



THE USE OF FORESIGHT MECHANISMS IN THE FIELD OF INNOVATION REGULATION IN THE DIGITAL ECONOMY

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ARTICLE INFORMATION	ABSTRACT
<p>Volume: 1 Issue: 6 DOI: https://doi.org/10.55439/INSURE/vol1_iss6/a8</p>	<p>In the conditions of the global innovation economy, the concept of "innovation activity" should be a working tool for all participants in industrial and economic activity. Misunderstanding of the essence of innovation activity and misinterpretation of this concept lead to the irrational use of public funds allocated for the formation of innovative economy mechanisms, as well as to the inaction of the private investment mechanism and the absence of new competitive projects. Various methods and approaches are used to form and implement the state policy in the field of innovation. The article describes the application of foresight mechanisms in the field of innovation regulation.</p>
KEYWORDS	<i>digital economy, innovation, innovative activity, innovative economy, government regulation, foresight</i>

Introduction

In order to increase the human, intellectual, and technological advantages of the new economy, our country needs to achieve leadership in a number of areas, and, above all, in the field of the digital economy. Building a digital economy based on the formation of an open, free business environment, a flexible labor market, and high-tech industries will ensure a new phase of the recovery of the domestic economy and its long-term growth.

The digital economy allows you to create qualitatively new business models, and sets a new paradigm for the development of the whole society.

There are a number of areas of systemic importance for the formation of the digital economy, among which are innovations.

Research in the field of innovation process management with the active application of elements and principles of state regulation is especially relevant at the present time.

The governments of Uzbekistan are also developing and implementing national programs, moving to a new model of economic development, which will be based on scientific research and technology.

"The most important task," President of the Republic of Uzbekistan Shavkat Mirziyoyev noted- "is to form innovative thinking among our people. Where there is no innovation, there will be no development of competition. Without wide promotion of innovations in this area, the formation of people's ability to think and work in a new way, we will not be able to keep up with the current rapidly changing time, scientific progress" [1].

The first step towards the innovative development of Uzbekistan is the modernization of the economy in order to expand the production of competitive products in demand in domestic and foreign markets.

Urging people to think and work in a new way, President of Uzbekistan Shavkat Mirziyoyev signed a decree on the formation of the Ministry of Innovative Development in November 2017. The document defines the main directions of innovative development of the country. The decree provides for the creation of a Fund to support innovative development and innovative ideas.

In [2] it is indicated that the defining vector of modern development is focused on the transition to an innovative economy. There is no doubt that there is a need for gradual modernization of the raw material exchange rate in favor of innovative development. One of the decisive factors of the planned transition is the development of a concept for the formation of a strategy for science-based industrial development based on the methodology of cluster economy, the formation of system-forming innovation and industrial complexes, taking into account the creation of national and regional innovation systems using public administration approaches of scientific, industrial and educational complex with the active application of elements and principles of public-private partnership (PPP). In [3] it is indicated that there are various obstacles to the effective implementation of PPP schemes. This is also a special mentality of domestic business, expressed in preferences for participation in the implementation of large industrial and infrastructure projects, when private companies build their own property, and the state builds its own. And insufficient attention on the part of the state and business to modern schemes of project financing of PPP facilities, as well as the lack of a comprehensive long-term program for territorial development and placement of productive forces, taking into account the interests and capabilities of both the public and private sectors of the economy.

To date, the need for state intervention in the activities of economic institutions, the transition to the Keynesian model of the functioning of the economy is highly justified [4,5].

It is necessary to understand that the regulation of the innovative economy during the formation of a new way of life requires a careful approach on the part of the state apparatus. This understanding contains a certain basis - the formation of a new type of economy is impossible without innovation, just as it is impossible to sell products on the world market without a constant race to increase its competitiveness.

