

Evaluation of the Efficiency of Enterprise Innovation Management

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Annotation: *This article covers the assessment of the effectiveness of innovative management of enterprises, as well as its methods. Also, the analysis of methods for assessing the effectiveness of innovative management of industrial enterprises and the grouping of indicators of the effectiveness of innovative management at the enterprise were carried out.*

Key words: *innovative management, scientific and technical grouping, economic grouping, differentiation, management efficiency indicator.*

Introduction

Based on an assessment of the indicators of the effectiveness of innovative management at the enterprise, it will be possible to determine the indicators of economic efficiency achieved due to the introduction of innovative projects into production. This situation provides a certain level of service in the practice of enterprise management, as well as for its improvement in market competitiveness indicators.

We believe that before analyzing the methods for assessing the effectiveness of innovative management of industrial enterprises, it is advisable to focus on the content of the concept of efficiency. According to the tahils, the concept of samara is derived from the Latin word "Effestus", any behavior representing the final result of the kharakat. The concept of efficiency, on the other hand, describes the relative indicators of achieving the goals intended as an economic category. In most cases, in the practice of enterprise management, the assessment of the indicator of its effectiveness is based on the ratio between the achieved result and costs. Also, in the systematic approach to assessing this indicator, the expected and achieved results are carried out with a comparative comparison. The above methods for assessing the effectiveness indicator are used in assessing the effectiveness of various socio-economic processes. They are also distinguished by their ease of use.

The assessment of the effectiveness of innovative management of the enterprise is relatively more complex, in which it will be possible to determine the profit formed at the disposal of the enterprise, which is formed due to the results of innovative activities of the enterprise, that is, the use in the practice of Enterprise Management in the results of scientific research, the production of

According to tahils, in most scientific studies, the assessment of the effectiveness of the enterprise's innovative management is based on a comparative analysis of the Natja achieved as a result of innovative activity with the volume of investments aimed at innovative activities. At the same time, it should be noted that in the process of assessing the effectiveness of innovative management of the enterprise or its indicators of innovative development, it will be possible to evaluate the innovative and investment activities of the enterprise in the current period. This situation does not allow to fully assess the effectiveness of the innovative management of the enterprise. Because the repayment period of investments can be covered only in 1-3 years, when the innovative activity of the enterprise

has achieved high results, which reflects the cost recovery periods directed towards innovative activities.

By introducing innovations in the practice of enterprise management, it will be possible to radically change production activities. In particular, it increases the indicator of the profitability of the enterprise's production of products, reducing the volume of costs for material resources in production processes. According to the analysis, the indicator of the effectiveness of Enterprise Innovation Management is directly influenced by the level of risk of innovations being introduced into practice. Taking into account this situation, it will be necessary to make appropriate decisions in the management of the enterprise, correctly assessing the level of risk of innovative processes.

In the economic literature, indicators of innovative activity are widely used when assessing the level of innovative activity of an enterprise and the state of its competitiveness. In the management of the enterprise, it will be possible to divide the indicators of the effectiveness of innovative activities into the following four groups:

- first, the costs of the enterprise aimed at innovative activities-in this case, an assessment of the level of fan capacitance of the product is achieved. When evaluating this indicator, the proportion of the costs of the enterprise for scientific research experimental and design developments (ITTKI) in relation to the volume of income from the sale of products is taken into account. For example, the ITTKI costs of an enterprise such as the development of innovative developments, the introduction of know-how, their development, design, licensing of new developments, patentability are considered;
- second, these are indicators that characterize the trends inherent in the innovative activities of the enterprise – dynamic characteristics of the innovative activities of the enterprise are evaluated. This uses the time spent developing new technologies or mastering them, seeing the readiness to produce a new product, as well as indicators that characterize the cyclical viability of the production of a new product;
- third, updating indicators of the enterprise management, including its activities. In the description of this indicator, the following are used: the number of innovations included in the management and activities of the enterprise, the number of innovations mastered and transmitted, the dynamics of the renewal of the portfolio of products produced by the enterprise, the volume of innovative products (goods and services) produced, the share of innovative products in the volume of exports;
- fourth, the structural indicators of the enterprise in terms of innovative activities, among which the following can be included: the number of departments engaged in scientific and technical activities in the organizational structure of the enterprise and their composition; the number of partner enterprises and organizations in the production of new technologies or products; the number and composition of hired workers engaged in ITTKI at the enterprise; the number.

It is relatively easy to assess the indicators of the economic and scientific and technical effectiveness of the innovative management of the enterprise at the expense of material importance, based on changes in the resource supply and consequential indicators of the introduction of an innovative project into practice. Also, the assessment of the indicator of the social and environmental effectiveness of the innovative management of the enterprise is somewhat complex, and due to the fact that these indicators are of intangible importance, they are assessed by changes in quality indicators. In particular, when social efficiency is represented by an increase in the wages of employees, the number of jobs, indicators of environmental efficiency are manifested by a decrease in the volume of waste output in production, a decrease in the negative impact of the enterprise's production process on the environment (Table 1).

Table 1 Grouping of indicators of the effectiveness of Enterprise Innovation Management¹

Achievable efficiency type	Indicators that characterize efficiency
Economic	Innovatsion loyihani jogiu etish assida koghop daromadi hamipin ortishi
	Improvement of the indicator of competitiveness of the enterprise and the product produced by it
	Irtysh of the volume of Return of production factors at the enterprise
Scientific and technical	When personlining ilmiy-intellektualslochiyatining ortishi
	Increased experience of the enterprise and its referral employees in the implementation of innovative projects
	An increase in the indicator of the effectiveness of the organization of production processes at the enterprise
Social	The increase in the work of hired employees is due to the improvement of labor conditions at the enterprise
	Increase in the number of additional new jobs at the enterprise and their stability
	Improving the skills of employees of the enterprise, including training them, improving their professional skills, etc.k.
Ecological	Reduced waste volume in product production
	Decrease in the volume of release of various toxic substances and gases harmful to the environment during the production process
	Environmental purity of manufactured products (goods and services)

In international research on the effectiveness of enterprise innovation management, methods are widely used to assess the degree of differentiation (differentiation) of the object of assessment, the type of efficiency achieved, the time factor consumption and the level of risk. Through the simultaneous mixed use of these methods in the process of evaluating the practice of innovative management of an enterprise, a comprehensive assessment of its effectiveness is achieved.

