

**ASSESSMENT OF THE ECONOMIC EFFICIENCY OF
INDUSTRIAL ENTERPRISE MANAGEMENT DURING THE
KAZAKHSTAN INTEGRATION INTO THE EAEU****Nurekenova E., Sholpanbayeva K., Apysheva A., Rakhimberdinova M.,
Shaikhanova N.***

Abstract: The purpose of this study is to examine the effectiveness of the measures taken and to identify areas for further integration cooperation. The originality of the study is determined by the fact that the formalisation of Kazakhstan integration into the Eurasian Economic Union (EAEU) structures allows expanding the possibilities of building cooperative ties. This requires greater involvement of enterprises in the integration and the development of a unified state system to assess the effectiveness of integration associations. The authors show that, in general, the integration of Kazakhstan and the EAEU can be assessed based on a common methodology for the economic efficiency of individual enterprises. The authors suggest the adapted methodology of the balanced scorecard system since it is appropriate in this case. The practical significance of the study is determined by the need to clarify the structural features of integration and calculate efficiency in general based on the results of the cooperation of Kazakh enterprises with external partners. The development of such an assessment system can also be implemented taking into account the need to counter the global economic crisis.

Keywords: crisis, structure, formalisation, integration, efficiency.

DOI: 10.17512/pjms.2022.26.1.15

Article history:

Received July 19, 2022; Revised August 30, 2022; Accepted September 12, 2022

* **Elvira S. Nurekenova**, School of Business and Entrepreneurship, D. Serikbayev East Kazakhstan Technical University, Ust-Kamenogorsk, Republic of Kazakhstan;

✉ corresponding author: nurekenova7104-1@murdoch.in,

ORCID: 0000-0002-2944-6968

Kanshaim Zh. Sholpanbayeva, Department of Finance and Accounting, Sarsen Amanzholov East Kazakhstan University, Ust-Kamenogorsk, Republic of Kazakhstan;

ORCID: 0000-0001-8688-887

Assel A. Apysheva, Department of Finance and Accounting, Sarsen Amanzholov East Kazakhstan University, Ust-Kamenogorsk, Republic of Kazakhstan;

ORCID: 0003-0798-1078

Madina U. Rakhimberdinova, School of Business and Entrepreneurship, D. Serikbayev East Kazakhstan Technical University, Ust-Kamenogorsk, Republic of Kazakhstan;

ORCID: 0000-0001-9009-8686

Nurgul K. Shaikhanova, Department of Finance and Accounting, Sarsen Amanzholov East Kazakhstan University, Ust-Kamenogorsk, Republic of Kazakhstan;

ORCID: 0000-0002-7005-5504

Introduction

Changes in the internal and external environment of the enterprise operating under the influence of innovative economic development are accompanied by the evolution of the management and its main functions (Rouse, 2006). Based on international and national corporate governance standards, the latter is considered as a set of legal, organisational standards and rules, mechanisms, technologies, and management methods within which the enterprise operates, which are aimed at maximising the market and enterprise value for all groups of economic and managerial influence (Boyson, 2014).

Planning occupies a central place in the enterprise management mechanism as a way to achieve purposes based on the balance and consistency of all production operations and solving social issues. H. Fayol (1841-1925), the founder of the Western administrative theory, highlighted planning as one of the most important administrative operations (Rezvani et al., 2017). In his opinion, planning is a management function that determines the purposes of the activity, as well as the means and methods to achieve them in the most effective specific conditions. This definition of planning as an enterprise management function is the dominant one in modern economic literature (Elbashir et al., 2011). Administrative management, planning, and control over the activities of the enterprise are inextricably linked. In foreign practice, they are often united into "management". Specialists from almost all countries, including national ones, adhere to a similar approach to the management and planning of the company's activities.

At the turn of the 20th-21st century, the strategic development of the enterprise is radically changing (Spivey et al., 2002). Commodity, sales, market, and marketing production orientation is an orientation to profit by improving production and sales, minimising the production costs and sales of products, fully meeting consumer demand based on the effective use of primary material resources of the enterprise (Martin and Beaumont, 2001). In the conditions of innovative economic development, the marketing orientation of the strategic development within the enterprise is changing to its intellectual capital growth as the main factor of competitiveness (Perrott, 2011). The globalisation of financial markets and the active search for innovative development resources make enterprises increase their investment attractiveness, demonstrate to potential investors the prospects for market value growth, which can considerably exceed the book value due to intangible assets: advanced technologies, brand, business reputation, effective management decisions (Meek et al., 2008).

However, the definition of the effectiveness of the measures taken and determining the direction of further integration cooperation is still ambiguous in the economic literature. That is why the present study aims to fill this gap.

