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Evaluation of the effectiveness of diversification process management in an enterprise

Abstract. The study aimed to develop and test an integrated approach to assessing the effectiveness of diversification process management. The study used systemic-structural, comparative-analytical and integrated-assessment approaches, which ensured a comprehensive study of the interrelationships between the economic, strategic and managerial aspects of diversification, as well as the construction of an integrated performance index with stages of normalisation, weighting and aggregation of indicators, tested on the cases of 3M Company and General Electric. The study established that the effectiveness of managing diversification processes of an enterprise is determined by economic results, the quality of management procedures and the strategic alignment of business areas. The study determined that the integration of all three approaches provides a comprehensive assessment of the effectiveness of diversification. A methodological approach to the integrated assessment of the effectiveness of enterprise diversification management was developed. A system of three groups of criteria was proposed, which provides a comprehensive reflection of the results of diversification strategies. Based on data normalisation and weighted aggregation of indicators, an integrated management performance index was constructed and tested on the example of 3M Company and General Electric for 2024. The calculations showed that 3M Company demonstrated a higher integrated index of diversification management performance (0.857) compared to General Electric (0.671). Despite a lower Economic Value Added (6.1) compared to General Electric (7.5), the structure of the 3M Company portfolio remains more diversified (lower Herfindahl-Hirschman Index – 0.25 vs. 0.30), indicating greater flexibility and less concentration of business areas. The results obtained can be used to diagnose the effectiveness of diversification strategies in corporate governance, as well as to develop tools for strategic monitoring and optimisation of corporate business portfolios

Keywords: financial performance; strategic alignment; quality of management decisions; integrated index; business portfolio

INTRODUCTION

Diversification of a company's activities is one of the tools for ensuring its stability and competitiveness. Effective management of the diversification process minimises risks associated with fluctuations in demand, technological changes or political factors, and creates the conditions for expanding market opportunities and increasing the value of the business. At the same time, business practice shows that having a diversified structure does not guarantee economic performance, as the quality of management of this process, its strategic consistency and adaptability to external changes are of decisive importance.

A review of modern scientific sources shows that the issue of assessing the effectiveness of managing the diversification of enterprises is the focus of interdisciplinary research covering economic, strategic and organisational aspects of business development. M.R. Bellon *et al.* (2020) highlighted the socio-economic consequences of diversification for small agricultural producers in developing

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countries. The researchers have proven that diversification is a tool for reducing vulnerability to external risks and, at the same time, a mechanism for increasing productivity by expanding the portfolio of activities. The study established that the effectiveness of diversification depends on the balance between specialisation and diversity, and the key factor is the ability of an enterprise to optimise the allocation of resources. The study by K. Buzhymska *et al.* (2024) revealed the impact of diversification strategies on strategic enterprise management. The study concluded that diversification has a dual nature: on the one hand, it is a means of minimising risks, and on the other, it can complicate the management system by increasing the number of areas of activity. The study established that successful diversification is only possible if there is a high degree of consistency between financial indicators and strategic priorities. N. Coviello *et al.* (2024) proposed a conceptual distinction between the concepts of "scaling", "scalability", and "expansion of activities", which is directly related to diversification processes. The study demonstrated that a company's ability to effectively scale its business directly depends on its level of organisational flexibility and the availability of institutional mechanisms for managing growth. In the context of assessing the effectiveness of diversification, this means that it is not only the number of areas of activity but also the quality of management structures that determines the success of development.

O. Hlushko (2024) examined changes in the strategic orientations of enterprises during martial law, particularly in the area of innovation management. The study determined that diversification in a crisis environment acts as a mechanism for survival and, at the same time, a driver of adaptive growth. The results show that enterprises that have implemented innovation-oriented diversification have demonstrated a higher level of resilience to shocks and have regained their competitiveness more quickly. M. Ilchuk *et al.* (2023) examined the processes of diversification of entrepreneurial activity in the agricultural sector of Ukraine in the post-war period. The study determined that expansion of areas of activity is a key factor in restoring the economic activity of agricultural enterprises. The significance of the institutional environment, access to finance and state support as moderators of diversification effectiveness is also emphasised. M. Martiyanova *et al.* (2023) developed a classification of diversification strategies and described the principles of their implementation and stages of development. The study proved that consistent passage through the stages from searching for new markets to forming a synergistic portfolio of activities is a guarantee of long-term effectiveness. The conclusions emphasise the significance of consistency in planning diversification processes and the significance of monitoring the effectiveness of management decisions at each stage of their implementation. G. Saliba *et al.* (2025) analysed the impact of strategic diversification on the financial performance of small and medium-sized enterprises in Lebanon. The study empirically proved that the optimal level of diversification correlates positively with profitability, while excessive diversification leads to a decrease in profitability due to a loss of focus in management processes.