The digital economy is facing constant complexity, development and accumulation of a large amount of information. Without understanding and regulating the economy functioning in such conditions, the development, improvement and overcoming of a high level of entropy is

Table 1

The functions of the state in the field of innovation in the conditions of the formation of the

Function name	Improvement of the regulatory framework governing the ownership of intellectual property products. Creation of a legal mechanism for the purchase or entry into the capital of small innovative companies of large business.
Regulatory and legal	Organization of innovation activities at state enterprises. Cooperation between federal agencies, industrial enterprises, scientific organizations for the implementation of innovative projects. Development of <u>cooperative and scientific</u> and technical cooperation with foreign firms.
Organizational	Creation and integration of regional, sectoral, technological innovation systems. Creation of the innovation market infrastructure. Formation of innovative scientific and technological centers <u>on the basis of</u> the leading universities of the country.
Institutional	Stimulation of activities for the preservation and professional development of personnel for the digital economy. Formation of a positive attitude towards new areas of knowledge in society.
Motivational	State support and protection of interests in foreign markets. Intellectual property protection.
Protective	Strengthening the scientific and technical potential of the country. Increasing the efficiency of public investment. Legislative and financial support of personnel training and retraining of specialists for the high-tech sector.
Managerial	Facilitating access of economic agents to information resources, with the exception of information constituting state and commercial secrets.
Information	Examination of the scientific value of projects. Evaluation of the effect on the implementation of projects. Termination of financing of ineffective and ineffective projects.
Control	Financing based on a developed system of priorities, including direct financing. Partial provision of state guarantees to attract funds of different types of investors to projects: banks, investment companies, pension funds. Development of the institute of special investment contracts.
Distribution	Selection of priority areas of development. Public procurement of objects of innovative activity in the foreign market. "Technology transfer" from the public sector of the economy.
Regulatory	Improvement of the regulatory framework governing the ownership of intellectual property products. Creation of a legal mechanism for the purchase or entry into the capital of small innovative companies of large business.
Scientific and analytical	– programs of socio-economic development of the innovation sphere; – <u>industry-specific</u> targeted innovative development programs. Definition of goals, criteria for evaluating the effectiveness of the implementation of innovation projects; – Forecasting of scientific and technological development. <u>Technological foresight</u> .

impossible [6]. At the same time, specific mechanisms of such regulation have not yet been sufficiently developed, the theoretical, methodological and instrumental basis for such a transformation of the country's economy, primarily in the long term, has not been developed.

The purpose of the study is a certain systematization of knowledge on issues of state regulation, as well as the formulation of a number of recommendations based on the results of the study.

Literature review

The analysis of economic research shows that great importance in foreign countries is devoted to state regulation of innovation activities.

To understand the philosophy and ideology of the innovative economy, it is necessary to focus on its basic elements: concepts and definitions.

The term "innovation" is one of the most widely used in the economic literature and in public speeches today. There are dozens (and perhaps hundreds already) of its definitions and interpretations. And this is quite natural for the era of the global innovation economy. However, there is still no unambiguous understanding of this term and, most importantly, the essence of the concept itself.

Schumpeter J. by innovation, he proposed to understand any possible change that occurs due to the use of new or improved solutions of a technical, technological, organizational nature in the processes of production, supply, marketing of products, etc. [7]

Drucker P. defines innovation as a special tool of entrepreneurs, a means by which a chance to open a new type of business or services is realized [8].

According to Fatkhutdinov R., innovation is the final result of the introduction of novelties in order to change the object of management and

obtain economic, social, environmental, scientific, technical or other type of effect [9].

As the analysis of the innovative development of the economy shows, the issues of activating the activities of entrepreneurial structures, economic stimulation in the innovation sphere through preferential taxation, lending and other instruments of state regulation are included in the coordinating function of the state.

A purely market-based regulatory mechanism, as the experience of many developed countries has shown, has proved ineffective during the transition from one economic formation to another, more advanced one, since the private sector is not economically directly interested in the development, for example, of fundamental sciences or the implementation of social innovation projects. Therefore, the governments of developed countries develop and implement national programs to implement the strategy of innovative development.