Literature Review

It is advisable to consider the evolution of enterprise management systems as a response to the complexity of its tasks (Kraus et al., 2006). The innovative economic development, the dominance of intangible assets as the main factor of enterprise competitiveness are characterised by the further development of strategic enterprise management and the establishment of balanced enterprise management (Abrams et al., 2007).

Consequently, there is a shift in the emphasis on managing intangible assets, which requires balancing the tangible assets within the enterprise, as "original factors" of the modern enterprise value, and intangible assets, as factors determining the potential growth opportunities of the market value of the enterprise (Shi and Halpin, 2003). From the standpoint of strategy achievability, "creator factors" are more considerable, because they act as factors for the development of the enterprise's potential (Bharathy and McShane, 2014). It refers to effective management decisions, high quality of the company's management capital, the ability not only to create and implement effective strategies but also to actively manage strategies based on balancing all aspects of the company's activities as an open system (Aguilar et al., 1997). Consequently, the strategic management of the enterprise reaches a qualitatively new level of development – the level of balanced strategic management (Ratnatunga and Alam, 2011). Balanced enterprise management is characterised by the orientation of strategic development to enterprise value growth from the positions of both financial and non-financial investors of intellectual capital: personnel, consumers, the state, etc. (Hoyland et al., 2014).

The structure of the management capital is represented by the forms of management activity implementation (management models, styles, and methods, decision-making algorithms, methods of authority delegation); the organisational structure of management; organisation and motivation forms; a set of theoretical knowledge, practical experience, and individual characteristic features of managerial staff; the creative activity level of management personnel; the ability of the management system for making decisions, which are appropriate to external conditions, particular purposes, and strategy of the enterprise, etc. (Worthington and Patton, 2005). Management capital acquires the status of an integrating element of intellectual capital, acts as a driving factor in the growth of the quality of human, information, and organisational capital within the enterprise (Chakraborty and Sharma, 2007). The effectiveness of the management decision-making system, that is, the ability to successfully develop a business, create new, more advanced technologies, brands, becomes much more valuable for increasing competitiveness compared to the already accumulated technological potential, tangible assets of the enterprise. According to experts, 90% of the total value of intangible assets within a modern company is its management capital, as the main factor of long-term competitiveness growth.

In contrast to the strategic management of an enterprise as a system for developing and implementing a strategy in the interests of owners, management, and customers,

balanced enterprise management turns into a management system for the enterprise value growth within all groups of economic and managerial influence based on balancing all aspects of the enterprise's activities. The economic development transformation is accompanied by the change in conceptual approaches to strategic enterprise management as the most typical established model of modern management (Jarratt, 1998).

Aim and Research Questions

With the need to strengthen the literature on the management of industrial enterprises, the main aim of this study is to assess the effectiveness of the measures taken and identify the area of further integration cooperation. With this in mind, the following research questions are answered in this study:

RQ1: Is it possible to assess the integration of Kazakhstan and the EAEU based on a single methodology for the economic efficiency of individual enterprises?

RQ2: Should BSC as an enterprise management system be considered synonymous with balanced enterprise management?

Research Materials and Methods

The authors refer to the development of strategic enterprise management on its own basis from simple, random, transient forms to a new sustainable quality, appropriate requirements of innovative economy development. The balanced approach integrates the basic approaches in management – intuitive, corporate, and iterative. It is important to consider balanced enterprise management not only as a product of interaction between corporate and iterative approaches, that is, in fact, interactive management, which is based on designing the desired future and determining ways to achieve it, when the future is the result of conscious activity. Attempts to contrast the above approaches based on "top-to-bottom" – "bottom-to the-top" are formal, simplified. Moreover, corporate and iterative managements are often ineffective in solving a completely new issue, consequently, they not only do not oppose each other but also assume an addition with an intuitive approach.

Unlike general conceptual approaches that focus only on partial aspects of management issues, a balanced approach involves a transition to managing all aspects of an enterprise's activities based on balancing the economic interests of all groups of economic and managerial influence, strategic and operational levels of management, tangible and intangible assets, multi-level strategies, past and future results, internal and external aspects of the enterprise's activities, industrial and innovative development factors. The advantages of a balanced approach should be considered as follows:

- ensuring holistic strategic management of the enterprise through the selection and balancing of factors that determine the strategic development of the enterprise;
- creating prerequisites for the dynamic development of the enterprise strategy based on system interaction and constant adjustment of its functional subsystems;

