Regulation of Innovative Processes at the Enterprise in a Competitive Environment

Olha Lohinova

Abstract

Purpose: The objective of the study is to determine the importance of innovation factor in enhancing the competitiveness of enterprises and the necessity of transition of domestic enterprises to an innovative way of development, as well as the regulation of innovation processes in the enterprise in a competitive environment. Design / Methodology / Approach: To achieve the aim of the study, the following scientific methods were used: analysis, synthesis and comparison. Findings: The essence of the regulation of innovation processes at the enterprise in a competitive environment was revealed. It was researched that the revival of investment and business activity in the context of regions had a positive impact on the innovative sphere. All these factors have appreciably improved the innovative environment and provided effective stimulation of the innovative development. Note that foreign and domestic experience has shown that it is the state that has the exclusive role of regulation and stimulation of innovative activity in the enterprise. As it has a powerful influence on innovative process by means of economic methods of direct and indirect action for the purpose of support of competitiveness of innovative production of the enterprises. Originality / Value: The research of motivation of creation of enterprises with foreign investment focused on attraction of advanced technics and technology to the country with such short-term effect as receipt of currency proceeds was further developed. The study showed that enterprises with foreign investment cannot solve the problem of currency deficit in the state, but the creation of conditions for attracting advanced technics and technology to the country is the basis for the implementation of a number of urgent tasks of economic and social development of the country. For this purpose, it is necessary to provide additional benefits to priority basic industries, determining the development of scientific and technological progress in Ukraine and the creation of favorable conditions for the inflow of innovative capital of foreign investors, which will have a positive impact on the development of the Ukrainian economy. Practical Meaning: It is proved that innovation management at Ukrainian enterprises requires formalisation of innovation and investment activity on the basis of production factors and national wealth. Therefore, it is necessary to modernise the methods of assessment of innovation projects, taking into account the latest experience of innovation activity, with the development of basic analytical procedures and determination of the scope of their rational use. Further Research: Development of a mechanism for regulating innovation processes at the enterprise in a competitive environment.

Keywords

competition, competitiveness, enterprise, innovation, innovation activity, innovation process, market economy.

JEL Classification: D40, L53, O32.

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Регулювання інноваційних процесів на підприємстві в умовах конкурентного середовища

Ольга Логінова

Анотація

Мета. Метою дослідження є визначення значення інноваційного чинника у підвищенні конкурентоспроможності підприємств та обґрунтування необхідності переходу вітчизняних підприємств на інноваційний шлях розвитку, а також регулювання інноваційних процесів на підприємстві в умовах конкурентного середовища. Дизайн / методи / підходи. Для досягнення мети дослідження використано такі наукові методи, як аналіз, синтез і порівняння. Результати. Розкрито сутність регулювання інноваційних процесів на підприємстві в умовах конкурентного середовища. Дослідження, що позитивно вплинуло на інноваційну сферу пожвавлення інвестиційної та ділової активності в розрізі регіонів. Всі ці фактори помітно покращили інноваційне середовище і забезпечили ефективне стимулювання інноваційного розвитку. Оригінальність / цінність / наукова новизна. Набуло подальшого розвитку дослідження мотивації створення підприємств з іноземними інвестиціями, орієнтованих на залучення в країну передової техніки і технологій з таким короткостроковим ефектом, як отримання валютної виручки. Практичне значення. Доведено, що інноваційний менеджмент на вітчизняних підприємствах потребує формалізації інноваційно-інвестиційної діяльності з урахуванням новітнього досвіду інноваційної діяльності з розробленням основних аналітичних процедур та визначень сфер їх раціонального використання. Подальші дослідження. Розробка механізму регулювання інноваційних процесів на підприємстві в умовах конкурентного середовища.

Ключові слова
конкуренція, конкурентоспроможність, підприємство, інновації, інноваційна діяльність, інноваційний процес, ринкова економіка.

