

INTERNATIONAL EXPERIENCE OF INNOVATION MANAGEMENT

МІЖНАРОДНИЙ ДОСВІД УПРАВЛІННЯ ІННОВАЦІЯМИ

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The article substantiates the need for a transition to economic recovery and growth of the Ukrainian economy, which provides for the development of principles and mechanisms for the effective management of innovative projects. The achievements of the economic theory on the innovation development of the economy, the study of modern trends in the acceleration of the innovation process are reviewed, and the experience of implementing industrial innovation policy in different countries is summarized. The basic principles of state support for innovation in the United States, Britain, Italy, Germany, France, and Japan are defined. It was proven that the goal of the state innovation policy is to create conditions in the country for the activities of economic entities in which they would be interested and able to develop and innovations. Considered priority directions of innovation in Ukraine, consisting of strategic and medium-term. Defined the basis of state support for innovation.

Key words: innovation, innovation activity, government support, benefits, management of innovative development.

В статті обоснована необхідність переходу к економічному оживленню и росту економіки України, которая предусматривает разработку принципов и механизмов эффективного управления инновационными проектами. Рассмотрены достижения экономической теории по вопросам инновационного развития экономики, исследования современных тенденций в ускорении инновационного процесса, а также обобщен опыт реализации промышленно-инновационной политики в разных странах мира. Определены основные принципы государственной поддержки инновационной деятельности в США, Великобритании, Италии, Германии, Франции и Японии. Рассмотрены приоритетные направления инновационной деятельности в Украине, состоящие из стратегических и среднесрочных. Определена основа государственной поддержки инновационной деятельности.

Ключевые слова: инновации, инновационная деятельность, государственная поддержка, льготы, управление инновационным развитием.

В статті обґрунтовано необхідність переходу до економічного поживлення та зростання економіки України, що передбачає розробку принципів і механізмів ефективного управління інноваціями та інноваційними проектами. Сучасний стан інноваційної діяльності в Україні потребує активних заходів з боку держави для формування необхідних правових та економічних умов, які б забезпечували подолання інноваційної інертності виробництва. Проте питання про роль та місце держави в системі розробки та реалізації інновацій досить суперечливе. Розглянуті досягнення економічної теорії з питань інноваційного розвитку економіки, дослідження сучасних тенденцій у прискоренні інноваційного процесу, а також узагальнено досвід реалізації промислово-інноваційної політики у різних країнах світу. Проаналізовані основні принципи державної підтримки інноваційної діяльності у Сполучених Штатах Америки, Великобританії, Італії, Німеччині, Франції та Японії. Розглянуто пріоритетні напрями інноваційної діяльності в Україні, що складаються із стратегічних та середньострокових. Визначено основну державної підтримки інноваційної діяльності. Доведено, що мета державної інноваційної політики – формування у країні таких умов для діяльності господарюючих суб'єктів, за яких вони були б зацікавлені і спроможні розробляти і виготовляти нові види продукції, впроваджувати сучасні наукомісткі, екологічно чисті технології та розширювати на цій основі свої ринки збуту. Розглянуто механізм реалізації державної інноваційної політики, що забезпечується органами державного управління через систему методів (прямого та опосередкованого впливу на суб'єктів інноваційної діяльності) та інструментів (акти та директиви, що регулюють аспекти інноваційної діяльності) державного регулювання. Визначена головна мета державної інноваційної політики – створення соціально-економічних, організаційних і правових умов для ефективного відтворення, розвитку та використання науково-технічного потенціалу країни, забезпечення впровадження сучасних екологічно чистих, безпечних, енерго- і ресурсозберігаючих технологій, виробництва і реалізації нових видів конкурентоздатної продукції.

Ключові слова: інновації, інноваційна діяльність, державна підтримка, пільги, управління інноваційним розвитком.

