IMPROVEMENT OF THE MANAGEMENT MECHANISM OF THE STRATEGY OF INNOVATIVE ACTIVITIES OF ENTERPRISES

ABSTRACT

The article is concerned with the interpretation of the essence of the innovation strategy concept given the impact of environmental factors in order to meet the interests of all parties concerned, with the author's definition of this concept suggested. The author's typology of innovation strategies, which are characterized by their advantages and disadvantages for the industrial enterprise, is provided. The main elements of different types of innovation strategies are analyzed and characterized. The relation between the classification features and essential characteristics of different types of innovation strategies is established. On the basis of a comprehensive approach to the formation of an innovative activity strategy, the mechanism of managing the innovative activity strategy has been improved with allowances made for the factors of the external and internal environment, as well as the interconnected stages of its implementation. According to the results of the research on the state of innovative activity of industrial enterprises and forecasting of its results, the necessity of using tools to increase the efficiency of the strategy of innovative activity, namely the mechanism of managing the strategy of innovative activity, which will allow to resume the innovative development of enterprises, will contribute to the improvement of financial indicators.

Keywords: strategy, characteristics, types, innovative activity, innovative activity strategy, innovative activity strategy management mechanism, enterprises

JEL Classification: D39, M29

INTRODUCTION

Currently, the activities of industrial enterprises are characterized by deterioration of their financial performance, decrease in the level of competitiveness, loss of dominant positions in both domestic and foreign markets, a low level of protection from the threats of the market environment, lack of an adequate level of economic security, which is manifested in all activity areas. The main reason for this is the instability of the economic and political situation in Ukraine, escalation of the military conflict, a low level of public welfare, increase in the tax burden, lack of additional sources of financing enterprises’ activities and, respectively, a slow pace of technical inventions implementation and a lack of support from investors. Actually, these factors are hindering the development of investment and innovation activities of enterprises, which affects the mechanism of building and running a business. We cannot but mention that the level of enterprises’ innovation activity development is mostly affected by the following factors: a low level of state financing of the innovation area; inefficient loan schemes of both state-owned and commercial banks; absence of effective programs of innovation activity promotion; outdated science and technology base; slow renewal of obsolete equipment; lack of investment in the development of innovation activities. Simultaneously, the majority of enterprises are power-consuming, raw material intensive and unprofitable, which affects the quality of products, demand and level of their competitiveness in the foreign market and explains the inability of domestic enterprises to compete at the proper level.

In this context, the only premise for recovering from recession for these enterprises is choosing an innovative development path and applying a strategy of innovation activity, which should be promoted with the support of public authorities as well as domestic...
and foreign investors. Simultaneously, the success of enterprises’ innovation activity depends on the chosen development strategy, as it determines the mechanism of doing business and is a kind of business model for the functioning of all activity areas aimed to achieve the desired effect, that is, profit, to increase the level of competition by introducing innovations at all stages of production. Not only will the innovation strategy allow for attracting investment in the development of innovation technologies and research, but it will also ensure their rational use and implementation of the obtained developments in the activities of the enterprise and enable responding in a timely manner to the changes in the environmental factors, existing threats and risks, which will only promote the introduction of competitive technologies and ensure gaining leadership in the market. Along with this, a prerequisite for the effectiveness of using the strategy of innovative activity at industrial enterprises is the introduction of appropriate tools, namely the mechanism of managing the strategy of innovative activity. This mechanism will make it possible to establish the process of using the strategy of managing innovative activities, to successfully organize the implementation of the chosen strategy, and to achieve an innovative and economic effect.

**LITERATURE REVIEW**

The nature, importance, types, characteristic features of innovation strategies are profoundly examined in the works by I. A. Blank [4], M.P. Voynarenko [35], D.V. Krylov [35], A.V. Cherep [6, 35, 41], O.G. Cherep [6, 35], O.I. Gonchar [35], L. Batsonenko, R. Haleninen, O. Komarov [2], A. Bezus, M. Shuyok [3], K. Bugera [5], O. Dziuba, O. Shevchenko [8], I. Ispolitova [11], S. Nevmerzhitska, Y. Levchuk [23], O. Nyzhnyk [25], O. Petryk, O. Patsarniuk [26], V. V. Prokhorova, E.V. Bozhanova [27], Yu. Voloshchuk, O. Ivanushyn, S. Bohachyk [34], N.E. Teroshkina [32], K.M. Khustova [14, 15], Z.V. Yurynets [37, 38], V. Gerasymova, A. Gorbunova, I. Shcheblykina [41]. However, there is no consensus among scholars on the definition of innovation strategy.

Tulpa I.A. considers innovation strategy as a company’s capability of manufacturing new products, improving product quality, and boosting consumer demand by gaining leadership in the technology market [32, p. 137]. Under these conditions, the introduction of an innovation strategy will allow the company to use modern scientific achievements, apply new developments in the manufacturing process and respond to changes in the technological environment given the enterprise’s financial capacity. Thus, in the context of this definition, the author focuses on the technological aspect of the enterprise, the process of goods manufacturing and promotion but does not take into account the interaction of all activity areas.

An interesting approach to the interpretation of the essence of the investment strategy concept was suggested by K.M. Khustova [15, p. 184]. The author interpreted investment strategy as a means of increasing a company’s prosperity and entering new markets provided the investment policies are reviewed and variability of environmental factors are considered, and also as a tool for achieving the goals set. We believe that the author mostly focused on the financial aspect of the enterprise which is saving resources, making profits, increasing competition as well as on the introduction of new technologies, but did not identify the relation between the innovation strategy and the major strategy of the enterprise and determine the need to assess the threats of the market environment.