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Introduction / Вступ

The modern state of the market is characterized by a constant change in the external environment, the variability of customer demand, the presence of a large number of enterprises of different forms of ownership, increasing uncertainty and risk. So, in order to survive, the enterprises should constantly monitor and react to all changes in their competitive environment in order to save their positions on the market and provide competitive advantages. Nowadays it is very important for every company to evaluate market environment in order to offer effective competition means which would correspond with market situation in Ukraine and tendencies of its development on the one hand and be in accordance with peculiarities of company's activities on the other hand. Effective implementation of innovations allows creating significant strategic advantages in the most competitive industries. Enterprises-leaders achieve competitive advantages through innovation – by using both new technologies and methods of work, but after achieving advantages, it becomes possible to maintain them only through continuous improvement, i.e. continuous innovation. Thus, at the modern stage of world economic development the main sign of competitiveness becomes its innovation, i.e. ability of the system to systematic development, renewal and changes in economic activity on the basis of assimilation of innovations.

Literature Review / Огляд літератури

Economic science is facing an extremely important task, the essence of which is to generalize the theoretical foundations of reforming the economy of Ukraine, its functioning for the future. Questions of the role of innovation in the economic system have found one of the leading places in the studies of domestic and foreign economists. These include the works of J. Schumpeter (1935); I. Blank, N. Huliaieva, & A. Mazaraki (Ed.) (2003); A. Kolot, & A. Nykyforov (2008); T. Kepych (2009); N. Polishchuk (2009); N. Bohatska (2017); V. Dzhedzhula, I. Yepifanova, & O. Tsvyk (2017); O. Romanyuk, & N. Shveda (2017) and some other authors.

However, taking into account the lack of research on such important aspects of the problem as market uncertainty conditions, the presence of which is typical for the activities of enterprises in the modern economy, in particular the Ukrainian, we consider it advisable to more fully substantiate the studied issue. At the same time, the impact of innovation on the degree of competitiveness of the enterprise and the state requires more in-depth study.

Problem Statement / Постановка завдання

The task of the study was to find and substantiate the need for transition of domestic enterprises to innovative way of development, as well as the regulation of innovative processes at the enterprise in a competitive environment.

Materials and Methods / Матеріали та методи

The following methods were used to achieve the goal: logical generalization, analysis, comparison and synthesis of scientific abstraction.

Results and Discussion / Результати та обговорення

Modern economic practice shows that high results can be achieved only with innovative activity – systematic and purposeful innovation, aimed at providing a new level of interaction based on the use of new scientific, economic and technological knowledge.

The need for state regulation of innovation processes is primarily caused by their increasing importance for the economy and society as a whole

An enterprise-developer, having protected its invention with a patent in Ukraine, cannot license it to a foreign investor and receive remuneration for it. Our currency regulation only encourages the full assignment of rights to take an advanced technology abroad. All over the world the conditions for licensing with regular royalty payments are adopted, which allows the developer company not to lose the rights to the created innovation. Unfortunately, this way is not used here. A powerful additional channel for domestic science support is blocked, as well as the process of reproduction of new
technologies, the base of re-equipment of industry and the sphere of services is narrowed, the budget of the country loses important tax revenues.

With effective legal protection, organizations developing new technology should enter into cooperation with investors, who introduce a system of incentives for the modernization of production and introduction of intellectual property into the economic turnover. The rights to the results of scientific developments should be used in the market from the moment of their creation.

The state regulates, shapes, and implements innovation policy through its ministries and agencies, managing state budget investments. It has at its disposal such social regulators as preferential taxation, subsidies and subventions for the development of territories.

Revival of investment and business activity in the context of regions had a positive impact on the innovative sphere of the national economy. All these factors noticeably improved the innovative environment and provided effective stimulation of innovative development. It should be noted that foreign and domestic experience has shown that it is the state that has the exclusive role of regulation and stimulation of innovative activity. As it possesses powerful influence on innovative process by means of economic methods of direct and indirect action for the purpose of maintenance of competitiveness of innovative production. It was established that the main methods of stimulation of innovative activity in Ukraine today are:

- direct action methods (administrative regulation, which are focused mainly on the result of innovative activity): subsidies, tax benefits, insurance of innovative risks, preferential crediting of innovative activity, customs privileges, etc;
- indirect action methods (indirect regulation, aimed at creating a favorable innovation environment, determined by the action of institutional factors): professional development, payment for training of employees, bonuses, support of patenting system, the formation of new forms of organization of innovative activity: promoting the formation of “innovation crystallization centers”, stimulating demand for an innovative product, etc.

In our opinion, the improvement of mechanisms to stimulate innovation activity should take place on the basis of monitoring the state of innovative development of the region’s economy, forecasting trends in technology development, etc.