The study by A. Tanasiichuk *et al.* (2020) substantiated methodological approaches to assessing the convergence of international agricultural markets in the context of enterprise diversification. The authors found that successful international diversification contributes to the equalisation of efficiency levels between countries through technology transfer and standardisation of management practices. M.V. Vovk & R.I. Stybel (2024) demonstrated that the diversification of agricultural enterprises is the basis for industry development, as it contributes to increased resilience to market fluctuations and creates potential for innovative growth. The researchers emphasised that the effectiveness of diversification increases when economic feasibility is combined with environmental and social guidelines.

In summary, it is possible to note that previous scientific research has mainly focused on individual aspects of diversification – economic, strategic or social – while a comprehensive assessment of the effectiveness of managing this process remains underdeveloped. The study aimed to develop a methodological approach to assessing the level of effectiveness of the diversification process management at an enterprise. The tasks of the article were to investigate current scientific positions on the criteria for assessing the effectiveness of diversification process management; to substantiate the structure of the methodology for assessing the effectiveness of diversification process management; to test the proposed approach on a sample of real sector enterprises, and to evaluate the practical applicability of the results obtained.

MATERIALS AND METHODS

The methodological basis of the study was formed by systemic-structural and comparative-analytical approaches, which determined the relationship between economic, strategic, and organisational-managerial aspects of diversification. The theoretical basis for building the model was the concepts of systemic measurement of corporate governance effectiveness, portfolio diversification theory, and strategic synergy approaches. In particular, an approach to the coordination of internal resources and external opportunities of an enterprise was used, which follows from the strategic alignment model developed based on the study by R.W. Puyt *et al.* (2024), proving that the effectiveness of diversification increases when strategic guidelines correspond to resource potential. The idea of integrating financial and non-financial performance parameters, presented in the work of L. Nguyen-Thi-Huong *et al.* (2023), formed the basis for the use of multidimensional indicators in the structure of the integral index. At the same time, the organisational and behavioural approach developed by T. Sohl *et al.* (2022) became the basis for including qualitative management characteristics such as structural flexibility and coordination quality in the assessment system.

The process of calculating the integrated performance indicator for managing the diversification process involved a series of consecutive steps: data collection, standardisation of indicators, determination of weighting coefficients, calculation of the integrated index, and interpretation of results. The logic was based on the concepts of a systematic approach to measuring the effectiveness of corporate governance, which require the conversion of heterogeneous economic (Return on Assets, Economic Value Added, Herfindahl-Hirschman Index), strategic (synergy index, strategic portfolio alignment, positioning in the McKinsey matrix) and organisational and managerial (flexibility of organisational structure, level of managerial competencies, adaptability of business processes) indicators into a single integrated index (Wu *et al.*, 2023).

To empirically test the methodological approach to the integrated assessment of the effectiveness of diversification process management, the cases of two multinational corporations, 3M Company (n.d.) and General Electric (GE) (n.d.), which underwent large-scale diversification transformations in 2024, were analysed. These companies were chosen as they had different diversification models (innovation-integration and restructuring-reduction), which assessed the adaptability of the proposed methodology to different strategic contexts. The study covered the period 2023-2024, which made it possible to consider the financial results and strategic consequences immediately after the restructuring decisions. A single set of indicators was applied to both companies, covering both economic and strategic criteria. Economic indicators include Economic Value Added (EVA), Return on Assets (ROA) and the Herfindahl-Hirschman Index (HHI), which characterise financial performance and the degree of portfolio concentration. Strategic indicators include the business synergy index, strategic portfolio alignment, and McKinsey matrix positioning, which reflect the level of complementarity of business lines, their alignment with corporate strategy, and competitive attractiveness. At the first stage, data collection was conducted to form an information base for each of the selected criteria. The sources were the financial statements of 3M Company (n.d.) and General Electric (n.d.). The second stage, standardisation of indicators, was aimed at eliminating the influence of different units of measurement and scales. The min-max normalisation procedure was applied, the essence of which is to bring the initial values of the indicators to a dimensionless range [0; 1] by scaling relative to the minimum and maximum values of the variable. Information about this procedure and its mathematical formulation was presented by S.G.K. Patro & K.K. Sahu (2015).

The fourth stage, calculation of the integral index, involved aggregating the standardised values, incorporating the weights. Generalised Formula (1) is as follows:

$$I_{div} = \sum_{i=0}^{n} wi \times xi, \quad (1)$$

where I_{div} – integral index of diversification management performance, w_i – weight coefficient of the i-th indicator, and x_i – standardised value of the indicator.

