

STRATEGIC MANAGEMENT OF INNOVATIVE DEVELOPMENT OF AN INDUSTRIAL ENTERPRISE

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Abstract. The subject of the research is the conceptual, theoretical, and applied foundations of strategic management of innovative development in industrial enterprises. The article considers innovation as a key factor in shaping competitive advantages, as well as a source of new opportunities and risks that require strategic management. It is proven that the innovative development of industrial enterprises under current conditions of global turbulence, digitalization, and the post-war recovery of Ukraine's economy is not only a factor of efficiency but also an important element in ensuring the state's economic resilience. *Methodology.* The study applies a set of general scientific methods: analysis and synthesis to reveal the essence of innovation processes; induction and deduction to identify patterns in strategic management; and the monographic method to systematize scientific approaches. To assess the specifics of Ukrainian enterprises in the context of economic challenges, the case study method was used, which made it possible to highlight the peculiarities of implementing innovative strategies in the industrial sector. *Purpose of the article* is to substantiate theoretical and practical approaches to the formation of a mechanism for strategic management of innovative development in industrial enterprises. *Results.* The study shows that the mechanism of strategic management of innovative development includes interrelated blocks: analysis of internal and external environments, planning of innovation strategy, organization of processes, personnel motivation, regulation, and control. The proposed theoretical model confirms that the effectiveness of management depends on the comprehensive interaction of these elements. It is established that external innovation ecosystems – cooperation with research institutions, government bodies, suppliers, and international partners – play a key role in shaping competitive advantages. At the same time, the internal resources of an enterprise – human capital, organizational culture, financial stability, and digital technologies – determine the speed and effectiveness of innovation implementation. Special emphasis is placed on Ukrainian realities: high energy intensity of production, limited access to finance, technological gaps with leading countries, and the need for post-war industrial recovery. Under these conditions, strategic innovation management acquires dual significance – as a factor of enterprise competitiveness and as an instrument of national economic recovery. The article proves that the mechanism of strategic management of innovative development in an industrial enterprise is a complex system combining organizational, economic, technological, and social elements. Its effectiveness depends on the consistency of internal and external factors, as well as on the ability of enterprise management to adapt to global challenges. The proposed recommendations regarding the formation of an internal innovation culture, diversification of financing sources, development of partnership networks, and improvement of state policy can serve as a foundation for building a sustainable innovation-based development model.

Keywords: strategic management, innovative development, enterprise, innovation, innovative development model.

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1. Introduction

Modern business conditions are characterized by a high level of dynamism, globalization challenges, and growing uncertainty of the external environment. For industrial enterprises, which form the foundation of the country's economic potential, the key factor of long-term success is the ability to continuously renew and adapt. Under these circumstances, innovative development acquires strategic importance, as it ensures product competitiveness, the resilience of business models, and the capacity of enterprises to integrate into global value chains.

The scientific literature contains a significant body of work on strategic management and innovation activities; however, the integration of these two areas remains a pressing issue. On the one hand, strategic management provides the basis for defining long-term development priorities; on the other, innovation generates the flexibility and adaptability needed to implement strategies in a changing environment. Thus, it is the synergy between strategic management and innovative development that opens new opportunities for industrial enterprises. Innovation theory emphasizes that innovations represent a recombination of production factors, and this recombination is a process of creative destruction (Schumpeter, 1942), which not only fosters technological progress and productivity growth (Schilling, 2017) but also compels enterprises to continuously adjust their strategies to new market demands and competitive conditions.

Overall, the concept of "innovative development" is widely applied at the macro-, meso-, and micro-levels, as well as within the global economy and the processes occurring within it. This concept is often also analyzed in relation to specific types of economic activity (Hutorov et al., 2018).

Innovation is viewed not only as the introduction of new technologies or products but also as comprehensive changes in production processes, organizational culture, management systems, and market interactions. From this perspective, the innovative development of an enterprise is a multidimensional process that integrates technical, economic, and social aspects. However, the effective use of innovation potential requires purposeful strategic management that aligns innovation initiatives with the long-term goals of the enterprise, optimizes resources, and reduces risks.