We cannot but mention another standpoint of interest held by I. A. Blank, who asserted that the innovation strategy is an activity aimed at achieving goals through the execution of complex actions in order to improve product quality and production efficiency [4]. Thus, the author considers the production component and does not take into account the emergence of threats and the impact of risks on the process of the enterprise’s innovation activity.

According to the interpretation given by T.V. Maiorova, innovation activities are to be understood as a totality of actions for the development of innovative technologies and their implementation into production with the aim of manufacturing high-quality and competitive products which meet the needs of consumers [19, p. 137]. A similar point of view was held by M.P. Denysenko and Ya.V. Ryzhenko [7, p. 12], who stated that the grounds for innovation are the development of innovative technologies, introduction of research at the enterprise, manufacture of products with new properties and organization of the technological progress [32, p. 137]. Thus, the authors take into account the technological orientation of the enterprise, and the desire to attract innovations but do not determine a degree of interaction between the enterprise and the state, the mechanism of research work organization and the need to attract investment.

The law of Ukraine “On innovation activity” (2002) says that manufacturing of new products, increase in goods competitiveness and rise in consumer demand are only possible on condition of adopting the scientific developments, which are provided by the development of innovation activities. Therefore, the approaches to the interpretation of the concept of “innovation” lack the consistency of definition [39].
A detailed analysis of the concept of "innovation strategy" was carried out by Z.V. Yurynets [37, p. 36], who considered it as a way to introduce innovations and improve the functioning of all areas by updating technologies as well as a tool for achieving the goals with the aim of promoting economic development. However, like other approaches, the author does not consider the degree of risk, environmental factors, variability of the situation in the technology market, or investment potential of the enterprise in the interpretation of the concept of investment strategy.

N.E. Teroshkina is of the opinion that the innovation strategy should cover the following aspects: reduction of the level of risk impact on innovation; introduction of scientific and technological developments; long-term planning of activities; improvement of the enterprise's functioning effectiveness; achievement of the strategic development goals; increase in the level of competition [32, р.125].

In another research, the author also asserted that the main strategy for the economic development not only of the enterprise but also of the state is innovation strategy, as it defines the objectives of the enterprise and the state, ways to achieve the goals, peculiarities of economic development, roles of employees and other participants in innovation development. In this research, the interaction between the enterprise's innovation strategy, state activities and the process of planning at the local level is analyzed. The drawback of the study is that the author mostly considers the innovation strategy at the state level and to a lesser extent analyzes it at the level of enterprises [34, p.155].

Among the factors affecting the innovation strategy were: the mechanism of innovation management; development and implementation of new ideas; control over innovation development; variability of the external market needs; possibility of introducing technological developments at the enterprise; use of motivational incentives. It should be noted that the study neither covers the role of investment activity in the development of innovation activities nor determines the long-term nature of the strategy and prospects for the development of the enterprise's innovation area.

A detailed analysis of approaches to the interpretation of the innovation strategy concept was made by O.M. Semenyuk [29, pp.375-377], who stated that the strategy is a plan for the development of the enterprise aimed at considering the external and internal environment, improving competitiveness, establishing the operation through the introduction of innovation technologies, as well it allows achieving the objectives.

AIMS AND OBJECTIVES

The purpose of the article is to improve the theoretical and methodological approach to the formation of the management mechanism of the strategy of the innovative activity of the industrial enterprise, taking into account the threats of the internal and external environment.

To achieve the set goal, we solved a number of tasks, namely: clarify the interpretation of the essence of the concept of innovation strategy, taking into account the influence of external environmental factors; to investigate the classification features of the strategy of innovative activity; to form a typology of innovative strategies; to analyze the main elements of different types of innovative strategies; to improve the management mechanism of the strategy of innovative activity taking into account the factors of the external and internal environment; to investigate and forecast the state of innovative activity of industrial enterprises.

METHODS

In the process of conducting scientific research, general scientific, special and applied methods were used, including dialectical cognition, deduction and induction – to study the genesis of the interpretation of the concept of "innovation strategy" and detail the classification of innovation strategies; morphological analysis, generalization and scientific abstraction – to clarify the essence of the definition of "innovation strategy"; abstract-logical and systematic approach – to improve the management mechanism of the strategy of innovative activity taking into account the factors of the external and internal environment; system analysis, formalization of complex structures, statistical methods – for research and forecasting of the state of innovative activity of industrial enterprises.

RESULTS

In the approaches analyzed, we examined the existing variations of the innovation strategy concept and concluded that all of them have certain drawbacks and do not fully cover the issue under study. Thus, despite a variety of approaches to the interpretation of the essence of the concepts of "innovation strategy" and "innovation activity", there is no single
approach to the definition of this concept; the effect of threats to the market environment, complex nature of the strategy, investment component and long-term nature of the strategy development have not been studied in full, and, therefore, we suggest our own vision of the definition of “the strategy of the enterprise’s innovation activity”.

Therefore, the strategy of the enterprise’s innovation activity is a set of interrelated actions to introduce innovations, attract investment resources, and promote economic growth, which are aimed at choosing an effective strategy of activity, ensuring the smooth operation of the enterprise, levelling the threats of the market environment, introducing innovative technologies. It is an instrument of innovative economic development, which takes into account the peculiarities of the enterprise’s functioning and aims to balance the effect of the market for innovation and investment, the interaction of all processes at the enterprise and to put it to a qualitatively new level of development.

