4 0,6 + a_5 0,9 \\
 0,9 = a_0 0,7 + a_1 0,1 + a_2 0,12 + a_3 0,8 + a_4 0,8 + a_5 1,1 \\
 6,7 = a_0 5,5 + a_1 0,7 + a_2 0,8 + a_3 6,1 + a_4 5,6 + a_5 8,2 \\
 6,2 = a_0 5,1 + a_1 0,6 + a_2 0,8 + a_3 5,6 + a_4 5,1 + a_5 7,6 \\
 9,1 = a_0 7,4 + a_1 0,9 + a_2 1,2 + a_3 8,3 + a_4 7,6 + a_5 11,9
 \end{cases} \quad (7)$$

As a result of solving this system of equations, the regression equation was obtained (8):

$$Y = 10.6 + 2.5x_1 + 1.9x_2 - 1.3x_3 + 1.8x_4 + 2.64x_5 \quad (8)$$

For the model represented by equation (8), the coefficient of determination is 0.696, which is greater than 0.5. This indicates the statistical reliability of the model, which makes it suitable for studying the influence of internal factors on the efficiency of business processes of transport enterprises. Detailed calculations of the coefficient of determination of this model are given in Table 3.

Year	Y <sub>t</sub>	Y <sup>^</sup> <sub>t</sub>	(Y <sub>t</sub> -Y)	(Y <sub>t</sub> -Y) <sup>2</sup>	(Y <sub>t</sub> -Y <sup>^</sup> <sub>t</sub> )	(Y <sub>t</sub> -Y <sup>^</sup> <sub>t</sub> ) <sup>2</sup>
2018	1.34	1.31	0.12	0.014	0.019	0
2019	1.16	1.173	-0.057	0.003	-0.012	0
2020	1.2	1.22	0.002	0	-0.009	0
2021	1.19	1.211	-0.029	0.001	0.0022	0.001
2022	1.17	1.173	-0.034	0.001	0.011	0
Σ	6.05	6.087	0.002	0.019	0.011	0.001

It should be noted that having discovered the external environmental factors that today most significantly influence the reengineering of business processes, it is important to highlight the key strategic foundations for the implementation of this process. Therefore, in our opinion, first of all, constant monitoring of the external environment should be carried out to determine how it is changing. At the same time, this kind of analysis and assessment will allow us to better understand what changes the transport enterprise needs. We note that a modern strategy should include an appropriate change management system and digitalization of key processes. For example, this involves the integration of advanced technologies for more efficient management of resources and processes, improving the company's response to external changes. In general, seeing the dynamics of changes in the external environment, a proactive strategy is needed, in which reengineering should be carried out gradually but constantly to take into account new influencing factors. Finally, an important

component of the strategy is the development of staff skills and knowledge to effectively implement and support modified business processes. Educational programs and training will allow employees to quickly adapt to innovation and increase their productivity. Thus, the business process reengineering strategy must be comprehensive with an emphasis on the external environment, flexibility, adaptability and continuous development. We believe that in this context, the essence of business process reengineering at transport enterprises lies in a radical revision and optimization of their own processes, which allows enterprises to better adapt to dynamic changes and increase the efficiency of their activities, taking into account the influence of factors from both the external and internal environment. Identifying the same changes and it is necessary to evaluate the factors. Consequently, reengineering should be based on the influence of various kinds of factors, which do not necessarily have to relate exclusively to the external environment or exclusively to the internal one. With the increased influence of external factors, one should adapt, when active changes are possible with internal ones.

## DISCUSSION

Our research on business process reengineering in transport enterprises, especially in the context of business optimization, differs from the existing literature. For example, Taymouri et.al. (2021) presented accessible models for classifying business processes in a way that allows for so-called selective reengineering. At the same time, attention is focused on optionality. However, our approach does not imply division of activities of transport enterprises, since we adhere to a holistic vision of this issue. Digitalization, which we included in the analysis of our study as a factor of innovation, is increasingly being taken into account. At the same time, in a significant number of works (Trabelsi et.al., 2023; Xu et.al., 2023; Garani et.al. 2019), reengineering is considered a multi-aspect phenomenon aimed at making changes to the heterogeneous processes of an enterprise, noting that it is involved in all areas of the organization's activities precisely through the use of digital technologies and artificial intelligence. In our opinion, it is too early to consider artificial intelligence as another independent factor. Artificial intelligence technologies, in our opinion, are not ready to individually manage such a serious process.

An interesting study by Alazzam et.al. (2024), in which they consider the reengineering process also in the context of optimizing business processes of mechanical engineering enterprises. Their study also takes into account a significant number of factors, but all this is narrowed down in the context of the specifics of the selected category of enterprises. In our case, we are talking about a completely different enterprise – transport. At the same time, in many such works, environmental factors do occupy a significant place. Therefore, researchers (Attaran, 2004; Elaheh, 2014) note that the external environment (suppliers, consumers, competitors, government, etc.) should play an important role in reengineering processes. Therefore, when redesigning an organization, the researcher proposes to use the X-engineering methodology, which, unlike existing ones, consists of reengineering not only internal but also external business processes. At the same time, the Six Sigma methodology is also actively used (Anand, et.al., 2013; Costa, 2017; Wegener, 2010) - a strategic approach to business improvement, within which measures are taken to find and eliminate the causes of errors or defects in business processes, focusing on the initial parameters that are critically important to the consumer. However, in our case, preference is given to a more mathematical approach to modelling, which allows us to more accurately achieve our goals. Our study introduces a new approach to the field of transportation enterprise management. Economic and mathematical modelling provides a quantitative way to assess the influence of environmental factors on business processes. This approach is not only innovative but also practically effective, bridging the gap between theoretical research and practical application. The practical implications of our research are significant. Transport businesses can use our model to identify key factors affecting their business operations, allowing them to make more targeted and strategic decisions. Moreover, integrating this model with business intelligence systems can lead to more dynamic responses to market changes and regulatory requirements. In our opinion, the application is possible as follows: if the modelling results show that certain external or internal factors have a strong impact on the industry's GDP, transport management or other decision-makers should consider adaptation or change strategies to optimize these factors more in favour of their own companies. If the simulation results have minimal impact from these factors, management or other decision makers may decide that fundamental changes to the business model or processes are not necessary, focusing instead on improving existing practices and enhancing operational stability.

