opción

Revista de Antropología, Ciencias de la Comunicación y de la Información, Filosofía, Lingüística y Semiótica, Problemas del Desarrollo, la Ciencia y la Tecnología

Año 35, 2019, Especial N° 21

Revista de Ciencias Humanas y Sociales
ISSN 1012-1587/ ISSNe: 2477-9385
Depósito Legal pp 198402ZU45

Universidad del Zulia
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Maracaibo - Venezuela

Opción, Año 35, Especial No.21 (2019):1543-1557
ISSN 1012-1587/ISSNe: 2477-9385

Essential characteristics of state regulation of economy in terms of regulation of innovation

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Abstract

The aim of the study is to investigate the essential characteristics of state regulation of the economy in terms of regulation of innovation via comparative qualitative research methods. As a result, under the conditions of classical market mechanisms, the achievement of the scientific and technological results is difficult, and many innovations are simply not introduced into economic practice. In conclusion, the state should provide conditions for the effective performance of science and technology in order to regulate innovation activity.

Keywords: State regulation, innovation, processes, scientific.

Características esenciales de la regulación estatal de la economía en términos de regulación de la innovación

Resumen

El objetivo del estudio es investigar las características esenciales de la regulación estatal de la economía en términos de regulación de la innovación a través de métodos comparativos de investigación cualitativa. Como resultado, bajo las condiciones de los mecanismos de mercado clásicos, el logro de los resultados científicos y tecnológicos es difícil, y muchas innovaciones simplemente no se introducen en la práctica económica. En conclusión, el estado debe proporcionar condiciones para el desempeño efectivo de la ciencia y la tecnología para regular la actividad de innovación.

Palabras clave: regulación estatal, innovación, procesos, científico.

Recibido: 10-03-2019 • Aceptado: 15-04-2019

1. INTRODUCTION

The 21st century is the age of domination of innovations, which determine effectiveness and, therefore, successfulness of functioning and development of economic systems at all levels:

> global (level of the global economy), macro-economic (level of national economic systems) and meso-economic (level of regional economic systems as a part of the national economic systems) in the market economic conditions (Bogoviz, 2018: 18).

Reducing administrative and regulatory burdens is currently considered as a priority to increase the efficiency of state administration and economic competitiveness. In the world increasingly based on electronic information exchange, information communication technologies (ICT) are considered to be the key tools in developing policies to achieve these goals. ICT solutions can reduce time, expenditures for search and coordination coming from traditional bureaucratic procedures for citizens, companies and governments. At the political level, the European Commission encourages member states to embrace innovations in the digital government (for example, electronic ID cards, interoperability, electronic certification, etc.) aimed at modernizing the state administration and creating an internal digital market and attracting more citizens and enterprises in order to improve the quality of services.

According to a survey conducted in 28 OECD countries that

implemented programs to reduce regulatory costs, 26 countries reported that they had included ICT based solutions in their agenda. Additionally, recent reports, e.g. EU and HLGAB, proposed measures, aiming its reduction that mostly rely on e-gov and ICT solutions, to be implemented between 2014 and 2018 at the national and European level. Recently, the European Commission launched the EU e-Government action plan 2016-2020, aiming at public administration modernization, the achievement of a digital internal market and the engagement of more citizens and businesses in order to improve the quality of the services.

Currently, more attention is paid to ecology. Institutional scholars expect environmental innovations in the industry to cluster around common fields (Berrone et al., 2013). Llach et al. (2014) showed that institutional support was more important than customer pressure in generating environmental innovations in a sample of small and medium-sized firms. A firm's environmental similarity is defined in this paper as describing the extent to which a firm's environmental patents are related to technological domains in which the environmental patents of industry competitors have an important presence. Technological domains, which will be further explained in the methods section, refer to groups of relatively homogeneous technologies as delimitated in typologies (Aragoncorrea & Leyvadelahiz, 2015).

The state regulation of economy means a set of measures of the

state influence on economic processes. It is used for enforcement of laws, public and state interests, as well as for organization the processes taking place in the economy. Generally, the state regulation includes such notions as budgeting, forecasting, taxation, financing, planning, and control, crediting and accounting (Roizenberg et al., 2017).