In the given interpretation of the concept, we differentiated the strategy of the enterprise’s innovation activity from the concepts of “innovation strategy”, “innovative development”, “innovation activity” and “innovation potential”. In contrast to the existing definitions, we considered the aspect of the industrial enterprise’s activities, included in our interpretation all areas of the enterprise and peculiarities of its economic, investment and innovative development in the long term, took into account the need to attract investment, without which it is not possible to implement the strategy of innovation activities.

The strategy of innovation activity as a process which is understood as a complex of actions, the implementation of which will improve the organization of all areas of the enterprise’s activity, allows us to assess the impact of factors of the external and internal environment, monitor the development of the technology market, finance the introduction of new technologies in the unstable market environment. Among the conditions of implementation of the innovation strategy, there are the following ones: availability of investment resources; level of innovation development; strategy management mechanism; innovation, development, technology; actions of the company’s management; financial opportunities; production potential; tax pressure; credit rates in banking institutions; programs for the development of innovation activities; support from the state.

As far as the long-term plan is concerned, it is the process of planning and supervision of innovation activities, a possibility of adjusting the tasks in accordance with the needs of the market for innovation and investment, which ensures minimization of financial risks, a new level of economic development of industrial enterprises. The strategy of the enterprise’s innovation activity is subordinated to the overall strategy of the enterprise and at the same time controls the management decision-making with regard to the financing of scientific research, the introduction of technological developments and the achievement of long-term goals of the activity, contributes to the implementation of the overall strategy.

We consider it appropriate to take into account the peculiarities of the political, economic and social situation in the country, the variability of the needs of the domestic and foreign market, dynamics of innovation at the regional and state level, which opens up the following possibilities: integration of scientific and technological progress; minimization of the cost of using labour-intensive technologies; application of developed countries’ experience; increased need for highly qualified specialists; emergence of economic effect as a result of the advanced technologies use; development of a competitive innovation system; obtaining of a synergetic effect; reduction in the number of threats from the environment; improvement of the process of innovative activity organization, planning and monitoring at all stages of the enterprise’s functioning.

Based on the stated above, the main objectives of the innovation strategy of enterprises are increasing the level of economic development of the enterprise, improving its financial performance, manufacturing new products using resource-saving production, reducing emissions into the atmosphere, and raising the level of competitiveness in the foreign market. Achievement of the main objectives of the innovation strategy is enabled by observing the following principles: rational use of the scientific and technical potential of the enterprise; concentration of innovation activity participants’ efforts in one area; a high level of training and retraining of specialists in the field of introduction of innovations; a time parameter, that is the term necessary for achievement of strategic goals; adjustment of the strategy according to changeability of needs, development of innovations over time; minimization of expenses and use of human resources; security of resources for attraction of innovation; skills and knowledge, that is transfer of experience from developed countries; effective decision-making and use of the enterprise’s potential; application of the methods to eliminate possible risks; sufficiency of innovative development to enhance innovation; adequacy of the enterprise’s interaction with the state in order to achieve an overall development strategy.

It is not possible to further shape the innovation strategy without considering the approaches to its classification. In general, the synthesis of modern approaches to the classification of innovation strategy will provide a more thorough understanding of the essence, role, and need for the innovation strategy development, the possibility to identify a list of threats to the market environment, reveal the peculiarities of the enterprise’s functioning, the feasibility of innovative
development direction. Nowadays, there are many approaches of domestic and foreign scientists to the classification of innovation strategy, which have advantages and disadvantages and therefore we shall consider them in detail (Table 1).

Table 1. Typology of innovation strategies. (Source: summarized by the author based on [10, p. 113; 16, pp. 132-134; 17, pp. 48-50; 19, p. 235; 20, pp. 79-80; 24, pp. 205-206; 31, pp. 105-107; 33, pp. 40, pp. 69-70])