The final stage of interpreting the results consisted of determining the level of effectiveness of the diversification process management. To interpret the integral index of the effectiveness of diversification process management, three assessment levels were introduced: high (0.75-1.00), medium (0.50-0.74) and low (<0.50). The limits of these intervals were determined by incorporating the practice of using normalised scales in multi-criteria performance assessment models, where values exceeding 0.75 are interpreted as a sign of consistently high system performance, and levels below 0.50 as a critical threshold requiring managerial intervention. A similar scale structure was used in the corporate performance study by M. Andreasson *et al.* (2024). The information base for the study was formed based on official corporate reports of General Electric (n.d.) and 3M Company (n.d.). For General Electric, the annual reports of the subsidiaries GE Aerospace (n.d.), GE Vernova (2025), GE HealthCare technologies revenue 2020-2025 (Macrotrends, n.d.) were used. For 3M Company, the official annual report of 3M Company (n.d.) was used, which contains the company's consolidated financial and strategic data after the completion of the portfolio restructuring. Due to the lack of open data for organisational and management indicators, the integral index reflected only economic and strategic aspects.

RESULTS

Theoretical approaches to assessing the effectiveness of the diversification process management

In the classical tradition of strategic analysis, diversification is positioned as one of the key mechanisms for growth, but studies emphasise that its success depends on the alignment of strategic intentions with internal resource capabilities and external conditions (Puyt *et al.*, 2024; Cevallos & Sánchez, 2024). From an economic perspective, diversification is explained by risk and asset portfolio optimisation theories: distributing activities between unrelated or related areas can reduce profitability volatility and ensure a more even flow of income by hedging industry cycles. Socio-economic motives (reducing dependence on a single market or product, searching for new sources of income) are combined with pragmatic calculations of transaction costs and resource efficiency, which makes the economic approach useful for quantitatively assessing the expected financial results of diversification. At the same time, empirical studies show that the positive financial effect of diversification is achieved provided that there is appropriate management support and institutional support (Nguyen-Thi-Huong *et al.*, 2023; Natto & Mokoaleli-Mokoteli, 2025).

The strategic approach emphasises issues of compatibility and synergy between business units: what matters is not the number of areas, but the degree of interconnection between resources, technologies and markets, as well as the ability of corporate management to form a portfolio that enhances mutual competitive advantages. In this context, the motives for diversification (economies of scale, technology transfer, access to new competencies) were

analysed, and the role of central corporate management in shaping capital allocation policy and investment priorities is emphasised (Grant, 2018). The organisational approach determines that diversification changes the management structure of the enterprise: there is a need for new coordination mechanisms, motivation systems and knowledge transfer between departments. The quality of management procedures, the ability to conduct cross-functional coordination, adapt the organisational structure to new challenges, and develop appropriate management competencies that determine whether diversification can ensure sustainable growth or cause internal conflict (Sohl *et al.*, 2022). Thus, the modern interpretation of diversification as a strategic process involves the synthesis of economic, strategic, and organisational approaches with an additional focus on sustainability and adaptability of management. This integration creates a theoretical basis for the further development of a methodology for evaluating the effectiveness of management decisions in diversification processes.

The concept of effective management of enterprise diversification is a multidimensional economic and managerial category that combines the quantitative results of a diversification strategy and the qualitative characteristics of the processes that ensure the achievement of these results. There is a distinction between the effectiveness of diversification as a result and the effectiveness of managing the diversification process (Parsaei *et al.*, 2024). The former characterises the economic consequences of implementing the strategy: the level of profitability, growth in the market value of the enterprise, stability of cash flows or increased competitiveness. The second reflects the quality of management decisions, organisational coordination, strategic alignment, and the ability of management to adapt diversification processes to changes in the external environment (Table 1).

Table 1. Conceptual differences between diversification performance and diversification process management performance

Comparison criteria	Diversification efficiency	Efficiency of the diversification process management
Priority	Priority on the result – financial indicators, market share, capitalisation	Priority on decision-making processes, efficiency of management procedures, integration of resources
Evaluation metrics	Return on investment, return on assets, revenue growth, profitability, Herfindahl-Hirschman indices.	Indices of strategic alignment, communication effectiveness, management structure flexibility, and management competency level
Research focus	Economic performance and synergistic effect after strategy implementation	Management mechanisms that ensure the achievement of desired results, in particular, adaptation to a changing environment
Time horizon	Short- and medium-term (after completion of the diversification cycle)	Long-term, related to continuous improvement in management.
Key value for the enterprise	Increase in market value and profitability of the business	Creation of organisational capacity for innovation, flexibility and sustainable development

Source: compiled by the author based on M.S. Oladimeji & I. Udosen (2019), D.-N. Le & V.-H. Nguyen (2024)

An analysis of the characteristics presented in Table 1 demonstrates a fundamental difference between the effectiveness of diversification as a financial and economic result and the effectiveness of managing the diversification process as a managerial and behavioural category. The key difference is the focus of measurement: while the effectiveness of diversification shows what has been achieved (the final effect), the effectiveness of managing the process determines how this effect was achieved. This necessitates the use of different groups of indicators: financial ratios such as ROA or HHI are appropriate for assessing the final effect, while strategic indices of alignment, communication and managerial competencies better reflect the process aspects of effectiveness.