At the present stage of development of the economy, innovations are one of the main means of increasing the profits of economic entities, since extensive methods of expanding production are limited. However, without state support, it would not be possible to quickly put many ideas into practice. This explains the national concern of the need for the state regulation of innovation processes (Grinev, 2017). Therefore, financing and support for research and development as an object of the state regulation take on great importance. The purpose of the work is to determine the role of the state regulation of innovation activity, to evaluate the methods of its formation and the main directions of innovation support.

2. RESULTS AND DISCUSSION

The need for the state regulation of innovation processes came both from the national significance and the economic content of innovations. Currently, innovations are becoming the main means of increasing profits by business entities. However, in the absence of state

regulation, many innovations could not be quickly put into practice. The first aspect of the national importance of innovation is the decisive influence on macroeconomic indicators. Economic growth is based on a combination of extensive and intensive factors. Intensive factors are crucial for economic dynamics. Contribution of scientific and technological progress in the growth of gross domestic product of the most developed countries is variously estimated from 75 to 100% (Fokin, 2018). The second aspect includes the impact on the structure of social production. Innovations are the direct cause of launching some industries and branches, and the gradual regression and disappearance of others.

The third aspect represents a significant impact on institutional economic mechanisms. Innovation also changes the economic organization of society. New elements appear in the range of economic structures (for example, venture companies), the content of interaction between them is transformed. There are moves in the structure and implementation of various forms of ownership, etc. The fourth aspect is the increasing identification of the nation's ability to progress and its ability to produce and introduce innovations. The structure of consumption of both material and non-material goods is being improved. Political culture is in development. Legal, aesthetic and ethical standards are changing dynamically. The fifth aspect includes the impact of innovation on social stability. Economic growth generated by innovations allows raising the standard of living of the population, contributes to the solution of employment problems, raises

the level of education and healthcare, and softens social contradictions and conflicts.

The sixth aspect is the impact of innovation on the environment and dealing with environmental issues. The seventh aspect involves activating international scientific and technological cooperation, internationalization of economic life, pooling of resources from various countries, and transfer of technologies. The eighth aspect is the dependence of the global competitiveness of the national economy on the level of development of innovation processes. The ninth aspect represents the interrelation of the levels of scientific capability and national security. Finally, the last aspect of this list is the possibility of using scientific and technological achievements for antisocial purposes (Fokin, 2018). The capacity for innovation (of the state, industry or enterprise) is a combination of various types of resources, including material and production, financial, intellectual, scientific and technological, and other resources necessary for the implementation of innovation activities. The results of innovation activity are defined as an effect of the impact of many factors, including:

• General economic situation in the country (region); full resourcing the production;

• Market conditions;

• Qualification of the marketing;

• A level of professionalism of the management, etc.

A solution to the problems of the innovation process requires a developed innovation infrastructure consisting of several affiliated, supporting and service organizations (institutions). The infrastructure includes innovative science parks, business incubators, innovation exchanges, innovation funds, consulting firms, an active stock market, full cover on risks, etc. Furthermore, the dynamic state innovation policy and other specialized organizations are needed. The main functions of the state bodies for innovation:

• Accumulation of funds for research in innovation;

• Coordination of innovation activities;

• Stimulating innovation and cover on risks;

• Creation of a legal base for innovation processes, particularly a system of copyright and intellectual property protection;

• Staff assistance of the innovation;

• Formation of a research and innovation infrastructure;

• Institutional support for innovation processes in the public sector;

• Support for social and environmental branches;

• Improving the social status of innovation;

• Regional regulation of innovation processes;

• Regulation of international issues of innovation processes.

The state innovation policy is an integral part of the social and economic policy, which expresses the state position in relation to innovation activities (Medynsky, 2017). Assuming that, directions, goals, and forms of activity of the state bodies in science, technology, also their achievements are determined. It includes three stages: the initial stage involves the elaboration of scientifically based concepts (belief systems) of the innovation development; this is carried out based on the analysis of the capacity for innovation. Then the main directions of the state support for innovation are defined. At the final stage, practical actions are taken to achieve the goals, directed at increasing innovation activity. The effectiveness of the state innovation policy, methods of its formation and the main directions of support for innovation are to some extent reflected in scientific and technological leadership.