<table>
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<tr>
<th>Classification feature</th>
<th>Strategy type</th>
<th>Essence</th>
<th>Classification drawbacks</th>
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<tr>
<td>Based on the existence of the need for innovation</td>
<td>Offensive, imitative, combined, conventional, defensive, dependence</td>
<td>Aims at gaining leadership in the market, balancing the production process, aggravation of competition, copying the behaviour of leading enterprises</td>
<td>The potential impact of environmental risks on the development of innovation strategy was not assessed</td>
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<td>Based on the enterprise's objectives</td>
<td>Patient, violent, exaplent, commutant</td>
<td>The method of goal achievement, high-quality product manufacturing, introduction of innovative technologies, meeting the needs of a certain range of consumers</td>
<td>Branch characteristics of the enterprise and specific features of manufacturing different product ranges are not determined</td>
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<td>Based on the impact of the macro environment and behaviour pattern</td>
<td>Adaptive, defensive, offensive, passive, active</td>
<td>Development of the market, expansion of the range of products, overcoming the crisis, new competitors in the market, protection of goods manufactured, economic development</td>
<td>The impact of the internal environment, activities of the enterprise, and interaction with competitors are not considered</td>
</tr>
<tr>
<td>Based on the stage of the life cycle</td>
<td>Defensive, intermediary, offensive, acquisition</td>
<td>Improvement of activity at all stages of functioning, elimination of competitors, adjustment of economic security, essential changes in the organization of the production process</td>
<td>The aspects of innovation, volatility of the investment and technology market are not distinguished</td>
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<td>Based on the action level</td>
<td>Central, institutional</td>
<td>Setting strategic goals at the level of the state, regions, and enterprises, assessment of the ways to achieve the objectives and obtain economic effect</td>
<td>The impact of the threats to the investment market, the pace of technological progress, lack of qualified specialists is not determined</td>
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<td>Based on the business orientation</td>
<td>Corporate, business process strategies, business entity strategies</td>
<td>Possibility of economic development, manufacturing new products, diversification of the enterprise</td>
<td>Determination of the features of the enterprise's activity; its interaction with competitors and the external environment is not assessed</td>
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<td>Based on the realization level</td>
<td>Enterprise, branch, region, state</td>
<td>Not only does it contribute to the development of an enterprise, but also to the development of the country as a whole, improvement of the well-being of the people, achievement of strategic goals</td>
<td>Focus on achieving common goals; the experience of developed countries and limited resources are not taken into account</td>
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<tr>
<td>The expected effect of the use of innovation</td>
<td>Strategies of competitive advantages, cost reduction, social welfare, environmental security</td>
<td>Clarification of the enterprise's financial capabilities, achieving the goals set, maintaining the demand for products, improving the well-being of employees, improving ecological compatibility of products</td>
<td>The environmental variability, the possibility of making adjustments to the development of the strategy and the needs of the participants of the developed strategy are not taken into account</td>
</tr>
<tr>
<td>Consideration of the market attractiveness and enterprise's level of competition</td>
<td>Rise, deceleration, steadiness, reduction, decline</td>
<td>Determination of the level of products' competitiveness, quality of goods, and feasibility of promoting goods to the foreign market</td>
<td>The attention is not focused on the strategy goals, duration of its implementation, effect of market environment risks</td>
</tr>
<tr>
<td>Based on the level of risk effect</td>
<td>Diversification, enterprises, interaction of enterprises, internationalization</td>
<td>Assessment of the degree of risk effect on the enterprise's performance, determination of the methods to combat threats and ways to avoid them, use of innovation to minimize risk</td>
<td>The technological needs of the enterprise as well as the need to apply scientific and research developments in the manufacturing process are not taken into account</td>
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A rather interesting study was carried out by S. Radynskyi, who made a detailed analysis of the works by K. Kharuk, V.D. Dorofieiev, Dresvianikov, M. Dodgson, D. Hann, A. Salter and others. In particular, in his work K. Kharuk [13, pp. 423-424] analyzed the strategy types that can be implemented in commercial companies, and given the behavior of enterprises he distinguished conventional, defensive, imitative, offensive and dependence strategies. In his turn, M. Dodgson (2008) was of the opinion that when selecting a strategy, one should take into account the criterion of assessing the enterprise's prospects, and he identified the following strategies: passive; active; reactive; proactive.

According to the results of this research, S. Radynskyi [28, pp. 283-284] distinguished three groups of strategies, namely: defensive strategy, which provides for the protection of the enterprise while implementing innovations, cut on technology development costs, reduction of risks and manufacturing of conventional products; active strategy, which is characteristic of enterprises that seek to be leaders in the market, are able to spend money on research, expect rapid results; mixed strategy, which is a combination of active and defensive strategies.
In our opinion, the author focused on the study of the market environment, innovation potential and resource capabilities of the enterprise, but, when developing the classification, he did not take into account a marketing approach, the effect of environmental threats, level of risk, area of investment activity, feasibility of investment development.

According to one of the approaches, innovation strategies were divided into combined, simulation and offensive ones [1, pp. 355-356]. According to this classification, each company uses an offensive strategy in practice to eliminate competitors, gain leading positions in the market, evaluate opportunities for further development, and introduce innovative technologies. Along with it, a simulation strategy allows copying the behaviour of competitors, manufacturing similar products at lower prices, and contributing to the growth of production rates. The use of a combined strategy is less effective for the enterprise, as the situation can arise where competitive positions are lost, a lag in terms of technology and a decrease in the economic indicators of development are observed. The author does not take into account the risk factor, which affects the investment strategy formation and functioning of enterprises since each of them has its own specific features.

This opinion was shared by K. Freeman [9], who also made the division of innovation strategies based on the need for innovation. On the basis specified, the author distinguished offensive, conventional, dependence, defensive, opportunistic and imitation innovation strategies. An offensive innovative strategy is more aggressive, as it is characterized by competition, merger of the enterprise with market leaders, application of scientific and research developments, manufacture of innovative and high-quality products. Changes in the policy and economic situation at the enterprise as well as consumer needs for products affect the formation of a dependence innovation strategy, which is less effective for the establishment of the enterprise. A conventional innovation strategy is characterized by a reduction in the rate of innovation, and compliance with the inherent methods of doing business, whereas a defensive strategy allows you to react to the behavior of competitors, assess consumer needs and develop defensive measures against risks. In turn, an opportunistic strategy allows the company to manufacture new products with minimal costs of introducing technologies and be competitive in the market. However, the analyzed classification does not give a strategy that would minimize the threats of the external environment and provide an innovative way of development.

In the works by M. Mescon [21, p. 254] the stages of the innovation life cycle were analyzed and the following innovation strategies were distinguished: offensive, which is characterized by a high level of the enterprise's profitability, riskiness, increase in the amount of costs for the introduction of scientific and technical developments; intermediary, which ensures the stability of the enterprise's performance through a balanced competition, need for innovation, moderate product improvement; acquisition, which is characterized by the release of new products in demand, development of a new sales market by the company; defensive, when enterprises reduce the number of costs, experience high risks and should be ready for competition and use of innovations. These innovation strategies mainly aim to improve the enterprise's financial situation and do not take into account an investment component, crucial for the development of innovation activities.