Research methodology

The nature and methods of state regulation will be related to the existing policy in the investment sphere, financing of fundamental sciences and risky projects. For the development of an innovative economy, it is necessary to form and substantiate an effective state policy for the reindustrialization of industry in the context of globalization, structural transformation of the national economy, the introduction of high-tech industries and innovation-active enterprises, taking into account the unstable dynamically developing external environment, in order to increase the competitiveness of industries and, on this basis, increase the level of innovative potential and socio-economic development of regions. Among the tasks of industrial policy are: stimulating technological re-equipment of industrial enterprises of the country; modernization of fixed assets; creating conditions for the implementation of the results of

intellectual activity in industrial production; expansion of the production of innovative products; development of not only the production, but also the innovative potential of industrial enterprises, clusters. "Cluster" is defined as geographically close groups of companies specializing in the production of similar products or the provision of services; geographically close group of interconnected industries; networks of enterprises and organizations and related institutions within geographical boundaries; groups of enterprises using the same production technologies and related to other groups of firms based on technology. Of particular relevance to this problem is the fact that the state regulates the development of clusters, including innovative ones, by financing their creation and development. Various methods and approaches are used for the formation and implementation of state policy in the field of digital economy.

First of all, it is necessary to explain the phenomenon itself, the definition of state regulation of the economy as a kind of influence of the state through the established network of state bodies on economic processes and their participants. The main goal of state regulation can be formulated as ensuring compliance with legislation and public interests, making economic processes and operating economic entities more organized.

Analysis and results

A certain set of state functions follows from the existing goal (Table 1).

The implementation of each of the functions is possible with the help of a wide range of tools, direct and indirect methods.

Among the direct methods, also called program-targeted and administrative-departmental:

1. Financing of research and development;
2. Control of ongoing procurement of technologies and innovations abroad;
3. Insurance of the risk existing in innovation activity;
4. Subsidizing scientific and technical developments;
5. Subsidized financing, both of individual innovative projects, and the allocation of funds for the creation of interaction platforms.
6. Partial provision of state guarantees to attract funds of different types of investors to projects: banks, investment companies, pension funds.
7. Institute of special investment contracts.

Speaking about direct methods, i.e. about public investments, it should be noted that they are appropriate only if they are effective (provide not only economic, but also social, environmental effects), have a purpose and meet the necessary criteria.

Indirect methods include:

1. Tax credits and benefits;
2. Stimulating enterprises through changes in pricing and customs policy;
3. Accelerated depreciation;
4. Formation of innovative scientific and technological centers on the basis of the leading universities of the country;
5. Improvement of legislation in matters of patent law, intellectual property. Creation of a legal mechanism for the purchase or entry into the capital of small innovative companies of large business.

Intensive exchange of scientific and technical information is necessary for the formation of the digital economy. Creating effective communications is one of the crucial steps to attract investors to venture funds. That is why, highlighting the methods of regulating innovation activity and the functions of the state in this process, a number of authors are currently paying special attention to the information function. New information technologies are rapidly changing the usual way of life, opening up fundamentally different opportunities for the development of our country's economy, but also generating new threats.

In this case, according to the opinion published in [10], it makes sense to use foreign experience. One of the developed and efficient information systems implemented in the European Union involves the functioning of patent information centers and regional centers for the implementation of inventions, united in a single network operating throughout the EU.

The experience of countries with developed economies shows that the development of innovation infrastructure, as a set of organizations, firms, systems, interconnected and complementary to each other, necessary for the implementation of innovative products, is the basis for effective innovation and gives a greater effect than the provision of various tax incentives and direct financing.

The stability of the functioning of this infrastructure, its focus on results, is crucial. It is also necessary to take into account the importance of information flows in this system. In Fig. 1, the arrow shows the flow of information that allows you to constantly analyze both intermediate and final results of innovation activities.

An example of such systems can be such information technology systems as CORDIS, EPIPOS, ARIST, implemented on the territory of the EU.