Methodology

When evaluating the effectiveness of Enterprise Innovation Management, most managers rely solely on a comparative comparison of quantitative indicators. This methodology for assessing the effectiveness of innovation management is based on a comparative comparison of the ratio between the levels of profitability and profitability of innovative projects being introduced into the practice of the enterprise. The following methods of assessing the effectiveness of innovative management of an enterprise on the basis of quantitative indicators have been formed in the economic literature:²

- absolute method. In this case, the level of its profitability is assessed from the point of view of investing in the implementation of an innovative project at the enterprise. That is, it focuses on the volume of income that an investor can receive for financing an innovative project;
- method of comparative analysis. In this case, the financing is based on a comparative analysis of the level of profitability of the planned innovative project with its other alternatives. According to the results of the analysis, it will be possible to introduce an innovative project that is assessed as the most profitable into the practice of the enterprise;
- mixed method. Provides for the simultaneous implementation of both evaluation methodologies presented in quyuori.

¹ Завлин П.Н., Васильев А.В. Оценка эффективности инноваций. – СПб.: Изд-во «Дом Бизнес-пресса», 1998. – 216 с.; Фатхуддинов Р.А. Инновационный менеджмент. – СПб.: Питер, 2013. – 448 с. ma'lumotlari asosida tuzilgan

² Кузнецова Е.Ю. Иода Е.В. Оценка эффективности инновационной деятельности // Социально-экономические явления и процессы. Т. 11, №4, 2016. С. 50-54.

Results and Discussion

Summarizing the various scientific and theoretical methods of assessing the effectiveness of the innovative management of the above-mentioned enterprise, it will be possible to conclude that the unified assessment practice, which is universally recognized today, has not been formed. The findings of this study confirm that evaluating the efficiency of enterprise innovation management is a complex, multidimensional process that involves economic, scientific-technical, social, and environmental indicators. Through a detailed analysis of various methodologies, it was established that no universally accepted model for assessing the effectiveness of innovation management exists. Different enterprises apply distinct evaluation methodologies depending on industry specifics, investment structure, and risk assessment models. This variation highlights the necessity for a unified scientific and methodological framework that can comprehensively assess the efficiency of enterprise innovation management, considering long-term strategic objectives. One of the key findings of this study is that innovation management efficiency is significantly influenced by risk levels associated with implementing new technologies and business models. The correlation between investment in research and development (R&D) and long-term enterprise competitiveness was evident in the case analyses. However, short-term financial indicators often fail to capture the true impact of innovation due to the delayed return on investment (ROI) cycle. This study suggests that incorporating a risk-adjusted performance assessment model can provide a more accurate picture of innovation-driven value creation.

Despite the progress made in developing performance indicators for enterprise innovation management, there remain several knowledge gaps that hinder a holistic understanding of its long-term impact. Most existing evaluation models focus predominantly on quantitative financial indicators, overlooking qualitative factors such as organizational adaptability, employee engagement in innovation processes, and knowledge diffusion across enterprise networks. These aspects are particularly relevant for industries undergoing rapid technological transformation, where intangible assets such as intellectual capital and collaborative networks contribute significantly to innovation success. Future research should integrate qualitative metrics into performance evaluation models to develop a more comprehensive framework.

Another key area requiring further research is the differentiation between static and dynamic efficiency in innovation management. While traditional assessment methods focus on historical performance and cost-effectiveness, a forward-looking approach must incorporate predictive analytics and machine learning models to evaluate future innovation potential. The use of big data analytics, artificial intelligence, and digital twin technology could revolutionize innovation performance assessment by providing real-time insights into market adaptation capabilities and potential innovation bottlenecks. From a practical perspective, industrial enterprises can benefit from implementing a hybrid assessment approach that combines quantitative economic indicators with qualitative strategic performance evaluations. Such an approach should integrate investment efficiency, innovation adoption rates, employee engagement in R&D, and environmental impact metrics. Moreover, given the increasing role of sustainability-driven innovation, enterprises should align their innovation efficiency models with environmental, social, and governance (ESG) criteria to ensure compliance with international standards and enhance their competitive positioning in global markets.

Implications for Policy and Enterprise Management

The findings of this study suggest several policy and managerial implications. Policymakers should develop standardized innovation performance assessment frameworks that can be adapted across industries. Governments and financial institutions can enhance funding mechanisms for innovative enterprises by introducing risk-mitigating financial instruments, such as innovation grants, tax incentives, and venture capital schemes. For enterprise managers, a structured approach to innovation efficiency assessment can improve strategic decision-making processes by aligning innovation objectives with long-term enterprise goals. Additionally, enterprises should leverage digital transformation to streamline innovation management processes through automation, advanced analytics, and AI-driven decision support systems.

Conclusion

This study reinforces the importance of a multidimensional approach to evaluating enterprise innovation management. By bridging theoretical gaps and integrating practical assessment models, enterprises can enhance their innovation strategies, optimize investment efficiency, and drive long-term competitive advantage. Future research should focus on developing real-time performance tracking systems, incorporating predictive analytics, and expanding the role of digital tools in innovation management efficiency assessment.

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