According to William Lazonick [36, p. 10], innovation strategy should be divided into the following types: patient type, which is typical of focused manufacturing facilities that have a limited number of consumers, do not participate in the competition, manufacture high-quality products, raise product prices and innovate in order to manufacture new products; violent type typical of the companies, which manufacture off-the-shelf goods by using modern technologies that enable to improve their quality, reduce the price, cooperate with foreign companies but are characterized by a technological gap; explerent, which is typical of start-ups that apply modern equipment, attract highly qualified specialists, manufacture new products to outperform competitors; commutant, where the activity of the enterprise is aimed at meeting temporary consumer needs, manufacturing medium-quality products, providing a wide range of services, competing in a long-term. In our opinion, the author focused on increasing the level of competition, leading positions in the market, and manufacturing for a limited range of consumers, but did not take into account a significant range of products at industrial enterprises and their specialization.

Nelson Richard R. [22, p. 79] distinguished the following classification features of innovation strategy: pricing features; the mechanism for market development; the process of production adjustment; reduction in the volumes of pollutant emission; quality and price of products; level of people's well-being; economic development of the country, region; assessment of competitive advantages; industry specifics of the enterprise. The given classification considers a wide range of features but does not determine the degree of risk in the enterprise's activity, the long-term nature of the strategy, the time parameter, interests of participants in the strategy implementation.

Kerr W.R. [12, pp. 50-60] conducted a detailed analysis of the existing types of innovation strategy and distinguished the following types: adaptive, passive, defensive, active and offensive. In particular, a defensive strategy involves the assessment of threats in the macro environment, determination of the enterprise's development prospects and protects the company against adverse effects of the market environment threats. An offensive strategy is characterized by the assessment of competitors, borrowing foreign experience, and introduction of advanced developments. It should be noted that
an active innovation strategy is a premise for the development of innovation and application in the manufacture of technological developments that will contribute to the economic growth of the enterprise. However, a passive strategy is based on innovation application to a slight degree, i.e., goods are manufactured according to the basic technology, and manufacturing characteristics are updated insignificantly. Thus, like in the classifications considered above, the authors focused on the micro- and macro-environment but did not take into account the specific features of innovation activity performance at industrial enterprises and risks of the internal environment.

In her research, H.I. Lanovska [18, p. 235] made a thorough analysis of the existing approaches to the classification of innovation strategies and proposed the use of scientific and innovation strategies that will enable the company to gain leadership in the international market, compete and apply the experience of leading enterprises, will contribute to the production of innovative technologies, quality products with new properties, provision of innovative services. Thus, the use of this strategy is a prerequisite for innovative development, however, the development of economic security, investment activity and the effect of risks on the activities of enterprises should have been considered as well.

According to A. Kuznyetsova et. al., [17, pp. 352-353], innovation strategies should be classified on the basis of activity diversification and the enterprise's behaviour pattern. In the study, the following strategies were distinguished based on the former feature: a strategy for individual units; a strategy for a business entity; a corporate strategy; business process strategy. The adoption of these types of innovation strategies will contribute to the development of the enterprise’s units, increase the level of competitiveness, improvement of the mechanism of doing business. Simultaneously, active and passive strategies were defined by the behaviour pattern. An active strategy allows applying innovative technology to manufacturing, supplying innovative raw materials, and manufacturing innovative products. A passive strategy is not aimed at manufacturing an innovative product but at improving the product’s properties, changing the design, reducing prices, conquering new markets, and organizing the manufacture. The author focused on the use of technology and did not determine the degree of risk or payback period of the innovations applied, the time factor was not taken into account as well.

K.M. Khaustova [14; 15, pp.185-186] proposed to classify the investment and innovation strategy by the following characteristics: the correlation level of the investment and innovation potential; level of the expected effect; development goals and the role of the enterprise; implementation level. Based on the effect expected from the innovation introduction, the following strategy types were defined: a strategy of cost minimization – promotes an increase in the enterprise's profitability, new equipment application, which will enable a reduction in the cost of using energy-intensive technologies; a strategy of competitive advantages – contributes to the development of innovative products, provision of quality services, adjustment of product prices, development of external sales markets; a strategy of environmental security – manufacture of environmentally friendly products, reduction in the volumes of emission into the environment; a strategy of social welfare – contributes to the improvement of working conditions for employees, use of methods of labour incentives, protection of workers.

The above classification criteria are appropriate for companies which use an investment and innovation strategy, but it is not sufficient given the specific features of enterprises’ innovation activities and the effect of environmental factors.

Taking into account the work of domestic and foreign scientists in the direction of managing innovative activity, we note that there is no theoretical and methodological approach to the formation of a mechanism for managing the strategy of innovative activity of an industrial enterprise, because the process of managing the strategy of innovative activity, the set of tools, elements for managing the chosen strategy, the sequence of development stages is not defined mechanism, the effect of external environmental factors, the expediency of reducing financial costs and time spent on the development of the innovative activity of the enterprise. Therefore, we have improved the mechanism for managing the company’s Innovative Activity strategy by using a comprehensive approach, which should be understood as: firstly, a scheme of interrelated stages regarding regulation, control, planning, implementation, management of the Innovative Activity strategy and a set of methods, functions, principles of business management enterprise processes; secondly, the selection of elements, tools, as components of the Innovative Activity management, development strategy and determination of areas for conducting research under the condition of subordination to the enterprise management system, which is based on the coherence of the market environment factors influence and in accordance with which it is possible to determine the need for the introduction of innovations, to make decisions about their feasibility use in production with the aim of achieving long-term success, economic, social, technological effects, determining the validity of the Innovative Activity strategy implementation.