- promoting the effective functioning of vertical communication based on balancing the principles of hierarchy ("top-bottom") and openness ("bottom-top") in strategic enterprise management, depending on the specific features of the industry;
- ensuring a high level of strategic responsibility based on close coordination between personal and organisational purposes;
- creating a "double-loop" effect and the possibility of constant strategy adjustment by changes in the competitive environment based on counter feedback from partial and company-wide levels of strategy implementation;
- ensuring cost-effectiveness: adjusting the strategy in parallel with continuous monitoring and analysis of the results obtained and the corresponding correction of previous decisions leads to cost reduction and timely elimination of errors;
- providing an opportunity for a comprehensive assessment of the effectiveness of strategic enterprise management;
- identification of conflicts in the strategy implementation at all stages;
- integration of conventional and new methodological approaches and techniques based on the accumulated experience in enterprise management;
- focusing efforts on the most important areas of general strategy implementation;
- providing conditions for the constant increase of the intellectual, managerial potential of the enterprise in a dynamic business environment;
- activation of the synergetic effect of the intangible assets of the enterprise, its management capital, that is, increasing the efficiency of strategic management of the enterprise due to the self-organisation factor.

Research Results

The innovative world economy development puts forward new requirements for the management system of an industrial enterprise considering changes in the business ideology, the structure of consumer demand, and the resource support of strategic development. However, the enterprises of the Republic of Kazakhstan are developing mainly based on low-tech ways, which receive 95% of investments. That is, they are influenced by a complex symbiosis of industrial and innovative development factors, which are presented in Table 1. Among the latter, intangible assets become crucial in increasing enterprise competitiveness, turning into an independent integrating component concerning the system of business strategies of the enterprise. Intangible assets and intellectual capital of an enterprise cover such key factors of competitiveness as effective management models, new ideas and technologies, organisational excellence, human resources, brand, an extensive customer base, and so on.

Table 1. Development factors of economic entities in the conditions of innovative economy development

Industrial development factors	Innovative development factors
Business ideology	
Production improvement, reduction of production costs	Marketing, the offer of a product that can meet consumer demand
A scarce resource	
Basic technological knowledge	Innovative idea, information
Production type	
Mass, standardised	Dynamic, differentiated
The type of consumer needs	
Unification	Individualisation
Product	
Standardised	Differentiated, innovative
Production organisation	
Specialisation, distribution of operations, conveyor	Highly automated, robotic conveyor, labour interchangeability
Labour resources	
Narrow specialisation, the possibility of attracting a low-skilled, easily replaceable resource	Development of specialisation, multidisciplinary professionals
The role function of the workforce	
Reproduction of the ability to work	Reproduction of a "homo creator", knowledge generation
Remuneration	
Rate, low labour cost	High, flexible, depends on the final result
Organisational structure	
Rigid, fixed, hierarchical	Flexible, network-based
The most valuable assets from the standpoint of competitiveness	
Tangible	Intangible
Technologies	
Production	Innovative, informational, managerial

Figure 1 presents the cause-and-effect relations of factors that create an inextricable link of synergetic competitiveness growth: due to powerful intellectual capital, primarily effective management decisions, the enterprise is not only recognised among consumers and competitors but also, upon increasing financial results, receives technical and technological innovations and innovative ideas by attracting the best specialists. Global trends in the field of business purchase and sale indicate that the value of intangible assets in the total enterprise value is from 40 to 90%.

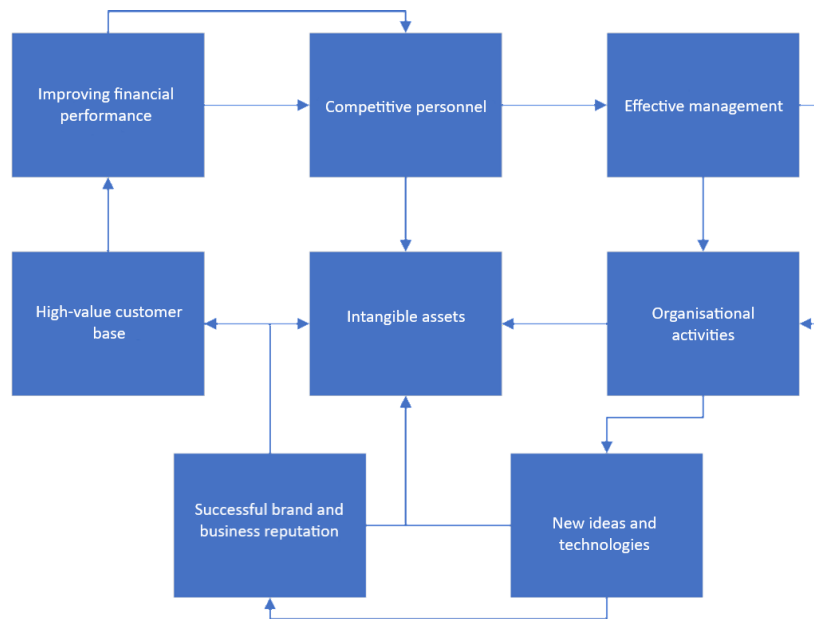


Figure 1: Intangible assets as a centre of synergetic growth of the enterprise's competitiveness