Problem statement. Modern trends in the global economy are characterized by changes in the direction of economic progress. The main emphases today are shifting to the tasks of accelerated innovative development, the transition to a knowledge-based economy strategy. For countries with market economy, the regulatory role of the state in innovation policy is to create the most favourable conditions for research and development, stimulating those stages where there is not enough market incentives and freedom of action where the state intervention is superfluous. For the Ukrainian economy, where earlier the whole process of innovation was determined by strong-willed decisions of higher authorities through budget planning and financing, this experience is especially important. With the transition to a market economy, the market can have the main impact on the innovation process but the state needs to have the necessary regulatory, coordinating, and stimulating role.

Analysis of recent research and publications. Issues of innovation management and innovation projects attracted the attention of scientists, politicians, representatives of business structures. In this direction, such scientists as L. Antoniuk, A. Poruchnyk, V. Savchuk, D. Lykianenko, B. Hubsnyi, O. Mozghovyi, and others.

The aim of the article. To analyse the experience of foreign countries in innovation management and to define the principles and directions of state regulation of innovation activity.

Presentation of the main research material. The main block of the economic policy of all developed countries is innovation policy, promotion of entrepreneurs-innovators, which determine the ability of the national economy to innovate development, effective use of the latest technologies. The country with a transition economy that loses "innovative competitions" remains an outsider of the world community. Therefore, Ukraine can claim its place in Europe as a potential destination only if it is capable of mastering the innovative way of development. To do this, it is necessary to create socio-economic conditions and incentives for the organizational convergence in the Ukrainian society of the priority of the system of values of scientific and technical development and ideology of market reforms. The strategy and mechanisms for implementing state policy are usually determined by its legislative and governmental structures.

There are 3 main models of innovative development: American, European, and Japanese. The most interesting for imitation by domestic enterprises is the experience of European countries in managing innovation. The main forms of support and stimulation of innovation activities used in developed countries are:

- direct financing of research and development work on the creation and use of innovations in the form of subsidies for the development and promotion of new technologies, goods, and services, which, in the amount of up to 50% of the total costs

of enterprises for such purposes (characteristic of the United States, France). The most common form of subsidies in recent years has been grants that are provided on a competitive basis by the state, various international and public organizations and other special funds through project financing;

- preferential crediting of innovation activity, which provides for full or partial compensation of interest paid on bank loans at the expense of special funds or the state budget. For example, in Germany, for enterprises investing in the modernization of production, the development of new types of products or energy-saving, preferential loans are provided up to 50% of the funds spent by the enterprise for this purpose as such. In addition, bank loans for the purchase of new equipment should be insured at the expense of the state budget. In Italy, soft loans for technological innovations are provided in an amount of up to 80% of the cost of an innovation project for up to 15 years;

- providing tax breaks and holidays as a means of indirect incentives and motivation for innovation since the company's profit is the basis for financing innovative activity and its increase leads to an increase in the innovative capabilities of companies;

- customs exemptions or full exemptions from customs duties when importing scientific or high-tech equipment.

Direct state regulation of innovation processes in different countries is carried out unevenly but everywhere plays an important role in ensuring innovative development. By studying the experience of the industrialized countries, one of the main principles of the state scientific and technical policy in the innovation field is to pay attention to its main structural elements. These basic elements are the following three principles:

- 1) technology. This principle requires the identification and prioritization of scientific and technological development, which will create technologies. Typically, directions that already have some success are selected;

- 2) finance. It means financial and resources support for the creation of technologies and their introduction into civilian circulation;

- 3) its management infrastructure.

These elements should be the only mechanism for commercialization. The lack of even one of them makes the entire structure unstable. These principles, in our opinion, should become a part of the national innovation system (policy).

The world leader in innovation management and innovation support is the United States of America. Innovation in the United States is carried out through state regulation of innovation processes. State support for innovative enterprises is encouraged as follows:

- preferential taxation of firms engaged in R&D, up to 20% increase in R&D expenditures compared to the average annual level of these expenditures in previous years;

- preferential taxation of up to 20% of company costs for fundamental research programs run by universities under contracts with them;

- deductions from the taxable income of the cost of scientific equipment and equipment, which is freely transferred by companies to universities and research organizations;

- establishment of preferential treatment of depreciation;

- granting investment tax credit, namely: reduction of income tax in the amount from 6% to 10% of the total cost of investments in equipment.