The application of the improved mechanism allows us to establish the process of using the Innovative Activity management strategy, to successfully organize the implementation of the selected strategy, to adapt it to the influence of external environmental factors, to apply the tools of the development of Innovative Activity, as well as to achieve an innovative
and economic effect. This mechanism consists of a group of interconnected stages, which should be followed in a certain sequence, but adjustments to each stage are possible under the condition of variability of external and internal environmental factors (Figure 1). At the same time, the effectiveness of the development of the management mechanism and its effectiveness depends on the level of Innovative Activity and the clarity of the formed goals.

The main goal of the mechanism for managing the strategy of the innovative activity of the enterprise is to increase the effectiveness of the management of the Innovative Activity strategy, the organization of the process of introducing innovative technologies, the production of qualitatively new products in the context of establishing the economic development of the enterprise, as well as the achievement of economic and financial effects, provided that the factors of the market environment are balanced, and there is the interaction between producers and consumers. An important component of the Innovative Activity strategy management mechanism is the separation of the subject and the object of management. Management subjects include enterprise owners, specialists in the field of innovative development, managers in the field of Innovative Activity strategy management, research and development divisions, and the marketing department. The scope of their authority includes the management of objects such as enterprise divisions, production processes, innovation processes, relations that arise between producers and consumers, between subjects regarding the use of the Innovative Activity strategy, development of innovative technologies, implementation of innovations, personnel activities related to manufacturing new products. At this stage, the list of management objects, and the distribution of obligations among the company’s employees is determined.

The detection of the effect of internal and external environmental factors is of primary importance not only on the operation of the enterprise but also on the achieved level of Innovative Activity, the possibility of developing and using a development strategy, the process of forming a mechanism, since the accuracy of the assessment of the possibility of further development, the reliability of forecast results depends on this analysis. The factors of the external environment include socio-economic situation in the country; political situation; favorable financial climate of the region; state financing of innovative projects; effectiveness of the legislative system; the level of tax pressure, etc. Among the factors of internal influence, the following are defined: the efficiency of the enterprise; economic level development; financial stability, solvency; level of competition; provision of resources; investment development; the use of resource-saving technologies; the share of outdated equipment; product quality and price, the dynamics of the implementation of innovative developments; coherence of work of all divisions and structural units of the enterprise; interaction with suppliers, consumers, competitors. It is advantageous to evaluate the influence of the above factors, to determine the degree of their effect by using appropriate methods.

The prerequisite for the formation of an effective mechanism for managing the strategy of the innovative activity of the enterprise is the definition of methods, principles, and functions that should be followed during its construction, which will ensure the achievement of the set goal and expected results of activity (Figure 1). The main functions of the improved mechanism included: control; motivation; regulatory; planning; prognostication; analytical; stimulating; evaluative; organizational; management. Among the principles we note are expediency; credibility; availability of information; reasonableness; adaptations; effectiveness; purposefulness; sequence; systematicity; priority; continuity; orientation to the final result; complexity. At the same time, economic and mathematical modelling, expert evaluation, financial, legal, stimulation, idea generation methods should be noted among the other methods.

In order to establish the need to use tools to improve the efficiency of the strategy of innovation activity, namely the mechanism of management of the strategy of innovation activity, a study of the state of innovative activity of industrial enterprises and forecasting of its results was conducted (Table 2, Figure 2).

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<th>Years</th>
<th>Indexes</th>
<th>Share of the number of innovatively active enterprises in the total number of industrial enterprises, %</th>
<th>Innovation expenditure, UAH million</th>
<th>Share of the number of industrial enterprises implementing innovations (products and/or technological processes) in the total number of industrial enterprises, %</th>
<th>Number of innovative products (goods, services) implemented in the reporting year, total units</th>
<th>Share of the volume of the sold innovative production (goods, services) in the total volume of the sold production (goods, services) of industrial enterprises, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>16.9</td>
<td>15072.5</td>
<td>15.1</td>
<td>3487.3</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>17.0</td>
<td>15738.2</td>
<td>15.2</td>
<td>2908.5</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>2023</td>
<td>17.1</td>
<td>16403.8</td>
<td>15.4</td>
<td>2329.8</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>2024</td>
<td>17.2</td>
<td>17069.5</td>
<td>15.5</td>
<td>1751.0</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>17.3</td>
<td>17735.1</td>
<td>15.7</td>
<td>1172.3</td>
<td>-0.1</td>
<td></td>
</tr>
</tbody>
</table>
The Purpose of the Mechanism for Managing the Innovative Activity Strategy of the Enterprise is to increase the efficiency of managing the strategy of innovative activity, organizing the process of introducing innovative technologies, producing qualitatively new products in the context of establishing the economic development of the enterprise, provided that the investment potential is used.