It manifests itself at international scale: expanding the export of scientific and technological intelligential results (licenses, patents, etc.), increasing the export of ready-made innovations and widespread

provision of free scientific, technological and innovative assistance to other countries. In developed countries, the state innovation policy is aimed at providing a favorable economic and investment climate to ensure the implementation and operation of innovation processes. In other words, the state policy for innovation in these countries is a link between the objects of production and academic science. Thus, the main objectives of the state policy for innovation support are defined:

- Creating conditions (legal, economic, organizational) for the implementation of innovation activities;

- Increasing production efficiency and competitiveness of domestic manufacturers of products through the introduction of high-tech innovations in the production process;

- Intensification of innovation activities, as well as the development of entrepreneurship and market relations in innovations;

- Improving the quality of application of state resources allocated to support innovation activities;

- Expansion of the state support for manufacturers using innovative solutions in the production of goods;

- Assistance in expanding the interaction of state entities in the implementation of innovation activities;

• Implementation of measures to support domestic innovative products in the international market and to develop the export capacity of the Russian Federation (Korostyshevskaya, 2017).

The complexity of the object and variety of the state regulation of innovation processes necessitate the development of the state innovation policy that is a set of objectives, as well as methods of influence of state structures on the economy and society as a whole, in order to initiate and enhance economic and social efficiency of innovation processes. Measures of the state innovation policy should include stimulating competition, informatization of the society, standardization and certification of products and services. Along with that, the state should provide support for innovation. This support can be accomplished by direct and indirect methods.

Direct methods include financing research and development and innovative projects from the budget funds, protecting the rights of participants in innovation activities (establishment of a state patent and licensing system), creating a state innovation infrastructure and innovation market, training skilled personnel, and also moral support for innovation activities (granting national awards and honorary titles to outstanding scientists and innovators). The mechanisms of the state regulation of innovation processes can be as follows:

• Accumulation of funds for research and innovation;

• Coordination of innovation activities, i.e. identification of common strategic orientations of innovation processes;

• Stimulating innovation;

• Creating a legal base for innovation processes;

• Formation of a research and innovation infrastructure;

• Institutional support for innovation processes;

• Regulation of the social and environmental focus of innovation;

• Improving the social status of innovation;

• Regional regulation of innovation processes;

• Regulation of the international issues of innovation processes (scientific, technological and innovative cooperation, as well as international innovation transfer).

The role of the state in innovation support, therefore, involves creating a favorable investment climate in scientific and technological programs. The state innovation policy is carried out on the basis of the following keynotes:

• Science is recognized as a socially significant industry, which defines the level of development of the productive capacities of the state;

• Publicity and various forms of public discussion are crucial in choosing the most important areas of development of technology and science, as well as during the examination of scientific and technological projects and programs which carried out on a competitive basis;

• The priority of basic scientific research and development is guaranteed;

• Interaction of educational and scientific-technological activities, involving the participation of workers, graduate students and students of higher education institutions through the creation of educational and scientific complexes at universities, scientific organizations of academies of sciences with the state status, as well as scientific organizations of ministries and other federal bodies of the executive power;

• Providing support for business activities and competition in technology and science;

• The concentration of resources in the main directions of development of technology and science;

• Stimulation of scientific, technological and innovative activity through the creation of a system of state science centers and other structures;

• Integration of the scientific and technological capacity by stimulating their activities;

• Development of international scientific and technological cooperation of Russia at the international level (Korostyshevskaya, 2017).

The need for the state regulation of innovation processes came both from the national significance and the economic content. Currently, innovations are becoming the main means of increasing profits by business entities due to the better supplying the market demand and lower production costs in comparison with competitors. At the same time, under the conditions of classical market mechanisms, the achievement of the scientific and technological results is difficult, and many innovations are simply not introduced into economic practice.

3. CONCLUSION

Innovations are becoming the main means of increasing profits by business entities due to the better supplying the market demand and

lower production costs in comparison with competitors. At the same time, under the conditions of classical market mechanisms, the achievement of the scientific and technological results is difficult, and many innovations are simply not introduced into economic practice. Thus, the state should provide conditions for the effective performance of science and technology in order to regulate innovation activity. For that reason, it is necessary to take steps to introduce high technologies into production. Therefore, there are various programs, a system of state orders for research and development, as well as tax and other elements through which the state supports the innovation.

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Revista de Ciencias Humanas y Sociales

Año 35, Especial N° 21, (2019)

Esta revista fue editada en formato digital por el personal de la Oficina de Publicaciones Científicas de la Facultad Experimental de Ciencias, Universidad del Zulia.
Maracaibo - Venezuela

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