In Ukrainian realities, this problem is exacerbated by a number of additional factors: structural deformations of the economy, the need for post-war restoration of production capacities, high energy intensity of production, limited access to financial resources and significant technological gaps with leading countries of the world. In such conditions,

strategic management of innovative development at all levels of economic activity has not only economic, but also social and political significance, since it directly affects the country's ability to restore its industrial potential, provide employment and form export potential.

Thus, the study of strategic management of innovative development of an industrial enterprise acquires particular relevance in the conditions of a transformational economy. It allows combining the goals of efficiency and sustainability, ensuring a balance between short-term survival tasks and long-term development guidelines.

The purpose of our research is to substantiate the theoretical foundations and practical approaches to the strategic management of innovative development of industrial enterprises. To solve this, the following research questions were posed:

- To substantiate the theoretical concept of strategic management of innovative development of an enterprise;
- to form a model of the mechanism for managing innovative development of enterprises.

2. Strategic Management of Innovative Development of an Enterprise: Theoretical Concept

Innovation is a justified decision that is new in relation to the daily activities of the enterprise, is based on scientific and technical achievements in a certain field of introduction, the implementation of innovative activity should lead to changes in all or many areas of the enterprise through the creation (if necessary), development and use of an innovative product. Innovations affect services or technologies to achieve the maximum possible economic, social, environmental or other effect that is needed.

The evolutionary approach to understanding the essence of innovative development involves the gradual accumulation of knowledge, skills and competencies that form the basis for continuous improvement of production and management processes. In this context, it is quite logical to define the innovative potential of an enterprise as the ability to "apply collective knowledge, skills and resources for innovative activities related to new products, processes, services or management, marketing or labor organization systems, in order to create added value for the enterprise and stakeholders" (Calik et al., 2017).

Also, a significant number of works that investigate the problems of strategic management of innovative development of enterprises provide empirical data on the innovativeness of enterprises and the life cycle of companies (Churchill & Lewis, 1983; Kiriri, 2004; Lopes et al., 2016; Hilmersson & Hilmersson, 2020).

This interpretation emphasizes the multi-dimensionality of innovative potential: it encompasses not only technical or technological resources, but also organizational and managerial, marketing, personnel and information components (Drucker, 1985). In today's global competition, it is the comprehensive use of these elements that creates strategic prerequisites for the long-term development of an industrial enterprise.

Innovative potential is an integral indicator that determines not only the ability of an enterprise to generate new ideas, but also the ability to implement them in practice, turning innovations into real economic results.

Innovation is a complex multi-level process that covers the production, technological and management spheres of the enterprise. The implementation of innovation projects requires significant investments in capital and human resources, and is also accompanied by an increased level of risk. Each stage of innovation activity has a potential threat of failure, which significantly inhibits the development of the innovation environment and limits the competitiveness of enterprises. According to the concepts of the theory of innovation, the key factor in their success is the integration of resources: along with the mobilization of internal potential, the enterprise must attract external knowledge, technologies and partner competencies.

In modern conditions, an important role in this process is played by the intellectualization of business, which is manifested in the use of artificial intelligence, big data and other digital solutions to transform basic operational processes. These technologies are becoming the leading drivers of innovation and create new opportunities for the development of high-tech enterprises.

It should be emphasized that the innovative potential is formed at the junction of internal and external factors. Internal factors include professional training of personnel, organizational culture, financial capacity, development of research and development departments, and the effectiveness of management decisions. External factors include institutional conditions, state innovation policy, the state of the national and regional innovation system, as well as integration into international markets (Nelson & Winter, 1982; Freeman, 1995). Coordination and rational use of these factors within the framework of strategic management allows transforming potential into a sustainable competitive advantage.