Subject of Management
company heads, managers, specialists in the field of innovative development

Object of Management
company divisions, production processes, innovation processes, relations that arise between entities regarding the use of Innovative Activity strategy, development of innovative technologies

Mechanism for Managing the Innovative Activity Strategy of the Industrial Enterprise

Resource support:
financial, technological, personnel, investment, natural, material

Evaluation of the efficiency of the enterprise, the level of investment activity, competitiveness, economic development

Stage 1

Feasibility of managing the strategy of innovative activity

Stage 3

Formation of the Innovative Activity Strategy of the Enterprise management mechanism (principles, functions, strategic directions)

Stage 5

Implementation of the Innovative Activity Strategy of the Enterprise management mechanism

Stage 6

Was the decision made correctly and the need for the management of the Innovative Activity Strategy of the Enterprise determined?

Stage 4

Stage of formation of goals, objectives, tasks

A set of tools, control elements of the Innovative Activity Strategy of the Enterprise

Stage 7

Organizational block
Planning, organization, implementation of the Innovative Activity Strategy

Stage 9

Use of Innovative Activity Strategy of the Enterprise

Stage 11

Has the economic, social, technological effect been achieved?

Stage 10

Evaluation of the performance of the management mechanism of the Innovative Activity Strategy of the Enterprise

Stage 12

Decision-making regarding the management of Innovative Activity Strategy of the Enterprise for a long period

Stage 13

Control over the process of managing the strategy of innovative activity. The result is the development and implementation of measures to increase the efficiency of the management of the Innovative Activity Strategy of the Enterprise

Stage 14

Figure 1. Mechanism for managing the strategy of innovative activity of an industrial enterprise.
Figure 2. Dynamics of indicators of innovative activity of industrial enterprises of Ukraine for 2000-2025. (Source: calculated based on [30])

The results of the study of the dynamics of the group of indicators for 2000-2020 and their forecast for 2021-2025 by using the LINE function in Microsoft Excel allow us to note that in 2025, relative to 2020, growth will occur share of the number of innovatively active enterprises in the total number of industrial enterprises by 2.87%; increasing the amount innovation expenditure by 23.10%; growth will share of the number of industrial enterprises implementing innovations (products and/or technological processes) in the total number of industrial enterprises by 5.28%; reducing the number of innovative products (goods, services) implemented in the reporting year by 71.17%; according to the indicator share of the volume of the sold innovative production (goods, services) in the total volume of the sold production (goods, services) of industrial enterprises a negative value is observed.

Taking into account the results of the research on the state of innovative activity of industrial enterprises and the obtained forecast indicators, we can note that there is a need to implement and use a mechanism for managing the strategy of innovative activity in order to improve the state of innovative activity, increase innovative activity, and activate innovative development, which will have an impact on improving the financial and economic state enterprises.

DISCUSSION

Given today’s conditions, namely the variability of the market environment our focus on the analytical review of the existing approaches by domestic and foreign scientists to the interpretation of the concept of “innovation strategy”, given its role in the economic development and activities of industrial enterprises. It should be noted that the concept of innovation strategy is interpreted in different ways, namely as: the development strategy of the enterprise, innovation policy, strategy of innovation, investment and innovation strategy, and innovation development strategy, which are considered to be similar.

A group of scientists V. V. Prokhorova, and E.V. Bozhanova [27] supplemented the classification of directions of innovative development, but there is no study on the definition of types of innovative strategies. The study of O. Dziuba, and O. Shevchenko [8] is important because the authors considered the strategy for the development of the sphere of innovative activity until 2030.

The author K. Bugera [5] formed his own vision for improving the principles of management of innovative and technological development of enterprises, but the management tools and directions of performance evaluation are not defined.

The study of I. Ippolitova [11] is interesting, in which the essence of the innovation strategy is considered, the advantages and disadvantages, and the components of the strategy are indicated, but there is no approach to the formation of the strategy of innovative activity and its implementation at enterprises. Scientists L. Batsenko, R. Halenin, and O. Komarov [2] investigated the role of innovation strategy but did not reflect the mechanism of its formation.

Also, the group of authors A. Bezus, M. Shuyok [3] formulated recommendations for the management of the strategy of innovative activity, but there is no set of stages or sequence of actions for the management of the innovative activity of the enterprise. The approach of O. Petryk, and O. Patsarniuk [26] is interesting, because the authors proposed an approach
to the formation of the innovative strategy of enterprises, but the specifics and sequence of strategy management were not defined. In addition, Yu. Voloshchuk, O. Ivanishyn, and S. Bohachyk [34], proposed a mechanism for forming an innovative strategy, and an algorithm for its implementation, but also did not determine the expediency of strategy management, the sequence of management stages.

Based on the results of the research, it can be stated that the majority of scientists considered only the development of the strategy of innovative activity and did not study the issue of using the management mechanism of the strategy of innovative activity taking into account the factors of the external and internal environment. In the analyzed studies, a conclusion is made about the importance of innovative activity, but there are no methodological principles for managing the innovative activity of the enterprise. Also, in the analyzed studies, there was a lack of definition of the features of innovative activity of industrial enterprises, taking into account the possibility of the influence of factors of the internal and external environment, resource security, investment development, the long-term nature of the effect of the strategy, sphere of activity and industry, specifics of the enterprise, economic directions of development. Thus, we consider it expedient to form methodological approaches to the formation of the strategy of innovative activities of enterprises.

CONCLUSIONS

In practice, the majority of enterprises use several strategies of innovation activity for comprehensive development, consolidation of competitive positions, and rapid transition from one type of strategy to another, since each type of strategy has a number of characteristics, advantages, features of operation, which enables organizing the enterprise’s activities and promoting innovative changes in all units.