Innovation in the United States is characterized by support for the development of risky projects by stimulating the creation of venture capital firms and research centres for small and medium-sized innovative enterprises, public research centres, and special laboratories of large industrial corporations, as well as preferential free subsidies of these innovative companies by the National Science Foundation of the United States, which gives the opportunity to develop venture business [1, p. 185].

In Canada, there is a well-developed and continuously improved multicomponent infrastructure of state support for innovation:

- subsidies are provided for the implementation of industrial research projects in the amount of up to half of the cost of salaries for research staff;

- a tax credit of 10-25% of capital and current expenses for R&D depending on the scale of the corporation and its territorial placement is provided;

- reduced corporate tax on the amount equivalent to a portion of the company's expenditure on R&D relative to the previous level.

The National Research Council supports research and innovation activities in Canada in the directions of innovation infrastructure development (technology clusters, technology incubators and service for new technology companies); transfer of technologies created in institutes and centres (licensing, creation of new technology companies).

Among the European countries, one of the leaders in scientific and innovative development is the United Kingdom, the government's strategic goal is to promote science and innovation. The UK's economic policy to intensify innovation in the country is through a variety of national and regional programs supporting innovation activity. Innovation activities are encouraged by incentives for:

- reduction of income tax;

- insurance of funds provided to venture companies by the state;

- reimbursement of innovation costs according to state programs on subsidizing small innovative firms;

- in any amount of write-off on the cost of production (services) of R&D expenses.

Innovation activity is considered as the main mechanism for increasing the competitiveness of business in the regions of the countries.

In Germany, the most privileges in the process of innovation activity are enterprises that initiate and innovate:

- provision of targeted non-subsidized subsidies to enterprises that are developing new technology;

- grants for the term up to three years for the improvement of qualifications of research personnel;

- provision of preferential loans to firms (up to 50% of the funds invested by the owner of the firm), whose annual sales do not exceed EUR 300 million, investing in modernization of the enterprise, development of new products, as well as measures for the rational use of energy;

- granting up to 100 thousand euros of preferential loans to small and medium-sized enterprises entering into industrial cooperation with other firms;

- grants to small enterprises to invest in R&D;

- grants to small and medium-sized firms for research or development of new technology for the production of products;

- grants to knowledge-intensive enterprises.

In Italy, the state performs the task of stimulating scientific, technical, and innovation activities in full, but it does not abolish privileges that existed before in scientific organizations. From the wide arsenal of activities carried out in the field of state incentives for scientific and technological and innovation activities, the most important are the following:

- tax incentives;

- stimulation through depreciation policy (an independent mechanism);

- direct budget subsidies for companies that are developing new products;

- the opportunity to receive an investment tax credit.

The main principle of the Italian innovation system is that tax exemptions are granted not to scientific organizations but to companies and investors who provide the demand for research and innovation. The advantage of tax support is that it is provided not in advance but for real innovation.

In order to stimulate innovation, as well as expand and strengthen the existing base for research and development in France, there is an extensive system of privileges:

- tax credit for the growth of expenses on R&D in the amount of 25% of the growth of expenses of the company for R&D in comparison with the level of last year;

- tax-deductible funds invested in risky projects (100% of taxes on invested funds);

- reduced tax for new companies – 25% of income tax for three years;

- granting state subsidies to organizations conducting research works under contracts up to 50% of the cost of doing works commissioned by small and medium enterprises;

- subsidizing small and medium enterprises to 50% of the cost of hiring scientific staff (up to EUR 175 000 per year) [1, p. 195].

Among the Asian countries, the brightest representative of successful innovation activity is Japan. State stimulation of scientific and technological and innovation activity is carried out in the following directions:

- reduction of preferential tax on profits of venture enterprises;
- tax deduction for private R&D investments;
- guaranteed return (up to 80%) of funds invested in venture business;
- favourable loans to venture funds;
- reception by small innovative enterprises of the interest rate for the use of the loan;
- stimulation of small innovative enterprises;
- exemption from taxation of pension funds of small innovative enterprises;
- exemption from taxation of deductions coming to insurance funds for protection against chain bankruptcies;
- creation of mutual crediting societies [5].