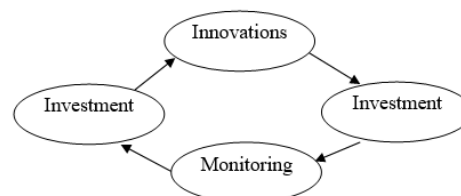


Fig.1. Closed innovation management system of innovation activity

Such a closed information management system ensures the effectiveness of state regulation of innovation activities. Regulation of innovation activity should be carried out on the basis of innovative strategies, forecasts, projects and support programs with high-quality interaction of the state, organizations of science, higher education and the business community.

When finding the vector of state policy in the field of innovation development, integration of the interests of entrepreneurs and the goals of the state, it is advisable to use the mechanisms of foresight management (forecasting technological development) [10].

Foresight, according to the opinion published in [10], is a creative technology of influencing the emerging future by coordinating the particular interests of various layers of civil society and by stimulating their activity in the use of key technologies.

Foresight techniques are used in the field of politics, in the field of regional management, they are especially relevant, in our opinion, in the conditions of the formation of the digital economy in the field of innovative development of the country, regional innovative development, innovative development of clusters and enterprises. Foresight is a system of methods not only for predicting the future, but also for making coordinated decisions about the future. Market-oriented foresight stimulates the development of marketing innovations. Using the tools of technological foresight, by identifying priority areas of technology development, it is possible to influence the formation and implementation of technological innovations.

Currently, foresight is presented as a balanced combination of four elements: expertise, creativity, interaction and evidence. In [9], it was noted that evidence has recently become increasingly important, and special attention is being paid to statistics and quantitative research.

Advantages of using foresight techniques:

1. Interdisciplinary work of a large number of researchers representing various civil institutions and fields of activity. The result of the presence of representatives of many fields of activity is the absence of subjectivity in forecasts.
2. Foresight is a bridge between science and politics, a way of interaction between various civil institutions.
3. The development of the desired image, the coordinated development of decisions about the future and the proposal of measures to move towards the planned.

Various authors distinguish different stages of foresight. The foresight algorithm published in [8] consists of the following sequential stages: conception, design, forecasting and staging.

At the design stage, an imaginary image of the future project is created. The design stage is the use of certain means, for example drawings, for the qualitative organization of the image of the future and further actions to build this image. That is, the transformation of an imaginary image of the idea into a symbolic object. The forecasting stage is the stage of taking into account the consequences and possible completion of the project. Researchers focus on the behavior of the object, forecasting works with future states

The staging stage is aimed at understanding all possible options for the future. Due to the complexity and diversity of socio-economic systems, it is periodically ineffective, since it offers scenarios instead of possible trajectories - optimistic, average (realistic), pessimistic. In our opinion, this devalues the idea of foresight, since according to [9], the

initial position of foresight is the recognition of the multiplicity of options for the development of the future.

This list of stages can be supplemented with stages reflecting the connection of foresight with the level of development of civil society, since the essence of foresight is not only in forecasting the future, but also in the coordinated development of decisions about the future.

Conclusion/Recommendations

In the context of increasing the human, intellectual, and technological advantages of the new digital economy, it is necessary to achieve leadership in a number of areas of systemic importance and, above all, in the field of innovative activities capable of providing a new phase of the recovery of the domestic economy and its long-term growth.

Research in the field of innovation process management with the active application of elements and principles of state regulation is especially relevant at the present time.

In our work, we came to the conclusion that the key element of the innovation infrastructure of the digital economy is information technology

systems based on databases that provide information about both innovative products and economic entities and the results of their activities.

The use of foresight as one of the methods of state regulation of innovation activity in the context of the formation of the digital economy can be very effective, since it involves determining the main directions of innovative development, adjusting the strategies of economic entities engaged in innovative activities.

In this study, it is indicated that the essence of foresight is not only in predicting the future, but also in the coordinated development of decisions about the future. Research in the field of foresight techniques as a tool of state regulation in the conditions of digitalization of the economy with an increase in the role of the evidence factor based on quantitative methods is promising.

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