

DOI: 10.18721/JE.12207

UDK 338.242

**ORGANIZATIONAL AND ECONOMIC MECHANISM OF MANAGEMENT
BY INNOVATIVE POTENTIAL OF INDUSTRIAL CLUSTER****A.V. Babkin, S.V. Zdolnikova, A.V. Kozlov, I.A. Babkin**

Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russian Federation

The development of industry and the improvement of the competitiveness of Russian industrial enterprises in the domestic and foreign markets are associated with the transition to a digital model of economic development, involving a high concentration of knowledge-intensive production, knowledge and technology. At the same time, the current level of innovative development of Russian industry does not fully meet the expectations associated with the formation of a new type of economy. The insufficient level of innovation activity of Russian industrial enterprises poses a direct threat to the country's economy due to an increase in import dependence. The quantitative growth of the national economy should be accompanied by innovations, ensuring the qualitative side of the production activities of economic entities, while strengthening their financial sustainability and the financial sustainability of Russia as a whole. In this situation, as shown by foreign and Russian experience, the integration of business entities is becoming an indispensable tool stimulating enterprises' susceptibility to innovations, as well as increase their innovation activity in general. The creation of industrial clusters is one of the current trends in economic transformations of the Russian economy. In accordance with this, the authors formulated the purpose of the study – based on studying the essence of clusters, as well as the concepts and assessments of their innovative potential. The directions of further research are seen by the authors in the study and approbation of the organizational and economic mechanism for managing the innovation potential of clusters of various sectoral orientations.

Keywords: integration, industrial cluster, innovative potential, control system, organizational and economic mechanism

Citation: A.V. Babkin, S.V. Zdolnikova, A.V. Kozlov, I.A. Babkin, Organizational and economic mechanism of management by innovative potential of industrial cluster, St. Petersburg State Polytechnical University Journal. Economics, 12 (2) (2019) 71–83. DOI: 10.18721/JE.12208

**ОРГАНИЗАЦИОННО-ЭКОНОМИЧЕСКИЙ МЕХАНИЗМ УПРАВЛЕНИЯ
ИННОВАЦИОННЫМ ПОТЕНЦИАЛОМ ПРОМЫШЛЕННОГО КЛАСТЕРА****А.В. Бабкин, С.В. Здольникова, А.В. Козлов, И.А. Бабкин**Санкт-Петербургский политехнический университет Петра Великого,
Санкт-Петербург, Российская Федерация

Развитие промышленности и повышение конкурентоспособности российских промышленных предприятий на внутреннем и внешнем рынках сопряжены с переходом на цифровую модель экономического развития, предполагающую высокую концентрацию

наукоемкого производства, знаний и технологий. Вместе с тем сложившийся в настоящее время уровень инновационного развития промышленности России не в полной мере отвечает ожиданиям, связанным с формированием экономики нового типа. Недостаточно высокий уровень инновационной активности российских промышленных предприятий представляет прямую угрозу экономике страны вследствие увеличения импортозависимости. Количественный рост национального хозяйства должен сопровождаться инновациями, обеспечивая качественную сторону производственной деятельности хозяйствующих субъектов, укрепляя при этом как их финансовую устойчивость, так и финансовую устойчивость России в целом. В данной ситуации, как показывает зарубежный и российский опыт экономической деятельности, интеграция хозяйствующих субъектов становится тем необходимым инструментом, который может стимулировать восприимчивость предприятий к нововведениям, а также повышать их инновационную активность в целом. Создание промышленных кластеров – одна из актуальных тенденций экономических преобразований российской экономики. Сформулирована цель исследования – на основе изучения сущности кластеров, а также понятия и оценки их инновационного потенциала разработка организационно-экономического механизма управления инновационным потенциалом промышленных кластеров. Показано, что реализация организационно-экономического механизма управления инновационным потенциалом промышленного кластера позволяет структуре максимально полно адаптироваться к условиям жесткой конкуренции на занимаемом рынке, развивать существующие технологии и запускать новые, осуществлять выпуск сложной инновационной продукции за счет максимального использования имеющегося инновационного потенциала, а также его увеличения, что в итоге повышает конкурентоспособность структуры. Направления дальнейших исследований видятся в исследовании и апробации организационно-экономического механизма управления инновационным потенциалом кластеров различной отраслевой направленности.