The legislation of Ukraine in the field of innovation activity is based on the Constitution of Ukraine and consists of the laws of Ukraine “On Investment Activity”, “On Scientific and Scientific-Technical Activity”, “On Scientific and Scientific-Technical Expertise”, “On the Special Regime of Investment and Innovation Activities of Technological Parks” and other legislative acts regulating social relations in this area.

State innovation policy is a set of forms and methods of state activity aimed at creating interrelated mechanisms of institutional, resource support and innovation development, and the formation of motivational factors for the activation of innovation processes. The purpose of the state innovation policy is to create in the country such conditions for the business entities in which they would be interested and able to design and manufacture new types of products, introduce modern high-tech, environmentally friendly technologies, and expand their markets on this basis.

According to the Law of Ukraine “On Innovation Activity”, the main objective of the state innovation policy is to create socio-economic, organizational, and legal conditions for the effective reproduction, development, and use of the country’s scientific and technical potential, ensuring the introduction of modern environmentally friendly, safe, energy and resource-saving technologies, production and sales of new types of products [6].

For example, in the last quarter of the XX century, under the Japanese strategic leadership, Japan has become a global leader in information and technology industries. And in the Soviet Union, such a fundamental technological transition was not successful in the large industrial and scientific superpower. The inability of state institutions to lead the information and technological revolution has led to the curtailment of its production capacities and the undermining of military power. Consequently, state innovation policy has led to success in one country and failure in another. According to

the current legislation of Ukraine, the main principles of state innovation policy are:

- orientation to the innovative way of economic development of Ukraine;
- definition of state priorities of innovative development;
- formation of the regulatory framework in the field of innovation activity;
- creation of conditions for the preservation, development, and use of domestic scientific, technical, and innovative potential;
- ensuring the interaction of science, education, production, finance and credit in the development of innovation activities;
- effective use of market mechanisms to promote innovation, support of entrepreneurship in the scientific and production sphere;
- implementation of measures in support of international scientific and technological cooperation, technology transfer, protection of domestic products in the domestic market and its promotion to the foreign market;
- financial support, implementation of favourable credit, tax, and customs policy in the field of innovation activity;
- promotion of innovation infrastructure development;
- informational support of subjects of innovative activity;
- training of personnel in the field of innovation activity [6].

It is also important to ensure the unity of strategic and current state regulation of innovation policy, and the efficiency of the latter. Strategic state regulation has a national significance. Its goal is to preserve the economic and social strategic course of the state, which is laid down in the program of realization of reforms, national, target, complex, and other programs. In order to maintain a strategic course, the state is developing and controlling a list of strategically important resources. The current state regulation is aimed at ensuring the implementation of a strategic course in the context of a specific economic and political situation, which determines the flexibility of the system of state influence. Operational current state regulation is based on tax policy, emission, credit, budget, social, and other types of economic policy. Within the current regulation, the Government of Ukraine forms the state budget, defines the main directions of innovation policy, as well as the nature of foreign economic policy [2, p. 83].

According to the Law of Ukraine “On Priority Directions of Innovation Activity in Ukraine”, the priority directions of innovation activity in Ukraine are defined as “scientifically, economically, and socially substantiated and legally defined directions of innovation activity aimed at ensuring the needs of society in high-tech competitive, environmentally friendly products, high-quality services and increase of export potential of the state” [7].

The priority directions of innovation activity in Ukraine consist of strategic (long-term perspective – no less than 10 years) and medium-term (designed for implementation within the next 3-5 years). Strategic priority directions of innovation activity are the most important directions of innovation activity aimed at ensuring socio-economic growth of the state, developed on the basis of scientific and forecast analysis of world trends of socio-economic and scientific and technological development taking into account the possibilities of domestic innovative potential.