Therewith, the centre of gravity in the structure of intangible assets is shifting towards unidentified intangible assets (Table 2). Their objects are subjective images and assessments that are integral both from a legal entity (customer base, availability of qualified personnel, corporate culture, managerial potential, advantages of location, reputation of the enterprise) and an individual (reputation of staff and owners, professional qualities and individual's creativity, etc.), which can practically not be assessed and reflected in accounting.

Table 2. Changing the role of enterprise assets in the conditions of innovative economy development

Industrial economy development	Innovative economy development
The dominant role of tangible assets in creating value and competitiveness of the enterprise for shareholders	Increase in the growth rate of intangible assets. Transformation of intangible assets into a key factor in the implementation of the company's strategy
Existing financial flows are the main criterion for assessing the efficiency of the enterprise	Assessment of business efficiency based on taking into account factors that affect the future value of the enterprise
Patents, know-how, technologies, and licenses as the main components of intangible assets	The share growth of the brand, goodwill in the structure of intangible assets
Identified intangible assets as the main factor in the company's competitiveness	The growing role of unidentified intangible assets. Transformation of management capital into an integrating element of intangible assets

The analysis of the development factors of business entities in the conditions of innovative economy development determines the need for the development of a new conceptual approach to strategic enterprise management – a balanced one. Based on the general approaches to strategic enterprise management, Figure 2 presents the evolution of their adoption into the essence of strategic enterprise management – from chaotic to balanced.

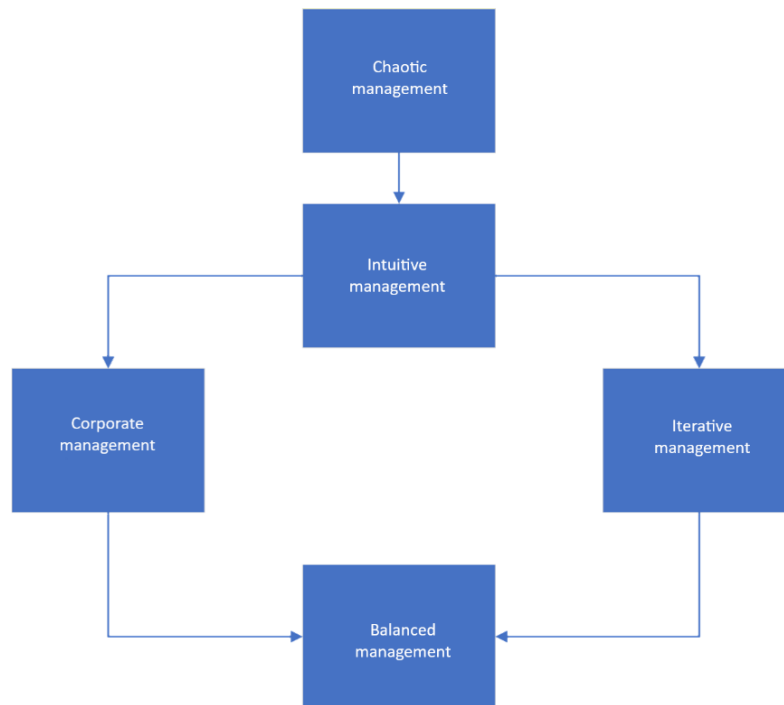


Figure 2. Development of conceptual approaches to strategic enterprise management

Results Discussion

The founders of the system, R. S. Kaplan and D.P. Norton (1992) define BSC as a tool that allows transforming the mission and strategy of an organisation into an exhaustive set of performance indicators that serve as the basis for a strategic management and control system. In the BSC concept, financial and non-financial indicators of enterprise value are integrated taking into account the causal relationships between the resulting indicators and the key success factors under the influence of which they are developed. The balance in the BSC concept is multidimensional, covering the relationships between monetary and non-monetary indicators, strategic and operational management levels, past and future results, as well as internal and external aspects of the company's activities.