Ключевые слова: интеграция, промышленный кластер, инновационный потенциал, система управления, организационно-экономический механизм

Ссылка при цитировании: Бабкин А.В., Здольникова С.В., Козлов А.В., Бабкин И.А. Организационно-экономический механизм управления инновационным потенциалом промышленного кластера // Научно-технические ведомости СПбГПУ. Экономические науки. 2019. Т. 12, № 2. С. 71–83. DOI: 10.18721/JE.12207

Introduction. The development of industry and the improvement of the competitiveness of Russian industrial enterprises in the domestic and foreign markets are associated with a digital transformation of the Russian economy, involving a knowledge-intensive production, knowledge and modern technology. At the same time, the current level of innovative development of Russian industry does not fully meet the expectations associated with the formation of a new type of economy.

The insufficiently high level of innovation activity of Russian industrial enterprises poses a direct threat to the country's economy due to an increase in import dependence. The quantitative growth of the national economy should be based on innovations, ensuring the qualitative side of the

production activities of economic entities, while strengthening their financial sustainability and the financial sustainability of Russia as a whole. In this situation, as shown by foreign and Russian experience in economic development, the integration of business entities is becoming an indispensable tool that can stimulate enterprises' susceptibility to innovations, as well as increase their innovation activity in general.

The creation of industrial clusters is one of the current trends in economic transformations of the Russian economy. By joining in cluster, enterprises are able to more flexibly respond to changes in demand, and organizing joint production improves the quality of various technical developments based on the systemic use of intellectual potential, and also

allows saving resources and obtaining synergistic effect. These circumstances contribute not only to increasing production volumes, but also to the development of high-tech innovative types of products, which leads to an increase in the efficiency of innovation activities of clusters and industries in general.

One of the factors of innovative development of business entities is the formation and effective use of their innovative potential. Assessment of innovation potential plays an important role for the development of innovation policy and innovation strategy of the activities of enterprises. However, the assessment of innovation potential does not allow for a comprehensive coverage of all aspects related to its formation, development and implementation. To this end, it is necessary to create a system for managing the innovative potential provided by the organizational and economic mechanism. An effective management mechanism is the main tool of successful adaptation of industrial clusters to uncertain and rapidly changing environmental conditions and ensures the formation and implementation of such a development scheme in which the best results in a particular situation are achieved. These factors determines the relevance of the research topic.

The purpose and objectives of the study. On the basis of studying the essence of clusters, as well as the concepts and assessments of their innovative potential, develop an organizational-economic mechanism for managing the innovative potential of industrial clusters. In accordance with the objective, the authors consider the following tasks:

analysis of the definition of «innovative potential of an industrial cluster»;

development of a management system for the innovative potential of an industrial cluster;

analysis of modern approaches to the definition of the term «organizational and economic management mechanism»;

formulation of the author's understanding of the organizational and economic mechanism for managing the innovative potential of an industrial cluster and highlighting its main components;

development of an organizational and economic mechanism for managing the innovation potential of an industrial cluster.

Research methodology. The concept of the innovative potential of the industrial cluster. In modern economic conditions, increasing the competitiveness of any market entity, entering new markets and increasing cash flow is possible only by creating the necessary prerequisites for further development based on the creation, introduction and dissemination of technical, technological and organizational innovations. In this context, the transition to an innovative development path is a prerequisite for the sustainable development of market actors. Innovative development is a systemic process of social and economic development based on knowledge and innovations, realizing the competitive advantages of economic entities and ensuring their sustainable economic growth.

One of the factors of innovative development of economic entities is the formation and effective use of their innovative potential [18]. The assessment of innovation potential plays an important role in the development of innovation policy and the innovation strategy of enterprises, as well as industrial policy and development programs for individual economic entities, industries, regions and the economy as a whole. Innovation potential is one of the factors that determines the intensity of innovation, and, ultimately, its effectiveness.