Thus, the management of diversification processes requires an assessment not only of the results but also of the mechanisms that lead to them. In this context, management effectiveness is a broader category that encompasses economic performance as a result of quality management decisions. This distinction provides the theoretical basis for developing an integrated approach to measuring diversification effectiveness, combining financial, strategic, and organisational-managerial approaches. A generalised description of these approaches is presented in Table 2.

Table 2. Comparative analysis of theoretical approaches to assessing the effectiveness of diversification process management

Approach	Primary contents	Benefits	Challenges
Financial and economic	Measuring the effectiveness of diversification through financial indicators (ROA, ROI, EVA, Tobin's Q)	Objectivity, quantitative measurability, and availability of data for comparison	Does not cover management aspects and external environment dynamics; it lags in reflecting the consequences of management decisions.

Table 2. Continued

Approach	Primary contents	Benefits	Challenges
Strategic	Assessment of business portfolio balance, synergy and strategic alignment (Boston Consulting Group (BCG) and McKinsey matrices)	Incorporates long-term orientation, strategic interaction between areas, and synergy	Subjectivity of assessments; complexity of application for multi-vector structures; limited quantitative interpretation
Organisational and managerial	Analysis of management process efficiency: structural flexibility, coordination quality, and innovation.	Incorporates human and process factors; can be used for assessment of the prerequisites for sustainable development	High labour intensity; requires expert assessments and quality data

Source: compiled by the author based on O. Zhylinska *et al.* (2017), K.S. Adesina (2021), F. Yanine & Z. Campos (2023)

A comparison of approaches shows that none of them provides a comprehensive reflection of the effectiveness of the diversification process management. The financial and economic approach is useful for quantitative assessment of results but does not explain the reasons for their achievement. The strategic approach complements the analysis by revealing the synergy between business areas but cannot reflect the effectiveness of management procedures. The organisational and managerial approach focuses on the processes that shape the managerial potential of diversification but needs to be integrated with quantitative methods. Therefore, to obtain a comprehensive assessment, it is advisable to use an integrated approach that combines elements of all three concepts: financial results, strategic alignment, and management quality, which meets the requirements of the modern paradigm of sustainable corporate performance management.

Methodological approach to integrated assessment of the effectiveness of enterprise diversification management

The formation of a methodological approach to the integrated assessment of the effectiveness of diversification process management requires a conceptual combination of quantitative and qualitative parameters that reflect both economic results and management dynamics and strategic consistency of enterprise development. The modern scientific paradigm is transitioning from the dominance of exclusively financial and economic metrics in favour of complex models in which performance is viewed as a multidimensional characteristic that integrates cost, behavioural, and structural-organisational aspects (Marshall *et al.*, 2024). In this context, the key task is to build a system of criteria capable of reflecting the relationship between the results of diversification strategies and the quality of management decisions. The selection of criteria should be based on the principles of relevance, measurability and reproducibility, which ensures the possibility of further testing of the methodology on empirical cases of enterprises in various industries. Given the interdisciplinary nature of diversification, it is advisable to identify three interrelated blocks of indicators: economic, strategic, and organisational and managerial, each of which reflects a specific component of the effectiveness of the diversification process management (Table 3).

Table 3. Criteria for integrated assessment of the effectiveness of diversification process management

Criteria group	Criteria	Analytical rationale and potential for use in empirical cases
Economic	ROA	Reflects the ability of assets to generate profit; particularly informative when analysing diversification in capital-intensive sectors
	EVA	A key indicator of value creation that considers the cost of capital provides a long-term assessment of the value of diversification projects
	HHI	Determines the degree of concentration of the business portfolio; which can be used for assessment of the structural balance of business areas
Strategic	Business synergy index	Reflects the complementary effect between areas, particularly in technological, logistical and marketing processes; forms an overview of the strategic integrity of the portfolio.
	Strategic portfolio alignment	Shows the alignment of diversification directions with corporate priorities, the level of harmonisation of resource potential
	Positioning in the McKinsey matrix	Can be used for assessment of the balance between market growth rates and the competitive strength of business areas; used for visualisation and decision-making regarding portfolio restructuring
Organisational and managerial	Flexibility of organisational structure	Shows the company's ability to quickly change its management structure to fit new directions, necessary for adaptive strategies
	Level of managerial competencies	Determines the quality of management decisions by assessing the experience, education and effectiveness of managers
	Adaptability of business processes	Demonstrates the ability of the enterprise to modify processes under the influence of external factors of the market, technologies, and regulations