The characteristic of alternative views demonstrates two main approaches to determining the essence of BSC. The historical or evolutionary approach allows systematising the definitions of BSC into two main groups that correspond to the evolution of conceptual approaches to strategic management: BSC as an accounting system and BSC as an enterprise management system. This is reflected in modern economic literature by the specific features of the translation of the English term in national literature sources (Polyakov, 2017). BSC (balanced scorecard) is usually interpreted as a system of management accounting and control, a method of strategic planning, a tool for assessing the effectiveness of the enterprise management system

(Sere & Choga, 2017). BSC to the greatest extent meets the above-mentioned tendency of determining the balanced scorecard as the key concept of balanced enterprise management.

In parallel with the historical approach, it is advisable to identify an alternative approach based on the classification of BSC definitions from semantic, that is, topologically meaningful positions. The systematisation of BSC definitions is clearly traced by identifying the system as a tool, method, methodology, mechanism, technology, system, and management model (Table 3). Therewith, there is uncertainty and dualism in the interpretation due to both the variability of the strategic management of the enterprise and the specific features of the semantic interpretation of these classification criteria by economists. Namely, BSC is presented as both a new enterprise management system aimed at implementing the general strategy and as a mechanism for its implementation. Other researchers (Khalatur et al., 2022) actually identify BSC with strategic maps, determining it as a strategic planning tool. However, they oppose BSC as a special reporting system at the enterprise to strategic maps, arguing that BSC should complement the latter.

An alternative is to present BSC simultaneously as a tool for strategy concretisation, formalisation, and implementation and the strategy model. There is an identification of BSC as a strategic planning methodology with management technology. The statement that adds complexity is that the methodology includes such tools as decomposition, cascading, which are introduced into enterprise management using certain technologies, namely BSC technologies with the decomposition of purposes – indicators.

Table 3. Alternative approaches to defining the BSC category.

Approach	Characteristics of the approach identification criterion	Definition
Enterprise management tool	A tool, a means, a method used to achieve purposes	BSC is a tool for concretisation, presentation, and implementation of the strategy
Management method	A method of practical implementation	BSC is a management method that ensures such managerial functions as planning, organisation, regulation, stimulation, coordination, and control
Management methodology	A set of methods for the practical implementation	BSC is a strategic management methodology based on the transformation of strategy into clear objectives and indicators that assess the effectiveness of solving these tasks
Control mechanism	A system that determines the order of a certain activity also allows its functioning	BSC is a mechanism for turning a strategy into a sequence of actions aimed at achieving certain purposes at all management levels

Management technology	A set of processes in a certain field of activity or a scientific description of its implementation ways	BSC is a technology that aims the mission and overall strategy of the enterprise at a system of clearly defined purposes and objectives, as well as indicators that determine their achievement level
Enterprise management system	The form of organisation. A somewhat whole, which is a unity of logically located and interdependent parts	BSC – a comprehensive system of the entire management process (strategic, current, operational)
Management model	An example or diagram	

The discovered variability of the BSC provides for its parallel and simultaneous interpretation in the economic literature as a new strategic enterprise management system, a tool for assessing and implementing strategy, a long-term management tool, a component of the management accounting and control system while recognising that BSC is not a reporting system, but includes the latter in its composition. The researchers accompany such conceptual uncertainty with a reference to R. S. Kaplan and D.P. Norton (1992), who consider BSC as an evaluation system, a strategic management system, and an information dissemination tool. However, the researchers meant the objectivity of the evolution of the system from assessment to management influenced by innovative economic development and the creation of an appropriate environment for adapting BSC to the current enterprise management system.

A similar opinion is shared by some researchers (Dima et al., 2022). They note the perfect possibility of using BSC as a strategic management system. Therewith, it is not excluded that for the specific conditions of the national enterprise operation, BSC can be an effective system of strategic measurement. That is, it can monitor key indicators necessary for managing and controlling the strategy implementation, which cannot be obtained in accounting or other information systems of the enterprise.

To sum up, from the standpoint of a systematic approach, it is necessary to clearly separate the alternative aspects of the BSC, taking into account the existing differences in the methodological components of any economic system. Generally, researchers identify BSC as a tool and a management method, based on the absence of substantial content-semantic discrepancies of these criteria for classification. However, the management method is understood as the influence methods and techniques of some management subjects on others. That is, the method is a more complex category, while the management tool assumes the focus of the enterprise's activities on achieving purposes. It is the internal orientation that gives the method a certain form of influence on the enterprise strategy implementation. The presentation of BSC as a management method corresponds to the concepts of intuitive, corporate,

and iterative strategic enterprise management. However, even under the "immaturity" of balanced enterprise management, the BSC methodology is referred to as a relatively autonomous system of mutually dependent, interrelated, and complementary methods and tools for implementing the strategy.