On the other hand, the broad opportunities opened up by intelligent technologies can be used as a powerful tool for accelerating research and development work. Powerful machine learning algorithms and big data analytics allow you to quickly process large amounts of information, identify hidden patterns, predict market needs and consumer

behavior. This allows you to reduce the level of uncertainty and risks of innovative decisions, while providing managers with high-quality support for decision-making processes.

The integration of algorithms and analytical systems into the structure of innovation activity contributes to accelerated prototyping, flexible iteration and rapid optimization of projects. This allows to significantly reduce the time and financial costs of research and development, shorten the product launch cycle and intensify innovation processes at the enterprise.

Therefore, in the strategic management system, innovation potential should be considered as a key resource that requires targeted planning, development and rational use. This involves the development of long-term programs to support innovation activity, investing in human capital, stimulating entrepreneurial initiatives within the organization and creating conditions for effective commercialization of ideas. At the same time, strategic management decisions should take into account not only the current needs of the enterprise, but also focus on future technological trends, changes in the market situation and global challenges.

3. Mechanism of Strategic Management of Innovative Development of an Industrial Enterprise

At the same time, in today's conditions of rapid technological change and fierce global competition, it is innovative development that is becoming one of the key sources of competitiveness of industrial enterprises. Researchers emphasize the importance of integrating innovation strategy into the overall business strategy (López & Oliver, 2023). They proved that business strategy requires innovation, and business innovation requires its own strategy, although at the same time only 12.5% of respondents said that they have an innovation director in the board committee. But in the modern economic environment, the inclusion of innovation strategy in business strategy is critically important for successful competition. This is also confirmed by studies (Agazu & Kero, 2024), which empirically investigated the innovation strategy and competitiveness of firms from different perspectives, and confirmed that the innovation strategy has a positive impact on the competitiveness of firms. In addition, a significant role in the mechanisms of strategic management of innovation development is played by external components of the innovation environment – ecosystems, cooperation with scientific institutions, government agencies, suppliers, etc. (Stroiko, 2023). Researchers (Visscher et al, 2021) conceptually constructed and empirically substantiated a multi-level model of the innovation ecosystem and identified the strategies that

companies use to act at different levels of the ecosystem.

Also, the study of the mechanisms of strategic management of innovative development of industrial enterprises should also focus on internal mechanisms: analysis, planning, implementation and control of innovations. According to research (Makedon, 2019), it is determined that the structure of the mechanism includes the following blocks: analysis (internal and external environment, strengths and weaknesses, opportunities and threats), planning (determination of innovation priorities, development of strategy), implementation (allocation of resources, organizational changes, support for a culture of innovation) and control (assessment of results, correction of the strategy in the face of changes).

In our opinion, the actions of the mechanism of strategic management of innovative development consist in the fact that in the process of management, the system (subject of management), which manages, based on objectively existing principles, influences the managed system (object of management – innovative activity) by various methods in order to ensure the fulfillment of the set goal.

Based on the analysis of the main management functions, we proposed a theoretical model of the mechanism of strategic management of innovative development of enterprises, which is presented in Fig. 1.

The organizational and economic mechanism of strategic management of innovative development is understood as an interdependent set of basic elements in the form of components of organizational and economic action. The organizational component of the mechanism of management of innovative development is a set of methods and levers for optimizing the conditions and processes of organizing the introduction of innovations at the enterprise.

The next element of the organizational and economic mechanism of management of innovative development

of the enterprise is a component related to the economic aspects of the implementation of the management mechanism. It is a set of methods and levers that provide economic conditions for implementing innovative activities and assessing the economic efficiency of the innovative transformations being carried out.

The specified components of the organizational and economic mechanism of management of innovative development, performing certain functions, overlap and complement each other, thereby forming a complex organizational and economic mechanism of strategic management of innovative development. At the same time, in the process of interaction of the components of this mechanism, the efficiency of the system's functioning is not equal to the sum of the efficiencies of the functioning of its components.