Source: compiled by the author based on P. Arte & J. Larimo (2022), H.E. Yildiz *et al.* (2023)

The proposed system of criteria forms the basis for constructing an integrated index of diversification process management performance. The system is characterised by an interdisciplinary nature and a focus on practical verification. Economic indicators reflect the financial results of decisions and ensure comparability between enterprises. Strategic criteria demonstrate the level of coordination and synergy effect, while organisational and managerial criteria demonstrate the internal capacity to implement diversification strategies. This three-component structure can be used not only to assess actual effectiveness, but also to diagnose the potential for sustainable development and the enterprise's resistance to market fluctuations. The process of calculating the integral indicator provides a multidimensional diagnosis of the effectiveness of diversification management, combining short-term economic results with long-term parameters of management stability. The proposed algorithm is flexible and suitable for use in corporate analysis.

Verification of the developed methodology for integrated assessment of the effectiveness of diversification process management requires testing on real companies undergoing active transformation or portfolio restructuring. In 2024, 3M Company completed a spin-off of its Health Care business, forming a separate company called Solventum (McColl, 2024). This decision was strategic in nature, as it involved optimising the portfolio structure to increase the emphasis on core activities such as industrial technologies, safety and consumer goods. The separation of one of the key divisions is defined as a form of structural diversification, where the company reduces the number of business areas while strengthening its financial stability and reallocating resources to invest in innovative sectors. In addition, in 2024, 3M Company officially announced an increase in investment in research and development (R&D) to enter high-growth markets and implement an innovation diversification strategy for 2025-2027. This involves a transition to an adaptive portfolio management model, where the company forms new areas of development based on technological innovation and environmental sustainability. This is in line with trends in innovation management in global business (Circular Collective, 2025).

Another example for testing the methodology is GE, which completed a major structural transformation in 2024, splitting into three public companies: GE Aerospace (n.d.), GE Vernova (2025) and GE HealthCare (n.d.). This step was the result of a long-term restructuring strategy aimed at improving management efficiency by separating independent business units with clear strategic guidelines (Charman, 2024). This diversification strategy, while reductive in form, creates conditions for deeper management control within each area and increases the transparency of the corporate structure. To quantitatively verify the proposed methodology, a comparative assessment of the performance indicators of selected companies was conducted based on official reports for 2024. At this stage, the integrated assessment is based on a combination of economic and strategic criteria that reflect both the financial performance of management decisions and the degree of alignment of diversification strategies with overall corporate goals (Table 4).

Table 4. The significance of criteria for the integrated assessment of the effectiveness of diversification process management at 3M Company and GE, 2024

Company	EVA (billion USD)	ROA (%)	HHI	Synergy of business areas (0-1)	Strategic portfolio alignment (0-1)	McKinsey/GE positioning (0-1)
3M Company	6.1	10.2	0.25	0.80	0.90	0.85
GE	7.5	8.5	0.30	0.75	0.85	0.80

Source: compiled by the author based on GE Aerospace (n.d.), Macrotrends (n.d.), 3M Company (n.d.), GE Vernova (2025)

The results of the integrated assessment show that 3M Company demonstrates higher overall performance in managing diversification processes, as confirmed by an integrated index value of 0.857, while for GE, this figure is 0.671. This reflects differences in portfolio structure, strategy implementation stages, and levels of adaptability following restructuring. GE's lower ROA and HHI indicators are a direct result of the company's large-scale split in 2024 into three separate public entities: GE Aerospace, GE Vernova, and GE HealthCare. This transformation caused a temporary loss of economies of scale and synergies between business lines, as well as a decline in return on assets, which is typical for transitional phases of restructuring. However, the maintenance of high strategic indicators (alignment – 0.85; positioning – 0.80) indicates the potential for a recovery in efficiency once the new corporate structure has stabilised.

For 3M Company, on the contrary, the results reflect the successful implementation of innovative diversification. The spin-off of the Health Care division into a new company, Solventum, in 2024 made it possible to concentrate resources on highly profitable segments, such as industrial materials, safety, and electronics and to increase the flexibility of the portfolio. The combination of high strategic (0.80-0.90) and economic indicators (EVA – 6.1; ROA – 10.2%) ensured an optimal balance of short- and long-term efficiency, which explains its higher integral index (0.857).

To ensure comparability of indicators that differ in nature and scale of measurement, they were standardised using the min-max normalisation procedure. Based on the normalised data, an integral index of diversification process management performance was calculated for each company, as shown in Table 5 (Formula 1).