The use of BSC as a tool, method, or methodology of enterprise management provides the performance of certain functions of strategic enterprise management (for example, information support of the strategy) or the implementation of management, evaluation, accounting, information technologies; the functioning of certain enterprise management mechanisms, etc. Technology is a method, an algorithm for combining enterprise resources to achieve a set purpose, converting input elements into output. BSC as a management technology is considered by researchers as a cyclical iterative process and the sequence of management activity implementation, including such stages as corporate planning, organisation, motivation, control, and regulation, covers all areas of enterprise activity (financial, logistical, social, information, etc.), resource provision, and control of compliance with set purposes.

BSC is often defined as a mechanism for turning a company's strategy into a sequence of actions aimed at achieving certain purposes at all management levels. The management mechanism is considered by specialists as a system of basic forms, methods, levers of using economic laws, solving contradictions of social production, as well as establishing needs that interact based on certain rules, procedures, and technologies. In addition, the mechanism can be defined as a sequence of actions aimed at achieving a certain purpose, that is, "linkage", which determines the possibility of a purposeful operation of the entire enterprise management system. There are still numerous interpretations of the mechanism in the economic literature. However, when identifying the mechanism, the above-mentioned interpretations focus on the need to establish elements, methods, and levers of influence on economic processes; the need to develop a certain provision, and the requirements to use a dynamic approach to strategic enterprise management. According to researchers (Clodnitchi & Tudorache, 2022), BSC allows taking into account all these aspects. The transformation of a balanced system of indicators into a strategic enterprise management system allows interpreting BSC as a management model, that is, a simplified scheme, a structure with well-established characteristics and elements that shape the specific features of enterprise management.

The authors investigated to what extent the indicators for each assessment and control model consider the balance of economic interests of the economic and managerial influence of internal and external factors of the enterprise's activity, financial and non-financial indicators. At present, BSC claims to solve the main management issues – how to shape a strategy and make it work. However, there is not a single perfect model. For example, in contrast to BSC, one of the EP2M objectives is to expand the independence of personnel, yet there is no clear methodology for practical implementation. EVA-based management is limited by the financial aspect, and the emphasis of TPS on improving individual and collective

behaviour cannot be appropriately adapted in the post-Soviet space, where low-tech ways dominate. According to the principles, a clear understanding of the purpose of the BSC methodology and its limitations, systematised in Table 4, becomes fundamental.

Table 4. Comparative analysis of the BSC capabilities.

BSC	
Allows:	Does not allow:
Managing the strategy, eliminating the gap between strategy development and its implementation: due to BSC, the company's strategy is implemented; therewith, it is possible to assess the reverse impact, namely, to understand how a new project can affect the achievement of strategic purposes.	Preserving the strategy: the company's management should constantly diagnose the strategic potential and its compliance with the chosen strategy; the company's strategy should be regularly adjusted under the influence of market changes, and the BSC will change as well.
Responding promptly to changes in the external environment: changes in the external environment can be assessed in terms of their impact on the achievement of strategic purposes by using quantitative measures of financial and non-financial factors within strategy implementation.	Abandoning conventional planning and control tools: BSC is an addition to existing control tools, which allows fully taking into account all aspects of the enterprise's activities; conventional control tools do not lose their importance and should be used in the enterprise in full.
Assessing the success of a strategic project at the stage of its emergence: establishing the relationship between various aspects of development makes it possible to answer the question of how much strategic initiatives will bring the enterprise closer to achieving strategic purposes.	Automatically ensuring management effectiveness: the use of BSC as the basis of a system of material incentives for personnel can create an opportunity for managers to manipulate indicators without increasing business efficiency.
Evaluating the strategy: if a strategic decision leads to a large number of mutually exclusive actions, then, most likely, such a strategy is unsatisfactory; in addition, based on BSC, it becomes possible to adjust the existing strategy and bring it to a more balanced state.	Implementing the BSC in an enterprise with inappropriate corporate culture: BSC cannot "operate" properly in inappropriate conditions; the main feature of the system is to create transparency in the enterprise; if the transparency of the enterprise does not suit employees, this system will not operate, as well as the system of material incentives based on BSC.

Therewith, the strategic management development based on BSC within industrial enterprises of the Republic of Kazakhstan involves the provision of the necessary conditions for the adaptation of advanced management technologies (training of employees, changes in the organisational structure of enterprise management, the use of modern software products, etc.). This requires an assessment of the conditions,

the possibility, and the methodological format of integrating BSC into the management system of an industrial enterprise.