Strategic priority directions of innovation activity are formed by a specially authorized central executive body in the field of innovation activity involving national and sectoral academies of sciences of Ukraine. The Cabinet of Ministers of Ukraine conducts an examination of the developed directions of innovation activities, organizes their publication in the mass media and discussions at the National and sectoral academies of sciences of Ukraine, in public scientific and scientific and technical organizations. Implementation of strategic priority directions of innovation activity is carried out through the system of nation-wide programs of economic, scientific and technical, social, national-cultural development, environmental protection. Medium-term priority directions of innovation activity are directions of innovation updating of industrial, agricultural production and services for the development of the release of new high-tech goods and services with high competitiveness in the domestic and/or foreign markets. Medium-term priority directions of innovation activity are formed within the strategic priority directions of innovation activity on the basis of the latest achievements of domestic and world science, analysis of the state of the world and domestic markets and resource capabilities of the state. Their list is given in the Law of Ukraine "On Priority Directions of Innovation Activity in Ukraine".

By their scale, orientation and specificity, medium-term priority directions of innovation activity can be the priority directions of innovation activity at the national, sectoral or regional levels. These directions are formed by a specially authorized central executive body in the field of innovation activity within the framework of strategic priority directions of innovation activity and submitted by the Cabinet of Ministers of Ukraine to the Verkhovna Rada of Ukraine for approval together with strategic priority directions of innovation activity. Their refinement is carried out every 3-5 years.

Implementation of medium-term innovation priorities is carried out on a competitive basis through state programs, innovation programs, innovative projects, and innovative projects of technological parks. But, unfortunately, priority directions of development of science and technology are not carried out within the framework of a single national program of development of promising technologies. Methodologically, a number of separate state

scientific and technical programs are provided for solving certain problems. It is advisable for state authorities to step up measures aimed at developing and adopting at the law-making level the strategy of Ukraine's innovative development.

According to the project "Strategy of Innovative Development of Ukraine for 2010–2020 in the Context of Globalization Challenges," the main objective of the Strategy is to identify, justify, and create mechanisms for the implementation of a new state innovation and investment policy in relation to the implementation of agreed changes at all levels of the national innovation system aimed at the cardinal growth of its influence on the country's economic and social development by creating appropriate attractive domestic conditions and increasing the sustainability of the domestic economy to the external conditions caused by globalization and the neoliberalization of economic life [4].

Today, its infrastructure, which is in its original state, is also a significant problem of Ukraine's innovative development. It presents only certain types of innovation structures, including technology parks, research centres, business incubators, scientific and technical enterprises, and foundations. Moreover, the activity of only a small part of them corresponds to the tasks to be solved by them, based on world experience in organizing various types of innovation structures. In Ukraine, there is not only a limited number of innovative structures but also their structural incompleteness, as well as the functional uncertainty of their activities. Thus, comprehensive state support also requires the development of innovative infrastructure.

The most important modern factor of stimulation and support of the innovation process is the promotion of the production of high-quality products through the system of state certification. By certifying the compliance of the goods with the requirements of state and international standards, certification provides the possibility of an objective selection of innovative products and their continuity. The existence of quality systems in enterprises is an important prerequisite for commercial success. The presence in the domestic products of a recognized quality certificate determines not only its price in world markets, and often the very opportunity to enter them [1, p. 248].

The conceptual basis of the state policy on financial support for innovation development should be the creation of specialized state financial institutions and their interaction with banking institutions and newly created non-bank financial institutions. In general, this will make it possible to radically change the vectors of the movement and intensify the internal mobility of capital that is absolutely needed.

Conclusion. The worldwide practice proves that although the market plays an important role in stimulating innovation and selecting scientific and technical products that are adequate to the needs of society, it alone cannot provide a comprehen-

sive solution to the problems associated with the dynamic development of innovation systems. Necessary is the state regulation, the existence of the sound public policy, within which concrete measures are implemented to support and stimulate those stages of the innovation process, for which market incentives are insufficient.

The orientation towards building an innovative society should be based on the priority use of national systems of science, education, their integration, and strengthening of relations with production, identification and support of priority

directions, improvement of the whole system of innovation cycles, implementation of new organizational forms, realization of reliable protection of intellectual property, interests of own producers, consumer interests, introduction of perspective non-traditional ways of solving organizational issues (creation of temporary creative teams, etc.). The implementation of such measures in a complex manner as a mutually connected mechanism will promote the development of innovation activity, and hence the increase of the competitiveness of domestic production.

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