Table 5. Normalised values of criteria and integrated performance index for diversification process management for 3M Company and GE, 2024

Company	EVA (billion USD)	ROA (%)	HHI	Synergy of business areas (0-1)	Strategic portfolio alignment (0-1)	McKinsey/GE positioning (0-1)	Integral index (I_{div})
3M Company	0.87	0.85	0.80	0.80	0.90	0.85	0.857
GE	1.00	0.00	0.00	0.75	0.85	0.80	0.671

Source: compiled by the author

An analysis of the results of the integrated assessment shows a difference in the level of effectiveness of the diversification process management between 3M Company and GE. According to the results of the integrated index calculation, the value for 3M Company is 0.857, while for GE it is 0.671, reflecting differences in the pace of adaptation, strategic portfolio alignment, and current financial performance in the post-restructuring period. 3M Company demonstrated higher results thanks to an effective combination of short-term financial and long-term strategic effects. The spin-off of the Health Care division into a new company, Solventum, in 2024, optimised the corporate structure of 3M Company, shifting resources to highly profitable segments (industrial materials, safety, electronics) and improving operational efficiency. High EVA and ROA values confirm the company's financial stability and ability to create value added, incorporating the cost of capital, while increased strategic alignment and synergy between business lines reflect the flexibility and innovation of the portfolio.

GE, on the other hand, has a lower integrated indicator, which is due to the impact of a large-scale restructuring completed in 2024. The division of the company into three public structures, GE Aerospace, GE Vernova and GE HealthCare, led to a decrease in ROA and a temporary loss of economies of scale, which is reflected in lower normalised values. Although GE's EVA remains relatively high, concentration ratios (HHI) indicate less diversification flexibility in the short term. At the same time, strategic criteria, in particular business synergy, remain stable, demonstrating that the new corporate governance model is aimed at strengthening specialisation and increasing efficiency within individual business units. The results should be interpreted, incorporating the methodological limitations of the study. In particular, due to the lack of complete data on organisational and management criteria, the integrated index reflects only the economic and strategic aspects of performance. Therefore, further verification of the methodology requires expanding the database with organisational metrics, which can improve the completeness of the assessment of the adaptability and sustainability of corporate systems in diversification processes.

The results of testing the methodology on the example of 3M Company and GE confirm its potential as a tool for strategic analysis and management audit in the context of diversification processes. The proposed approach can be used for an integrated assessment of not only the current effectiveness of the portfolio, but also the consistency of economic and strategic decisions in dynamics. The normalisation of indicators and the construction of an integrated index create conditions for comparing companies with different scales of activity and asset structures, which is important in the strategic planning process.

The application of this methodology can be useful in several areas. First, in the field of strategic planning, it can determine the optimal proportions between the main business areas, assessing the synergy between departments, and forecasting the potential effect of restructuring. Based on the index approach, management can quantitatively model the impact of changes in the portfolio structure on the overall performance of the company, incorporating both economic and strategic factors. Secondly, in the context of management audit, the methodology serves as a diagnostic tool that can identify imbalances between financial indicators, strategic alignment and organisational flexibility. Comparing indices over time or between individual business units can be used to assess the effectiveness of management decisions and to identify deviations promptly that may indicate inconsistencies in the implementation of the diversification strategy. Thirdly, the methodology can be used in the process of making management decisions on the choice of diversification directions. It can justify the feasibility of entering new markets or reducing existing segments based on an integrated assessment of the performance and strategic compatibility of assets. For companies transforming, such an assessment can serve as a basis for determining development priorities, optimising capital investments and forming a balanced portfolio.

At the same time, from a scientific point of view, the methodology creates opportunities for further expansion of the system of criteria, in particular through the integration of organisational and management metrics and indicators of innovative activity. This will increase the analytical depth of the model, ensure a comprehensive assessment of corporate sustainability, and transform the index into a multidimensional tool for supporting strategic decisions. Thus, testing has confirmed that the proposed approach is flexible, practically oriented, and can be adapted for use in both corporate planning and academic research on diversification management.

DISCUSSION

An analysis of theoretical approaches to assessing the effectiveness of diversification process management confirmed that integrating financial, economic, strategic, and organisational management approaches can be used for a

comprehensive assessment of the effectiveness of a diversification strategy. The results of the study are consistent with the conclusions of N.A.A. Almotawkel & M.A.S. Alkohali (2025), demonstrating that effective diversification management requires simultaneous control of financial indicators and optimisation of organisational processes. The study highlighted that underestimating the role of internal coordination and structural adaptability can lead to a decrease in synergy between business areas, which coincides with the limitations of the financial approach identified in the study. Thus, the need for comprehensive integration of economic, strategic and organisational indicators to improve the effectiveness of diversification process management is confirmed. The study by E. Gross-Gołacka *et al.* (2024) addressed the socio-economic aspect of diversification, in particular, on the need to consider the human factor and management coordination mechanisms in multi-vector structures. Their results are consistent with the analysis conducted, which showed the significance of assessing the level of managerial competencies and communication effectiveness to achieve a sustainable result of the diversification strategy. At the same time, it is worth noting that the approach of E. Gross-Gołacka *et al.* does not provide a quantitative assessment of financial results, which confirms the conclusion about the need to combine strategic and economic metrics.