Conclusions

The comparative analysis according to the balance criterion indicates that BSC remains the fundamental concept of strategic enterprise management based on the use of financial and non-financial indicators. The semantic approach (topologically meaningful) allows tracing the variability of BSC as a tool, method, methodology, mechanism, technology, system, and model of enterprise management. That is, in contrast to the existing definitions, BSC is considered as a holistic management system that has a conceptual and methodological basis, within which the corresponding mechanism (BSC mechanism) activates balanced enterprise management using the strategy implementation methodology (BSC methodology) based on BSC technology.

Determining BSC as a management system corresponds to a balanced enterprise management concept, within which the interpretation of BSC as a tool, methodology, mechanism, or technology is incorrect. However, the actual strategic management transformation within an enterprise is quite compatible with the practical use of BSC in a limited methodological format, as a methodology or technology following the specific conditions of the adaptive environment for effective integration of BSC into the management system operating at the enterprise. If chaotic management fully corresponds to the use of BSC as a management tool, then BSC as a methodology, technology, or strategy implementation mechanism is a sign of more mature stages in the evolution of strategic enterprise management. BSC as an enterprise management system should be considered as a synonym for balanced enterprise management. That is, within the framework of a balanced approach, considering BSC as a system, it should be noted that any complex and dynamic system can be designed according to the set purposes, functions, and operating environment. For the Republic of Kazakhstan, this means establishing a system for assessing the efficiency of industrial enterprises within the framework of the EAEU and generally assess the efficiency of the EAEU based on this system. This will allow adjusting the strategic documents and determine the possibility of additional interaction between the EAEU members to coordinate a common industrial policy.

References

- Abrams, C.E., von Känel, J., Müller, S., Pfitzmann, B. and Ruschka-Taylor, S. (2007). Optimized enterprise risk management. *IBM Systems Journal*, 46(2), 219-234.
- Adams, C. and Roberts, P. (1993). *Manufacturing Europe*. New York: Sterling Publishing.
- Aguilar, R., Mendoza, A., Krauth, J. and Schimmel, A. (1997). Strategic planning for small and medium-sized enterprises: The compass project. *Production Planning and Control*, 8(5), 509-518.
- Bharathy, G.K. and McShane, M.K. (2014). Applying a systems model to enterprise risk management. *EMJ – Engineering Management Journal*, 26(4), 38-46.

- Boyson, S. (2014). Cyber supply chain risk management: Revolutionizing the strategic control of critical IT systems. *Technovation*, 34(7), 342-353.
- Chakraborty, S. and Sharma, S.K. (2007). Enterprise resource planning: An integrated strategic framework. *International Journal of Management and Enterprise Development*, 4(5), 533-551.
- Clodnitchi, R. and Tudorache, O. (2022). Resource efficiency and decarbonisation of economies in the European Union. *Management & Marketing. Challenges for the Knowledge Society*, 17(2), 139-155.
- Dima, A.M., Tantau, A. and Maassen, M.A. (2022) Models for analysing the dependencies between indicators for bioeconomy in the European Union. *Economic Research-Ekonomska Istraživanja*, 35(1), 3533-3550.
- Elbashir, M.Z., Collier, P.A. and Sutton, S.G. (2011). The role of organizational absorptive capacity in strategic use of business intelligence to support integrated management control systems. *Accounting Review*, 86(1), 155-184.
- Hoyland, C.A., Adams, K.M., Tolk, A. and Xu, L.D. (2014). The RQ-Tech methodology: a new paradigm for conceptualizing strategic enterprise architectures. *Journal of Management Analytics*, 1(1), 55-77.
- Jarratt, D.G. (1998). A strategic classification of business alliances: A qualitative perspective built from a study of small and medium-sized enterprises. *Qualitative Market Research: An International Journal*, 1(1), 39-49.
- Kaplan, R.S. and Norton, D.P. (1992). The balanced scorecard: Measures that drive performance. *Harvard Business Review*, 70(1), 71-79.
- Khalatur, S., Pavlova, H., Vasilieva, L., Karamushka and Danileviča, A. (2022). Innovation management as basis of digitalization trends and security of financial sector. *Entrepreneurship and Sustainability Issues*, 9(4), 56-76.
- Kraus, S., Harms, R. and Schwarz, E.J. (2006). Strategic planning in smaller enterprises – new empirical findings. *Management Research News*, 29(6), 334-344.
- Maisel, L.S. (1992). Performance measurement. The balanced scorecard approach. *Journal of Cost Management*, 6(2), 47-52.
- Martin, G. and Beaumont, P. (2001). Transforming multinational enterprises: Towards a process model of strategic human resource management change. *International Journal of Human Resource Management*, 12(8), 1234-1250.
- McNair, C.J., Lurch, R.L. and Cross, K.F. (1990). Do financial and non-financial performance measures have to agree? *Management Accounting*, 72(2), 28-36.
- Meek, T., Conaonaigh, S.M. and Thurston, C. (2008). The challenge of integrating information management systems into the enterprise: How to make faster, more informed business decisions with data. *American Laboratory*, 40(6), 14-17.
- Perrott, B.E. (2011). Strategic issue management as change catalyst. *Strategy and Leadership*, 39(5), 20-29.
- Polyakov, M. (2017). Positive impact of international companies on development of knowledge economy. *Problems and Perspectives in Management*, 15(2), 81-89.
- Rampersad, H.K. (2004). *Universal system of performance indicators: How to achieve results while maintaining integrity*. Moscow: Alpina Business Books.
- Ratnatunga, J. and Alam, M. (2011). Strategic governance and management accounting: Evidence from a case study. *Abacus*, 47(3), 343-382.