Innovation potential is a complex and multidimensional category, which is discussed by foreign and domestic scientists, starting from the third quarter of the XX century. The study of the essence and content of the term «innovative potential» is devoted to the work of such scientists as Antonenko I.V., Balabanova I., Bortnik O.A., Gubin E.P., Danko M., Glukhov V.V. , Emelyanov S.G., Bogdanova E.L., Zinchenko I.V., Silkina G.Yu., Kozlov A.V., Kokurin D.I., Makarchenko M.A., Korobeinikov O.P., Kravchuk I.S., Monastyrny E.A., Morozova, L.E., Suvorinov A.V., Trifilova A.A., Tyulkov G.I., Fedoraev S.V., Cherednikova L.E., Yuryev V.M. and others. Despite the fact that a large number of publications are devoted to the problems of

determining the innovative potential, currently there is no single established definition of this term in the Russian scientific literature.

Currently, the Russian scientific literature uses different approaches to the definition of the term «innovative potential». The analysis of approaches conducted by the authors is presented in Tab. 1.

Taking into account the existing approaches to the definition of the term «innovative potential», the authors proposed to consider the innovative potential of the industrial cluster as the capability of the cluster members to transform the available resources into the results of innovative activities. This definition includes three main elements:

1) resources that are the material basis for the implementation of innovation activities;

2) abilities, i.e. the ability to translate the available resources into the results of innovation activities (innovative products, works, services), while the author proposes to assess abilities through specific results of innovation activities;

3) opportunities, i.e. the presence of favorable or unfavorable trends in the development of innovative activity of the subject.

The author's definition of innovative potential allows not only to characterize the level of cluster innovation in specific periods of time, but also to reflect the trend of its change, thereby presenting the innovative potential as a complex indicator in the Resource-Abilities-Opportunities coordinate system. This approach provides a comprehensive view of the innovation potential and allows you to more fully reveal its essence.

Table 1

Approaches to the definition of the term «innovative potential»

Approach to the definition of the term «innovation potential»	Authors	Content of the approach
1. Innovative potential as an integral part of economic potential	Morozova L.E., Bortnik O.A., Kravchuk I.S. [17], Huseynova T.T.K. [4], Donets O.V. [7]	Innovation potential is considered as an integral part of the economic potential, which determines the ability of an economic entity to innovative development
2. Innovative potential as a scientific and technical potential	Danko M. [5], Leontyev B.B. [14]	Innovative potential is considered as a set of resources and conditions for the implementation of applied research and development, including experimental design and experimental technological work
3. Innovation potential as a set of resources	Fedoraev S.V. [27], Antonenko I.V. [1], Vasyukhin O.V., Pavlova E.A. [3], Zhits G.I. [9], Reshetnicov A.V. [23], Chudakov F.I. [29]	Innovation potential is considered as a set of human, material, scientific, technical, informational and financial resources intended for the implementation of the innovation process
4. Innovation potential as the ability and willingness to implement the innovation process	Monastyrny E.A. [16], Fatkhutdinov R.A., Shamina L.K. [30]	Innovation potential is considered as the ability and willingness of an economic entity to organize and implement processes aimed at achieving innovative results
5. Innovation potential as a set of opportunities	Trifilova A.A. [25], Lisin B.K., Fridlyanov V.N. [15], Nikolaev A. [19], Kozlov A.V. [10]	Innovation potential is considered as a set of scientific, technical, technological, infrastructural, financial, legal, sociocultural and other opportunities to ensure the perception and implementation of innovations, i. e. getting innovation

Source: compiled by the authors.

The combination of the three components of the innovation potential and the connections between them allows us to consider the innovation potential as a system. The input of the system is a resource component; the output of the system is the obtained innovative results (goods, works, services, technologists, etc.). The interaction of the innovation potential with the external and internal environment of the industrial cluster is manifested in the performance of certain functions, among which are:

- 1) research function – the innovation potential contributes to the development of the cluster's scientific and technical activities, acts as an ideas generator;
- 2) production and technical function – the innovation potential contributes to the development and introducing of improved, more efficient ways of producing goods (works, services);
- 3) organizational and management function – the innovative potential facilitates the processes of optimal organization of manufacturing, transportation, sales and supply;
- 4) information function – the innovative potential contributes to the organization of information flows in the field of scientific, technical and innovation activities, increasing the reliability and efficiency of obtaining information.

Thus, the innovation potential is a comprehensive indicator of the level of development of the innovation activity of the industrial cluster, which characterizes the capability of the cluster members to develop and introduce innovations. The main purpose of the innovation potential is to ensure ultimately its effective use, such a level of cluster development is ensured that would meet or exceed the necessary one.