Unlike most countries of the world, domestic legislation does not provide incentives to attract extra-budgetary funds to the innovative sphere, there are no incentives for industry spending on research and development, as well as investment in the innovative sphere by banks and other investors who actively use venture capital.

The current crisis state of the national innovation system in Ukraine is manifested not only in insufficient funding from the state budget, but also in the decline of solvent demand for scientific and technological products from the business sector in the reduction of professional and qualitative characteristics of scientific personnel and the state of the material and technical base of scientific research. There is a transition of qualified relatively young specialists to the sphere of business and emigration of scientists and engineers abroad.

However, there are also positive institutional changes associated with the formation of public administration and legislative framework related to the introduction of competitive selection for the financing of scientific and innovation projects, the formation of various funds, including venture capital, protection of intellectual property.

At the present stage of the Ukrainian economy development, the role of the entrepreneurial sector in performing and financing research and the concentration of financial and technical efforts in supporting and developing competitive products (venture capital funds, technology parks, research centers) is increasing.

In world practice, the links between research topics and corporate strategy of companies are manifested in the transformation of institutional forms of scientific activity, by moving scientific research from specialized divisions of corporations to production ones, which helps to overcome intrafirm barriers, reduce transaction costs and more effectively translate scientific results into products and services.

Strategic directions can be used for the development of regulatory documents in the sphere of agriculture, program and current documents of state and local authorities of all levels on the industry development in the relevant period. It is also advisable to consider these directions in the coordination of measures to modernize the economy of the country and agriculture, the development of effective
mechanisms for the implementation of reforms. Innovation system is a social system, and innovation is the result of interaction between economic agents, which are involved in the transformation of knowledge into innovation.

In the modern world, the number of participants in innovative activities is growing. Innovations cover not only technological changes, but also the sphere of organization, management; their economic return is growing, the diversity of sources of information is increasing. The effectiveness and the very possibility of innovation activity is determined by the links between the various stages of the innovation process and its participants.

It should be noted that the institutional component of the innovation process is characterized: as a component of the environment that accompanies technological change, and as the innovative potential of interaction processes, which is an integral part of the innovation system. The necessity of formation of the innovation system is indicated by the accelerating innovation process.

Over the past hundred years, the speed of the spread of new technologies has increased more than tenfold. For example, the process of telephonization of half of American households since the invention of this means of communication took 50 years, and the same level of connection to the Internet took 5 years.

When building an innovative institutional structure it is necessary to take into account the factors of innovation processes intensity. Factors of intensity of innovation processes can be divided into internal and external ones. Internal factors include the national innovation structure, which includes the resources used in the innovation process: sources of funding of R&D, human capital, investment in education and basic research, as well as policies to protect intellectual property, creation of conditions favorable for business; specific cluster environment for innovation, favorable for microeconomic decisions of firms in the field of R&D; use of large capital; large markets.

The implementation of such directions as increasing the level of state support for the innovative projects of the national economy and the development of mechanisms of public-private partnership involves the development of appropriate methods for solving problems, so in the following we will describe them in more detail.

In order to organize the activities to implement the Concept, it is necessary first to develop a program to implement the Concept. At the same time, the fundamental principles of the management system organization of the program implementation should be: provision of normative, methodological and informational unity of the program; participation of representatives of authorities, subjects of agrarian entrepreneurship and science in the development of the program.

The most important condition for the development of an effective (viable) program is the connection of planning, implementation, monitoring, and evaluation of the effectiveness of its implementation. In this regard, it is necessary to develop a detailed plan of measures to implement the program, as well as a system of target indicators.

Ukraine should intensify the creation of reference information networks for informational support of domestic scientific developments and their commercialization. Concentration of funds on promising projects with an acute practical orientation will be accompanied by reforming of the state science sector: creation of new organizational forms and reduction or complete liquidation of organizations that have lost touch with science, having neither staff nor material and technical resources. Their property, as well as the property of other weakly capable scientific organizations together with the personnel can be transferred to universities for formation of research universities and formation of corporate science, for example by creation of centers of advanced technologies with necessary financial and other resources.