## CONCLUSIONS

In summary, it should be noted that within the framework of this article, we conducted an in-depth study of the influence of external factors on business process reengineering in the context of optimizing the commercial activities of transport enterprises in Ukraine. The main objective was to identify and analyze key external factors influencing the effectiveness

of business process reengineering in this sector. Our results showed that important factors influencing the reengineering process are the economic situation in the country, legislative changes, technological development, and global trends in the transport industry. At the same time, in our opinion, modern reengineering strategies should be focused on environmental changes in the context of the activities of transport enterprises. This approach allows transport enterprises to more effectively respond to changes in the external environment and develop strategies that take into account both the current situation and predicted trends. The study revealed that the key drivers of growth in the commercial activities of transport companies are external factors, such as the industrial production index and the innovation index. At the same time, among internal factors, the financial performance of enterprises is significantly influenced by the volume of capital investments, the state of fixed assets, their efficiency, and the profitability of operating activities. It has been established that the effectiveness of business processes depends more on external conditions than internal circumstances since the influence of the enterprise on external conditions is limited. Consequently, we believe the effective use of reengineering tools will make any transport enterprise more flexible to environmental changes and more sustainable in the face of fierce competition. The tasks of reengineering include combining the information resources of structural divisions and creating an integrated corporate information management system that operates in real-time and is based on objective data on financial and material flows of all areas of activity, which ensures an overall reduction in costs and makes it possible to respond flexibly to changes in the market situation, prevent the emergence and development of crisis phenomena.

However, our study has certain limitations, since it focuses exclusively on Ukraine's transport enterprises. Therefore, the results of the study can be fully applicable to enterprises in other industries or regions. So, the prospects for further research include the analysis of similar processes in various sectors of the economy, in particular in the food industry, where there is also a need to optimize business processes in connection with environmental changes, including in wartime conditions.

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## ADDITIONAL INFORMATION

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**Conceptualization:** *Liubov Kravchenko, Halyna Levkiv, Svitlana Kozak*

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### FUNDING

*The Authors received no funding for this research.*

### CONFLICT OF INTEREST

*The Authors declare that there is no conflict of interest.*



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## **ВПЛИВ ЗОВНІШНІХ І ВНУТРІШНІХ ФАКТОРІВ НА РЕІНЖИНІРИНГ БІЗНЕС-ПРОЦЕСІВ У КОНТЕКСТІ ДІЯЛЬНОСТІ ТРАНСПОРТНИХ ПІДПРИЄМСТВ**

У статті досліджено вплив факторів середовища функціонування транспортних підприємств на процес реінжинірингу бізнес-процесів. У цьому контексті увага зосереджена саме на діяльності та бізнес-процесах транспортних підприємств України. У результаті огляду науково-практичних джерел поставлене наукове завдання: через запропонований методичний підхід до економіко-математичного моделювання визначити вплив факторів на процес реінжинірингу бізнес-процесів. Для досягнення мети й виконання завдань, використано метод кореляційно-регресійного аналізу та метод аналізу й синтезу при оцінюванні динаміки зміни ключових фінансових показників діяльності транспортних підприємств. Наголошено, що реінжиніринг має базуватися на впливі різних видів факторів, які не обов'язково повинні стосуватися виключно зовнішнього або виключно внутрішнього середовища. Запропонований у роботі підхід полягає у використанні регресійних моделей для аналізу впливу факторів на процес реінжинірингу бізнес-процесів. У дослідженні зазначається, що інноваційність розкривається через запропоновану модель, яка враховує низку ключових факторів і показників діяльності транспортних підприємств України. Водночас, автори наголошують, що використання цього підходу дозволяє визначити ключові фактори для розробки ефективної стратегії реінжинірингу бізнес-процесів у транспортних компаніях для оптимізації їхньої діяльності. У цьому дослідженні розглянуто, яким чином можна використовуючи різні методи аналізу задля виявлення змін впливу різного роду факторів і зовнішнього, і внутрішнього середовища на процес ухвалення рішення щодо реінжинірингу. Науковою новизною є комплексний підхід до регресійного моделювання впливу факторів на відповідну змінну з метою виявлення найбільш вагомих при ухваленні рішень щодо реінжинірингу. Поряд із цим, дослідження має обмеження у вигляді врахування специфіки діяльності виключно транспортних підприємств України. Ставиться за мету в подальших дослідженнях проведення аналогічного дослідження для інших видів підприємств, зокрема харчової промисловості, яка потребує змін в умовах воєнного стану.

**Ключові слова:** регресійні моделі, реінжиніринг, бізнес-процеси, транспортні підприємства, моделювання, фінансові показники діяльності

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