The management system of innovative potential of the industrial cluster. Management of innovative potential is a system of management actions aimed on the achievements of the goals through transforming resources into innovative products (works, services).

The process of managing innovation potential can be represented in a sequence of stages. So, Knyazev SA [11] identifies six stages of innovation potential management:

- 1) the definition of the mission, setting goals;
- 2) development of a basic strategy;

- 3) the definition of innovative goals;
- 4) assessment of innovation potential;
- 5) the development of innovative projects, the choice of an alternative set of options;
- 6) implementation of the innovation potential in the framework of the selected innovation projects.

A similar point of view is expressed by Reshetnikov A.V. [22], however, in its model there is a cyclicity factor, which allows adjusting the mission, goals and strategies depending on the results obtained. Another example of an innovation potential management model is given by F. Chudakov, highlighting four main management stages [28]:

- 1) analysis of the position of an enterprise and its prospects on the market, taking into account the existing strategy;
- 2) the formation of innovative potential;
- 3) potential analysis;
- 4) the implementation of innovative potential.

According to the authors, the universal model of managing the innovative potential of an industrial cluster should include the following elements: setting innovative goals; determination of the current level of innovation development; analysis of internal and external factors affecting the level of innovation potential; realization of innovative potential; adjustment of the developed innovation strategy; the presence of «feedback».

On the basis of the research conducted, the authors identified seven stages of managing the innovative potential of an industrial cluster:

- 1) the formulation of problems of managing the innovation potential of the cluster;
- 2) the formulation of the goals and objectives of the management of innovative potential;
- 3) analysis of the current state of innovation cluster development, including analysis of the internal and external environment, as well as the current situation in the market;
- 4) assessment of the innovative potential of the cluster;
- 5) development of organizational and economic measures to increase the innovation potential of the cluster;
- 6) implementation of organizational and economic measures to increase the innovation potential of the cluster;

7) adjustment of organizational and economic measures to increase the innovation potential of the cluster.

The management of the innovative potential of an industrial cluster contributes to the formation of the necessary conditions for its innovative activity, since strategically determines the direction of efforts in the creation of innovative products, works, services, processes and technologies based on the development and adjustment of the cluster's key areas in accordance with changing business environment [6, 20].

The process of managing the innovation potential of the cluster is inextricably linked with the organizational and economic management mechanism that provides this process. In this connection, there is a need to develop an effective organizational and economic mechanism for managing the innovative potential of an industrial cluster, which will allow the efficient use of all the resources and capabilities of cluster enterprises for the implementation of the innovation process.

The management system of the innovative potential of the industrial cluster is part of the innovation management system of the cluster, which in turn is an element of the overall enterprise management system [2]. Analysis of modern management and theoretical foundations of management made it possible to determine the cluster's innovation potential management system as a set of components, including the subject and object of management, strategic attitudes, functions, principles, resources and tools, interconnected and forming a mechanism to influence the innovative potential of the cluster in order to improve efficiency of innovations. In this case, the organizational and economic mechanism for managing the innovation potential is formed by the cluster innovation management system through the components listed above. The model of the innovation potential management system, determining the place of the organizational and economic management mechanism is presented in Fig. 1.