In the conditions of the negative influence of external factors, the implementation of the strategy of innovative activity at industrial enterprises will contribute to economic growth, development, stability of financial and economic activity, and increase in competitiveness, which, in turn, will ensure the recovery of the country's economy.

Taking into account the systematization of the approaches of domestic and foreign scientists, a definition was formed strategy of the enterprise's innovation activity is a set of interrelated actions to introduce innovations, attract investment resources, and promote economic growth, which are aimed at choosing an effective strategy of activity, ensuring the smooth operation of the enterprise, leveling the threats of the market environment, introducing innovative technologies. In contrast to the existing definitions, we considered the aspect of the industrial enterprise's activities, included in our interpretation all areas of the enterprise and peculiarities of its economic, investment and innovative development in the long term, took into account the need to attract investment, without which it is not possible to implement the strategy of innovation activities.

Approaches to the classification of innovation strategy were systematized and the main elements of different types of innovation strategies were analyzed, which made it possible to find out their role in the company’s activities, identify threats to the market environment, determine the features of the development of the innovation strategy, outline advantages and disadvantages. The importance of the implementation of the innovation strategy and its management has been determined, which will allow to activate the innovative activity of enterprises and contribute to the improvement of financial and economic activity.

The mechanism for managing the strategy of innovative activity of industrial enterprises formed during the research by using a comprehensive approach will allow to establish the process of using the strategy, to successfully organize the implementation of the chosen strategy, to achieve a long-term effect, to take into account the influence of factors of the market environment, to determine the need for the introduction of innovations.

The results of the study of indicators of innovative activity of industrial enterprises, and the results of the forecast, which reflect the downward dynamics, are presented. The obtained data confirmed the need to implement a management mechanism for the strategy of innovative activity at industrial enterprises, which will form the prerequisites for the effective use of the strategy of innovative activity, and innovative development.

Further research will be aimed at implementing the established mechanism for managing the strategy of innovative activity at industrial enterprises, evaluating its effectiveness and forming directions for the activation of innovative activity.
ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

Conceptualization: Oleksandr Cherep, Alla Cherep
Data curation: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Valentyna Helman, Anna Gorbunova
Formal Analysis: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Valentyna Helman
Methodology: Oleksandr Cherep, Alla Cherep
Software: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Anna Gorbunova
Resources: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Valentyna Helman, Anna Gorbunova
Supervision: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Valentyna Helman
Validation: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Valentyna Helman, Anna Gorbunova
Investigation: Oleksandr Cherep, Alla Cherep, Valentina Helman, Anna Gorbunova
Visualization: Oleksandr Cherep, Alla Cherep, Valentyna Helman, Anna Gorbunova
Project administration: Oleksandr Cherep, Alla Cherep
Funding acquisition: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Valentyna Helman, Anna Gorbunova
Writing – review & editing: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Valentyna Helman, Anna Gorbunova
Writing – original draft: Oleksandr Cherep, Alla Cherep, Yuliia Ohrenych, Valentyna Helman, Anna Gorbunova

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CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

REFERENCES

11. Ippolitova, I. (2019). Implementation of the innovation strategy at the enterprise as a condition of its economic development. European journal of economics and


23. Nevmerzhytska, S., & Levchuk, Y. (2018). Enterprises’ strategy innovative development formation in the conditions of uncertainty. Scientific Bulletin of Kherson State University. Economics sciences series, 32, 99-103. https://www.ukrstat.gov.ua/2013_37_2018_%d0%b0%d0%b0%d0%a3_32_2018_%d0%9b%d0%b5%d0%b2%d0%be%d0%bd%d1%81%d1%82%d0%b0%d0%bf%d0%b8%d0%ba_%d1%81%d0%b2%d0%b0%d0%bd%d0%b8%d1%8f_%d0%9b%d0%b5%d0%b2%d1%87%d1%83%d0%ba_%d1%81%d1%82%d0%b0%d0%bd%d0%b8%d1%8f.pdf


Череп О., Череп А., Огренич Ю., Гельман В., Горбунова А.

**УДОСКОНАЛЕННЯ МЕХАНІЗМУ УПРАВЛІННЯ СТРАТЕГІЄЮ ІННОВАЦІЙНОЇ ДІЯЛЬНОСТІ ПІДПРИЄМСТВ**

Стаття присвячена трактуванню сутності концепції інноваційної стратегії з урахуванням впливу факторів зовнішнього середовища на інтеграцію інтересів всіх зацікавлених сторін, запропоновано авторське визначення цього поняття. Наведено аналітичну типологію інноваційних стратегій, яку охарактеризовано з огляду на їхні переваги та недоліки для промислового підприємства. Проаналізовано основні елементи інноваційних стратегій. Встановлено взаємозв'язок між класифікаційними ознаками та сутнісними характеристиками різних типів інноваційних стратегій. На основі комплексного підходу до формування стратегії інноваційної діяльності вдосконалено механізм управління стратегією інноваційної діяльності з урахуванням чинників зовнішнього й внутрішнього середовища, а також взаємозв'язків етапів його реалізації. За результатами дослідження становища інноваційної діяльності промислових підприємств та прогнозування її результатів доведено необхідність використання інструментів підвищення ефективності стратегії інноваційної діяльності, а саме механізму управління стратегією інноваційної діяльності, що дозволить відновити інноваційний розвиток підприємств, сприятиме покращенню фінансових показників.

**Ключові слова:** стратегія, характеристика, типи, інноваційна діяльність, методи управління стратегією інноваційної діяльності, підприємство

**JEL Класифікація:** D39, M29