- Rezvani, A., Dong, L. and Khosravi, P. (2017). Promoting the continuing usage of strategic information systems: The role of supervisory leadership in the successful implementation of enterprise systems. *International Journal of Information Management*, 37(5), 417-430.
- Rouse, W.B. (2006). Enterprise transformation – implications for enterprise information systems. *IEEJ Transactions on Electronics, Information and Systems*, 126(9), 1069-1072.
- Sere, K.A. and Choga, I. (2017). The causal and cointegration relationship between government revenue and government expenditure. *Public and Municipal Finance*, 6(3), 23-32.
- Shi, J.J. and Halpin, D.W. (2003). Enterprise resource planning for construction business management. *Journal of Construction Engineering and Management*, 129(2), 214-221.
- Spivey, W.A., Munson, J.M. and Spoon, D.R. (2002). A generic value tree for high-technology enterprises. *International Journal of Technology Management*, 24(2-3), 219-235.
- Worthington, I. and Patton, D. (2005). Strategic intent in the management of the green environment within SMEs. An analysis of the UK screen-printing sector. *Long Range Planning*, 38(2), 197-212.

OCENA EFEKTYWNOŚCI EKONOMICZNEJ ZARZĄDZANIA PRZEDSIĘBIORSTWEM PRZEMYSŁOWYM W CZASIE INTEGRACJI KAZACHSTANU Z EUG

Streszczenie: Celem niniejszego opracowania jest zbadanie skuteczności podejmowanych działań oraz zidentyfikowanie obszarów dalszej współpracy integracyjnej. O oryginalności opracowania decyduje fakt, że sformalizowanie integracji Kazachstanu ze strukturami Eurazjatyckiej Unii Gospodarczej (EUG) pozwala na rozszerzenie możliwości budowania powiązań kooperacyjnych. Wymaga to większego zaangażowania przedsiębiorstw w integrację i budowy jednolitego systemu państwowego do oceny efektywności stowarzyszeń integracyjnych. Autorzy pokazują, że generalnie integrację Kazachstanu i EUG można oceniać w oparciu o wspólną metodologię efektywności ekonomicznej poszczególnych przedsiębiorstw. Autorzy proponują zaadaptowaną metodologię systemu zrównoważonej karty wyników, ponieważ jest ona w tym przypadku odpowiednia. Praktyczne znaczenie badania przesądza o potrzebie doprecyzowania cech strukturalnych integracji i obliczenia efektywności w ogóle na podstawie wyników współpracy kazachskich przedsiębiorstw z partnerami zewnętrznymi. Opracowanie takiego systemu oceny może być również realizowane z uwzględnieniem konieczności przeciwdziałania światowemu kryzysowi gospodarczemu.

Słowa kluczowe: kryzys, struktura, formalizacja, integracja, efektywność.

哈萨克斯坦并入欧亚经济联盟期间工业企业管理的经济效率评估

摘要：本研究的目的是检验所采取措施的有效性，并确定进一步整合合作的领域。该研究的独创性取决于哈萨克斯坦正式融入欧亚经济联盟（EAEU）结构，从而扩大了建立合作关系的可能性。这需要企业更多地参与整合，并建立统一的国家体系来评估整合协会的有效性。作者表明，总的来说，哈萨克斯坦和欧亚经济联盟的一体化可以根据单个企业经济效率的通用方法进行评估。作者建议采用平衡计分卡系统的调整方法，因为它在这种情况下是合适的。研究的现实意义在于需要明确整合的结构特征，并根据哈萨克斯坦企业与外部合作伙伴的合作结果来计算总体效率。考虑到应对全球经济危机的需要，也可以实施这种评估系统的开发。

关键词：危机、结构、形式化、整合、效率。