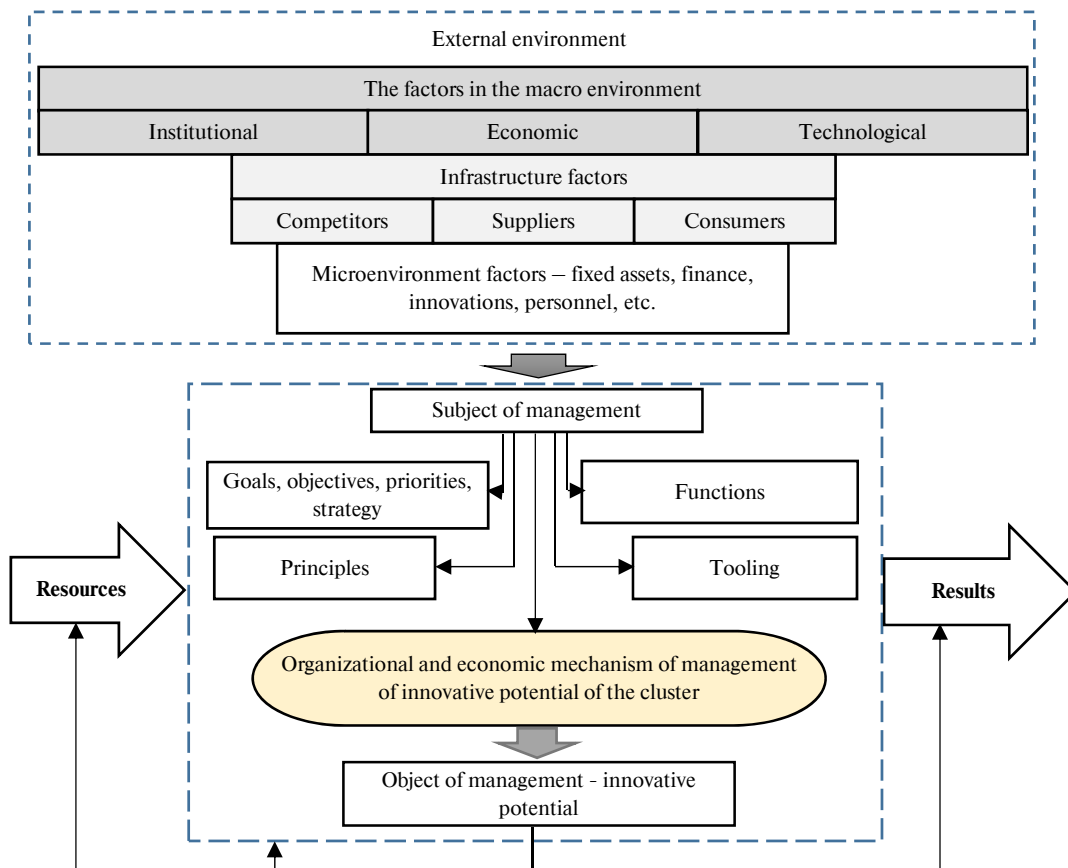


Fig. 1. Model of the management system of innovative potential of the industrial cluster

The subject or governing body is the person or group of persons authorized to make managerial decisions regarding the innovative potential of the cluster. The object of management is directly the innovation potential; the result of management is an increase in its level or the acquisition of new or development of the existing competitive advantages of the cluster in the field of innovation activity.

System «output» – the results of innovation activities – produced innovative goods (works, services) that must be competitive in the market, and also contribute to the achievement of the profitability of the cluster enterprises. As the «input» of the system, various types of resources are considered, including material, financial, labor, production, information resources, etc.

Macro environment, infrastructure and microenvironment that have a direct or indirect impact on the competitiveness, efficiency and stability of the industrial cluster functioning are considered as elements of the external environment [13].

Macro environment factors can be presented in the form of three enlarged groups: institutional, economic and technological factors.

The cluster innovation management system is a highly dynamic system with changing characteristics, and therefore the elements of this system need some coordination of their activities, which is provided by the organizational and economic mechanism for managing the innovation potential of the industrial cluster.

The concept of organizational and economic mechanism. In domestic studies, interest in studying the applicability of mechanisms in the economy in the 70s of the 20th century, when the term «economic mechanism» was introduced, by which was understood the combination of elements of economic management at different levels. Later, the economic literature began to use the terms «economic mechanism», «organizational mechanism», «management mechanism», «financial mechanism», «organizational and economic mechanism», etc. These terms were developed in the works of the authors Abalkin L.I., Osipova Yu.M., Belyaeva A.A., Mocherny S.V., Bunicha P.G., Tambovtseva V.L., Minaeva E.S., Zabredina L.R.,

Monakhova A.V., Lysenko Y., Egorova P., Mishenina N.V., Kovalenko N.V., Vines A.R., Shmalena G., Kulman A., Burkova V.N., Kondratieva V.V., Raizberg B.A., Lozovskogo L.Sh., Starodubtseva E.B., Fedorovich V.O. et al. [2–20 et al.].