Ukraine has great innovative resources and is able to form such national innovation system, which would be based on the development and use of its own scientific and technological potential. Loss of time will inevitably lead to transition to the model of predominant external borrowing of new and improvement of foreign knowledge and technologies, so it is necessary to conduct and adjust the state innovation policy that takes into account the peculiarities of development of the national innovation system.

Scientific justification of making management decisions is characterized by a large variety of financial, economic and production-technological factors, the dynamics of change in which requires the consideration of a large body of information. The development of methodological techniques of analysis
and processing of information on various aspects of innovation activity will significantly increase the reliability and adequacy of forecasts.

The unresolved part of this problem is the formalization of various aspects of innovation and investment activity, the construction of dynamic situational models of the production activities of enterprises, development and creation of methodological approaches to assess the necessary information for forecasting and management decisions.

Possible strategies of behavior in the market of competitive products is to anticipate the situation and implement appropriate adequate protective measures.

The most accessible strategy is to analyze changes in objective market factors, determine their direction, find patterns and use them as arguments for making decisions. This is the principle by which all modern methods of market analysis and forecasting work.

As the venture capital in Ukraine is only emerging one of the main directions of the strategy of innovative development of the Ukrainian economy one should recognize the transformation of the funding system, namely the development of private investment and restructuring of budget financing on the basis of strengthening the targeting and targeted support mechanisms of end-to-end financing of innovation cycle. Such restructuring should be based on the transition from subsidizing to lending, taking into account the time factor as you move along the stages of innovation activities, including basic research, applied development, testing and work on the implementation of innovation, market research and creation of conditions for the consumption of innovative products.

Efficiency of modernization of the national innovation system largely depends on the ratio between public and private investments. With the development of denationalization and privatization of property the share of private capital in the total volume acquires more and more value. In the conditions of reduction of real state financing of innovation projects the funds of non-state financial structures begin to play an increasing role. Stimulation by the state of private investments can be provided by creation of necessary legislative base for reliable protection of investments and reduction of investment risks.

The main directions of achieving strategic goals in the formation of an effective system of innovation support of agriculture in the near future should be:
- introduction of an effective mechanism to stimulate the innovations in production according to market schemes;
- diversification of sources and mechanisms of financing of the innovation process;
- the use of mainly competitive mechanisms of investment in research and innovation activities;
- rational use of direct and indirect ways of investing in scientific and innovative activity;
- orientation of state investments in science and innovations on stimulation of inflow of non-state funds, especially savings of citizens;
- formation of favorable institutional environment for the development of modern market innovative agriculture, which is able to fully meet the needs of the population in food and can successfully compete in the global agricultural market.

We believe that the implementation of certain tasks will provide the following results:
- stopping the exclusion of qualified personnel from material production, their transfer to areas of activity that do not directly affect scientific and technological progress;
- transformation of personnel training structure in higher educational institutions of agrarian profile in the direction of increasing the share of production professions, specialists in technological areas of activity;
- increase of social motivation concerning the creative activity of the population in the sphere of innovative activity;
- ensuring competitive agro-industrial production at the domestic and interstate levels;
- increasing the production of knowledge-intensive agricultural products through the use of innovative developments, development of cooperation and integration in agro-industrial production;
- strengthening of state support of scientific research and ensuring the development of material and resource base of agrarian science.

These problems have an extremely negative impact on the innovative development of enterprises, deactivating it, as well as reducing the level of competitiveness of enterprises.
To increase the innovative activity of enterprises it is necessary to take into account the factors of macro-, meso- and microlevel, which directly or indirectly influence the expediency of innovative product research, its development and implementation (Table 1).

**Table 1. Factors influencing the innovation activity of domestic enterprises**

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<th>Level of influence</th>
<th>Influence Factors</th>
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| **Macro level**    | - prospects for the development of enterprises, taking into account the risk factor;  
                      - market conditions and forecasts of its condition;  
                      - the existing solvent consumer demand and trends of its change;  
                      - institutional requirements of international and domestic organizations;  
                      - availability of investment resources;  
                      - trends of innovative changes in the world as a whole;  
                      - external environment and the forecast of its condition;  
                      - migration of high-level specialists, scientists. |
| **Micro level**    | - awareness of the need for innovation in the enterprise;  
                      - the internal environment of the enterprise and the forecast of its state;  
                      - greening of innovation |

In our opinion, state support should be concentrated on the financing of targeted innovation programs, in pilot-production farms, where the practical application of scientific and technological developments in specific conditions is tested.