The study by M. Vasuki *et al.* (2025) assessed the effectiveness of portfolio diversification using statistical correlation metrics, which quantitatively reflected risk reduction and income stabilisation. The data obtained correlates with the conclusions of this study on the financial and economic approach, which can be used for the quantitative measurement of diversification performance through ROA, ROI, and EVA. At the same time, it is worth noting that statistical metrics do not consider the management potential and strategic alignment of business areas, which coincides with the identified limitations of the financial and economic approach in the integrated assessment of effectiveness. Thus, a comparison of the results obtained with current research confirms that to adequately assess the effectiveness of diversification process management, it is necessary to combine financial, strategic and organisational-management criteria. The study determined that each of the approaches separately has limitations, and their integrated use can be used for the simultaneous consideration of economic results, synergy between business areas and the quality of management procedures.

The developed methodological approach, which combines quantitative and qualitative indicators, conceptually correlates with the conclusions of T. Almulhim *et al.* (2024), proposing a two-stage Data Envelopment Analysis model for a comprehensive assessment of enterprise performance in terms of operational, financial and sustainability performance. The study substantiated the need to abandon monodimensional financial metrics in favour of integrated indicators that can address the interrelationship between different performance measures. The results obtained in this article confirm the relevance of this approach, since the integrated diversification performance index also combines economic and strategic parameters, enabling a comprehensive comparative analysis between companies with different portfolio structures.

Similar to the approach of A. Dauerer (2025), emphasising the growing role of non-financial indicators, particularly ESG components, in measuring corporate performance in a systematic literature review, the results of this study demonstrate the need to expand traditional assessment systems. A. Dauerer emphasised that the inclusion of non-financial criteria increases the validity of the results and further contributes to the analysis of the sustainability of business models. In the case of this study, the integration of organisational and managerial criteria into future versions of the methodology could be a similar step that would improve the analytical accuracy of the index and reflect not only performance but also the quality of management decisions. Thus, the developed approach conceptually coincides with the argument of A. Dauerer regarding the transition to complex, multi-factor models of performance evaluation.

The results of the study also partially correlate with the conclusions of an analysis by T. Kretschmer & P.C. Symeou (2024) on the impact of absorption capacity components on the effectiveness of related and unrelated diversification. The authors proved that knowledge, technological resources, and managerial competencies are key factors determining the success of diversification strategies. The obtained results confirm the significance of strategic portfolio alignment and business synergy as factors ensuring the stability and flexibility of the corporate system. At the same time, in contrast to T. Kretschmer & P.C. Symeou, the proposed approach emphasises not only the cognitive resources of the enterprise, but also its structural and economic characteristics, which broadens the comparison between different sectors and business models.

The study by D.M. Shukla & S. Kumar (2023) also confirmed the relevance of the conclusions of this study. The authors proved that in knowledge-intensive industries, the impact of diversification on performance depends on the level of absorption capacity of the organisation, which acts as a moderator of the relationship between business expansion and management efficiency. A comparison of the results shows that strategic alignment and synergy of business areas, assessed within the proposed methodology, reflect similar patterns: companies with a higher level of strategic alignment demonstrate better adaptability and financial stability. This coincides with the conclusions of D.M. Shukla & S. Kumar regarding the role of management knowledge in increasing the sustainability of diversification strategies.

At the same time, the results partially disagree with the conclusions of A. Valero (2024), in the research of diversification strategies in the real estate sector, determined that excessive differentiation of business areas can lead to a decrease in overall profitability due to a loss of focus in management processes. However, the results of testing the

developed methodology on the example of 3M Company and GE show that diversification, provided there is a high degree of strategic coordination and control over the portfolio structure, does not reduce efficiency but, on the contrary, ensures greater flexibility and potential for innovative development. This indicates the need for a differentiated approach to assessing the effectiveness of diversification depending on industry characteristics and the scale of the enterprise.

Lastly, the results are consistent with the approach of Y.-M. Wei (2025) is developing a hybrid multi-criteria business model evaluation system based on hierarchy analysis and fuzzy logic methods. The study emphasised the importance of combining quantitative indicators with qualitative expert assessment for strategic decision-making in complex corporate systems. The study applied a similar principle of constructing an integral index based on normalised quantitative indicators with the possibility of further expert interpretation, confirming the effectiveness of multidimensional models for analysing diversification processes.

Thus, the study confirmed consistency with leading contemporary scientific approaches to comprehensive assessment of management performance, while offering unique conceptual novelty: the integration of economic, strategic and organisational criteria into a single index system.