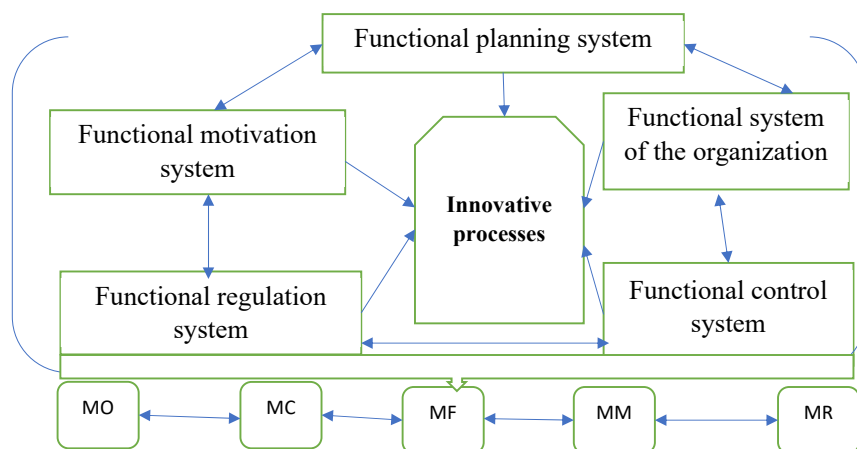
The model of expansion (diffusion) of innovations at the micro level directly depends on the creation by the state of economic, organizational, legal and social conditions, through a comprehensive financial and credit, tax, patent, depreciation and other policies that stimulate both the creation and implementation and rapid dissemination of innovations.

The second model of the diffusion of innovations characterizes the intra-organizational path of innovations in a separate enterprise or organization.

In order to effectively concentrate scientific and technical potential for the implementation of priority problems that require significant investment, scientific and technical programs are being developed. The purpose of developing these programs is to comprehensively solve industry, inter-industry, regional and state problems in the field of scientific and technical development.

The creation and implementation of innovative projects includes the following stages:

- Selection and preliminary justification of an innovative concept (idea);
- research and development work;



where MO – management objectives; MC – management criteria; MF – management factors; MM – management methods; MR – management resources

Figure 1. Model of the mechanism for managing the innovative development of enterprises

- feasibility study of the project;
- preparation of research and design documentation;
- preparation and development of production;
- study of investment opportunities;
- operation of the facility and organization of product production.

Let's consider each stage in detail.

The formation of an innovative idea involves:

- Preliminary justification of the concept or scientific idea;
- innovative, patent, environmental analysis of a technical or scientific solution;
- verification of the need to fulfill certification requirements;
- preliminary coordination of the innovative concept with state authorities.

The feasibility study of the project includes:

- Conducting a full-scale marketing study (demand, supply, prices, identification of main competitors, etc.);
- preparation of a production program for the useful life of the innovation project;
- provision of permitting documentation for the implementation of the innovation project;
- development of technical solutions, in particular: a general plan of technological solutions (analysis of the state of technology, equipment composition, loading of existing production capacities, proposals for modernization of production, purchase of foreign technologies, expansion of production), a plan for organizing the production process, determining the composition of raw materials, materials, fuel and energy resources used, component products;
- Development of engineering support;
- development of measures for environmental protection;
- description of the enterprise management system, organization of labor of workers and employees;
- development of budget and financial documentation, in particular, calculation of production costs, capital investments, sales revenue and profit, size and composition of working capital, planning of project financing sources, calculation of the need for foreign currency, selection of a specific investor and execution of an agreement with an investor;
- assessment of risks associated with the implementation of the project;
- determination of the timing of the implementation of the innovative project.

The prepared feasibility study of the innovation project must undergo non-departmental, environmental and other types of expertise.

The preparation of contract documentation involves:

- Preparation of tenders and, based on their results, contract documentation;
- bringing negotiations with potential investors;
- tenders for further design of the facility and development of working documentation.