Investment resources, instead of being channeled into production innovations, are channeled into industries with minimal costs, which give profit: trade, tobacco and beer industry, sale of automobile fuel. Foreign capital is also not interested in investing in high-tech, knowledge-intensive industries, as its main problem is not to create competitors but to sell its final product in Ukraine.

Priority directions of innovation and economic development of the country should be outlined by the state. In modern conditions of formation of global information-technological mode, efficiency of state regulation is conditioned by its influence on scientific-innovation activity. The state should outline breakthrough directions, in which domestic specialists have scientific reserves and developments, corresponding to the world standards. Priorities related to national competitive advantages should be implemented by financing target programs with state participation, providing soft loans, state procurement, providing guarantees for the purchase of capital-intensive equipment.

The level of investment receipt is the most important indicator of economic development of any country. The successful development of various industries depends on how favorable the investment climate will be.

Management of innovation processes is possible only with the necessary formalization of innovation and investment activity on the basis of production factors and national wealth, construction of mathematical models and mechanisms of internal and external investment and optimization of formation of investment resources in industry.

Forecasting and evaluation of the results of innovation processes is the weakest link of technological activity in enterprises. Technical innovations are evaluated at the level of common sense, when there are no serious economic calculations of innovative activity. It is necessary to consider and systematize methods of assessment of innovation projects, make their analysis and determine the areas of rational use.

By the way, interaction between the state and business community in the formation and implementation of state agricultural policy and market regulation has long ago proven its effectiveness in countries with developed economies.

On the basis of research of various forms and methods of maintenance of innovative model of economic development of various economic systems it is possible to conclude that: innovative model of economic development is a key objective of any state and the major factor of success of the country in the mid- and long-term period of its development, and one of key factors of maintenance of this process is the venture capital; it is necessary to develop partnership relations of venture business, authorities and society in processes of regulation, stimulation and coordination.

The main principles of state innovation policy are:
- orientation to the innovative way of development of the economy of Ukraine;
- definition of state priorities for innovative development;
- formation of the regulatory and legal framework in the sphere of innovation activity;
- creation of conditions for preserving the development and use of domestic scientific, technological and innovation potential;
- ensuring the interaction of science, education, production, financial and credit sphere in the development of innovative activity;
- effective use of market mechanisms for the organization of innovative activity, support for entrepreneurship in the scientific and production sphere;
- implementation of measures for the development of international scientific and technical cooperation, technology transfer, protection of domestic products on the domestic market and promotion on the foreign market;
- financial support, implementation of favorable credit tax and customs policy in the sphere of innovation activity;
- promoting the development of innovative infrastructure;
- information support of subjects of innovative activity;
- training of personnel in the sphere of innovative activity.

A key problem in Ukraine is the gap between stated political goals and the actual implementation of policy measures. Official statements about the needs for innovative development are not supported by carefully designed measures and, in particular, appropriate and effective mechanisms, programs and framework conditions.

Domestic commodity producers at the present stage of the Ukrainian economy development are forced to experience the harsh pressure of competition and instability of the market environment. As the experience of economically developed countries shows, the winner is the one who builds its activities on the basis of an innovative approach and the main objective of the strategic plan is the development of new goods and services.

**Conclusions / Висновки**

In the countries with highly technologically oriented economy, formation and strengthening of innovative model of economic development and its adequate investment support depend mainly on the type of innovation process and its investment support at all stages and phases of the innovation cycle. That is why productive strategic development of the national economy advantages, strengthening of its competitiveness on the world market today to an increasing extent depends on the extent to which it ensures implementation of innovations which other countries do not have. However the state innovation policy in Ukraine is not focused on the enterprises and does not create conditions that would encourage enterprises to play the role of the main innovators in the national innovation system. Nowadays there is a serious lack of effective economic incentives for enterprises to carry out technological modernization based on new knowledge.

Based on the above, it is clear that the state is assigned the role of organizer and coordinator of structural shifts in the sphere of enhancing innovative development of the national economy in modern conditions.

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Conceptualization and Design / концептуалізація та проєктування: O. Lohinova;
Literature Review / огляд літератури: O. Lohinova;
Methodology and Validation / методологія та обґрунтування: O. Lohinova;
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