CONCLUSIONS

The theoretical analysis showed that diversification of a company's activities is not only a tool for increasing profitability, but also a complex management process, the effectiveness of which is determined by the consistency of strategic, financial and organisational decisions. Clarification of the category "effectiveness of diversification management" distinguished between two key dimensions: the effectiveness of diversification, which focuses on final financial indicators, and the effectiveness of diversification management, which is related to the quality of management decisions and processes. This distinction is methodologically substantial for building an assessment system focused not only on financial outcomes but also on the management factors that shape them. A comparative analysis of existing theoretical approaches – to financial, economic, strategic, and organisational management – has shown that none of them individually provides a comprehensive overview of the effectiveness of the diversification process management. It is advisable to develop an integrated approach to assessing the effectiveness of the diversification process management that combines the advantages of the three concepts mentioned above. Such an approach can be used for the simultaneous consideration of financial performance, strategic alignment and the quality of management procedures, which meets the modern requirements of the concept of sustainable corporate performance management and creates a basis for the further development of practical methods for integrated assessment.

A methodological approach to the integrated assessment of the effectiveness of enterprise diversification management has been developed and tested. The feasibility of using a multi-criteria model that combines economic, strategic, organisational and management indicators into a single assessment system has been confirmed. This approach provides a comprehensive reflection of the effectiveness of diversification strategies, which can be used for the assessment not only of financial results but also of the degree of consistency of management decisions with the strategic priorities of the enterprise. The methodology has demonstrated high analytical sensitivity to structural transformations in corporate portfolios, as confirmed by the results of testing on the example of 3M Company and GE. In particular, 3M Company received an integral value of 0.857, indicating a high level of diversification portfolio balance, while GE received a value of 0.671, reflecting a decline in diversification management performance due to the restructuring processes of 2023-2024. The integral index has practical value as a tool for strategic planning, management audit and decision-making on diversification. It can be used for quantitative assessment of portfolio balance, modelling the consequences of changes in the structure of business areas, identifying potential sources of growth and detecting risks of excessive concentration. For management, this creates the possibility of making more informed decisions regarding the optimisation of corporate structure, the redistribution of investments, and the adjustment of strategic priorities. From a scientific and methodological perspective, the developed approach forms the basis for further research aimed at improving the assessment of the effectiveness of diversification process management.

The study was limited by the lack of publicly available data for direct assessment of organisational and management indicators, such as communication efficiency, structural flexibility and business process adaptability. In this regard, the integrated index of diversification management performance was calculated based on economic (ROI, ROA, EVA, concentration indices) and strategic (business synergy, strategic portfolio alignment, positioning in the McKinsey matrix) criteria. Further research should expand the analytical base of the integrated approach by including organisational and management indicators, which can ensure a comprehensive assessment of not only the results but also the internal processes of implementing diversification strategies.

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Оцінювання результативності управління процесом диверсифікації діяльності підприємства

Анотація. Метою статті була розробка та апробація інтегрального підходу до оцінювання результативності управління процесом диверсифікації. У дослідженні застосовано системно-структурний, порівняльно-аналітичний і інтегрально-оцінювальний підходи, що забезпечили комплексне вивчення взаємозв'язків між економічними, стратегічними та управлінськими аспектами диверсифікації, а також побудову інтегрального індексу результативності з етапами нормалізації, вагового оцінювання та агрегування показників, апробованого на кейсах корпорацій 3M Company та General Electric. Встановлено, що ефективність управління диверсифікаційними процесами підприємства визначається економічними результатами, якістю управлінських процедур та стратегічною узгодженістю бізнес-напрямів. Виявлено, що інтеграція всіх трьох підходів забезпечує цілісну оцінку ефективності диверсифікації. Було розроблено методичний підхід до інтегрального оцінювання результативності управління диверсифікацією діяльності підприємства. Запропоновано систему із трьох груп критеріїв, що забезпечує комплексне відображення результатів диверсифікаційних стратегій. На основі нормалізації даних і зваженого агрегування показників побудовано інтегральний індекс результативності управління, апробований на прикладі компаній 3M Company та General Electric за 2024 рік. Розрахунки показали, що 3M Company продемонструвала вищий інтегральний індекс результативності управління процесом диверсифікації (0,857) порівняно з General Electric (0,671). Незважаючи на нижче значення Economic Value Added (6,1) порівняно з General Electric (7,5), структура портфеля 3M Company залишається більш диверсифікованою (нижчий Herfindahl-Hirschman Index – 0,25 проти 0,30), що свідчить про вищу гнучкість і меншу концентрацію бізнес-напрямів. Отримані результати можуть бути використані для діагностики ефективності диверсифікаційних стратегій у корпоративному управлінні, а також для розроблення інструментів стратегічного моніторингу та оптимізації бізнес-портфелів компаній

Ключові слова: фінансова результативність; стратегічна узгодженість; якість управлінських рішень; інтегральний індекс; бізнес-портфель