When developing innovation projects, the following forms of investment can be used as planned financing:

- Cash and their equivalents (target contributions, working capital, shares and stakes in the authorized capital, securities);
- buildings, structures, machinery, equipment, measuring and testing equipment, equipment, tools, any other property that is used in production or has liquidity;
- property rights, which are usually valued in monetary equivalents (production secrets, licenses for the transfer of industrial property rights, patents for inventions, designs, trademarks and brand names, certificates for products and technology, land use rights, etc.).

The latter include intellectual investments – these are investments in scientific research and development scientific developments, licenses, know-how, etc.

All forms of investment in an innovative project can be attributed to real investments, which are investments in the production of any products, the provision of any services, investments in fixed or working capital. Real investments consist of two parts.

The first part is investments in fixed capital, i.e. new construction, expansion, reconstruction and technical re-equipment of the enterprise, the acquisition of newly produced capital goods, such as production equipment, personal computers, production buildings designed using new technology, etc.

The second part is investment in inventories, which are the accumulation of stocks of raw materials, the basis for use in the production process, or unsold goods. Commercial inventories are considered an integral part of the total value of capital stocks in the economic system. They are necessary, like capital, in the form of equipment and buildings for production purposes.

Thus, starting from the level of enterprises, a new paradigm of growth is being formed on a general scale based on the use of knowledge and innovation as the most significant economic resources.

4. Conclusion

Summing up the research, it should be noted that the innovative development of industrial enterprises cannot be a random or fragmented process. Its effectiveness is determined by the ability of management to integrate the innovation strategy into the overall business strategy. The strategic management mechanism should include the interrelated functions of planning, organization, motivation, regulation and control, which in the complex form a single system. This confirms the thesis that the effectiveness of the mechanism significantly exceeds the sum of the effectiveness of its individual elements.

An enterprise is unable to function in isolation from global economic processes. Research by modern

scientists (López & Oliver, 2023; Visscher et al., 2021) proves that it is innovation ecosystems that are the basis for the formation of competitive advantages in industrial companies. They provide access to external knowledge, financial resources, technologies and partner networks.

For the Ukrainian economy, which is in the phase of structural transformations and will enter the phase of post-war recovery in the future, the development of innovation infrastructure and strengthening cooperation between business, science and the state are key prerequisites for integration into global value chains.

The effectiveness of innovation activity largely depends on the internal potential of the enterprise: professional training of personnel, organizational culture, financial stability, and a developed R&D system. At the same time, in modern conditions, the use of digital technologies – artificial intelligence, big data, digital platforms – is becoming crucial. Their application allows accelerating innovation processes, reducing risks, reducing research and development costs, and reducing the duration of the life cycle of bringing new products to the market.

The results of the study made it possible to offer a number of practical recommendations, including:

- The need to develop long-term programs to support innovation activity at the enterprise level;
- investing in the development of human capital and the formation of an internal culture of innovation;

- stimulating entrepreneurial initiatives within the organization;
- diversifying sources of financing for innovation projects;
- expansion of partner networks and integration into international research and production alliances;
- improvement of state innovation policy through tax, credit and legal incentives.

The proposed mechanism of strategic management of innovative development creates the prerequisites for the transition from an extensive production model to an intensive growth model based on knowledge, creativity and technology. Its successful implementation will allow industrial enterprises to ensure sustainable competitive advantages, and at the macro level will contribute to the modernization of the industrial sector, employment growth, strengthening export potential and improving the country's position in the global knowledge economy.

The mechanism of strategic management of innovative development of an industrial enterprise is the fundamental basis for its long-term success. Its multidimensional structure combines organizational, economic, technological and social elements, and the effectiveness of implementation depends on the consistency of internal and external factors. In the future, such a mechanism will become not only a tool for the competitiveness of individual enterprises, but also a driver for the recovery and sustainable development of the Ukrainian economy.

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