In the Modern Economic Dictionary [21], the concept of a mechanism is defined as a set of methods and means of influencing economic processes for the purpose of their regulation. Such a point of view is most prevalent, in particular, in the works of SA Egorychev [8], IS Shatilova, NA Slyayeva, MP Tushkanova [31], Holodkova K.S. [32], Nikolaev A. [19] the organizational-economic mechanism is considered as a set of principles, methods, tools, management models, ensuring the achievement of strategic goals.

Tskhurbaeva F.Kh., Farnieva I.T. consider the organizational and economic management mechanism as a multi-level hierarchical system of basic interrelated elements and their typical groups (subjects, objects, principles, methods and tools, etc.), as well as ways of their interaction, including integration and disintegration, during and under the influence of which the economic relations of the state, owners, lenders and personnel are harmonized, including representatives of the top management of the corporation and the society [28].

Authors Titov A.B. and Mashevskaya OV they understand the organizational and economic mechanism of management as a combination of elements that are influenced by external and internal factors, including the processes occurring at the enterprises of the industry, from the totality of which the whole model of control of the object is formed [24].

Gauzhaev A.Z., Ilaeva Z.M., Krolivetsky E.N., Olnev O.K. [12] believe that the organizational and economic mechanism of management should have the following characteristics: efficiency, reliability based on authenticity and modern scientific and technical methods of work, optimal leveling and balance of centralization and decentralization.

Chalenko A.Yu. emphasizes that the organizational-economic management mechanism cannot be considered without a resource component and defines this economic category as a set of resources of the economic process and methods of their connection.

Proponents of the process approach, based on the IDEF0 functional modeling methodology, look at the organizational and economic mechanism of management as a resource management of the process, including a set of interrelated elements that contribute to the process function [21].

According to Uskov A.E. the mechanism cannot exist outside the process, since it is its integrating part aimed at performing process functions only; the mechanism does not have its own governing body depending on control by the external subject; the correlation of the mechanism with the control has an internal meaningful field in terms of statics and dynamics, as well as innovative solutions [26].

In determining the economic essence of the organizational and economic management mechanism, the authors follow a systematic approach and propose to consider it as a set of interrelated elements, including the principles of transforming inputs and outputs, applied functions, applied methods and technologies, as well as organizational and economic impacts of the subject on the object aimed at ensuring the process of managing the continuous development of the facility. The main backbone factor of the control mechanism is its ability to self-control, self-esteem and self-preservation, as well as high adaptability to changes in the external and internal business environment.

In accordance with the proposed definition, we highlight the following features of the organizational and economic management mechanism as a system:

- 1) the presence of goals and objectives, causing the subject to influence the object;
- 2) the presence of interrelated elements that form the internal structure of the organizational and economic mechanism;
- 3) the presence of functions for which the organizational-economic mechanism has been created;
- 4) availability of resources required for the functioning of the organizational and economic mechanism;
- 5) the existence of external relations with other mechanisms and processes.

The organizational-economic mechanism is implemented through the impact toolkit – a set of

actions of an every tool. The authors distinguish organizational and economic instruments of influence. Organizational ones include: developing development strategies, organizing the implementation of various programs and projects, creating investment attractiveness, etc. The economic impacts include budgeting, financing, auditing, outsourcing, price regulation, etc.

Thus, in accordance with the presented conceptual model, we will consider the organizational and economic mechanism for managing the innovative potential of an industrial cluster as a system, including a set of principles, functions, methods, technologies and relationships between them, as well as ways to influence them in order to increase efficiency implementation of this process.

Results

Development of an organizational and economic mechanism for managing the innovative potential of an industrial cluster. The organizational and economic mechanism for managing the innovative potential of an industrial cluster is shown in Fig. 2.

The object of management is the innovative potential of the cluster, and the subject of management is the management company of the cluster (hereinafter the decision maker – DM), which implements the functions of innovation management. It should be noted that the subject will be affected by such specific internal factors as production and business relations, emerging between cluster members, the level of their innovative development and the specifics of the activity (production, research, finance, sales, etc.).

The purpose of creating an organizational-economic mechanism for managing the innovation potential of a cluster is to increase the effectiveness of its innovation activity and develop its innovation potential.

The objectives of the functioning of the organizational and economic mechanism of managing the innovative potential of the cluster are:

- 1) maintain the existing and create favorable conditions for the implementation of the innovation process in the cluster;

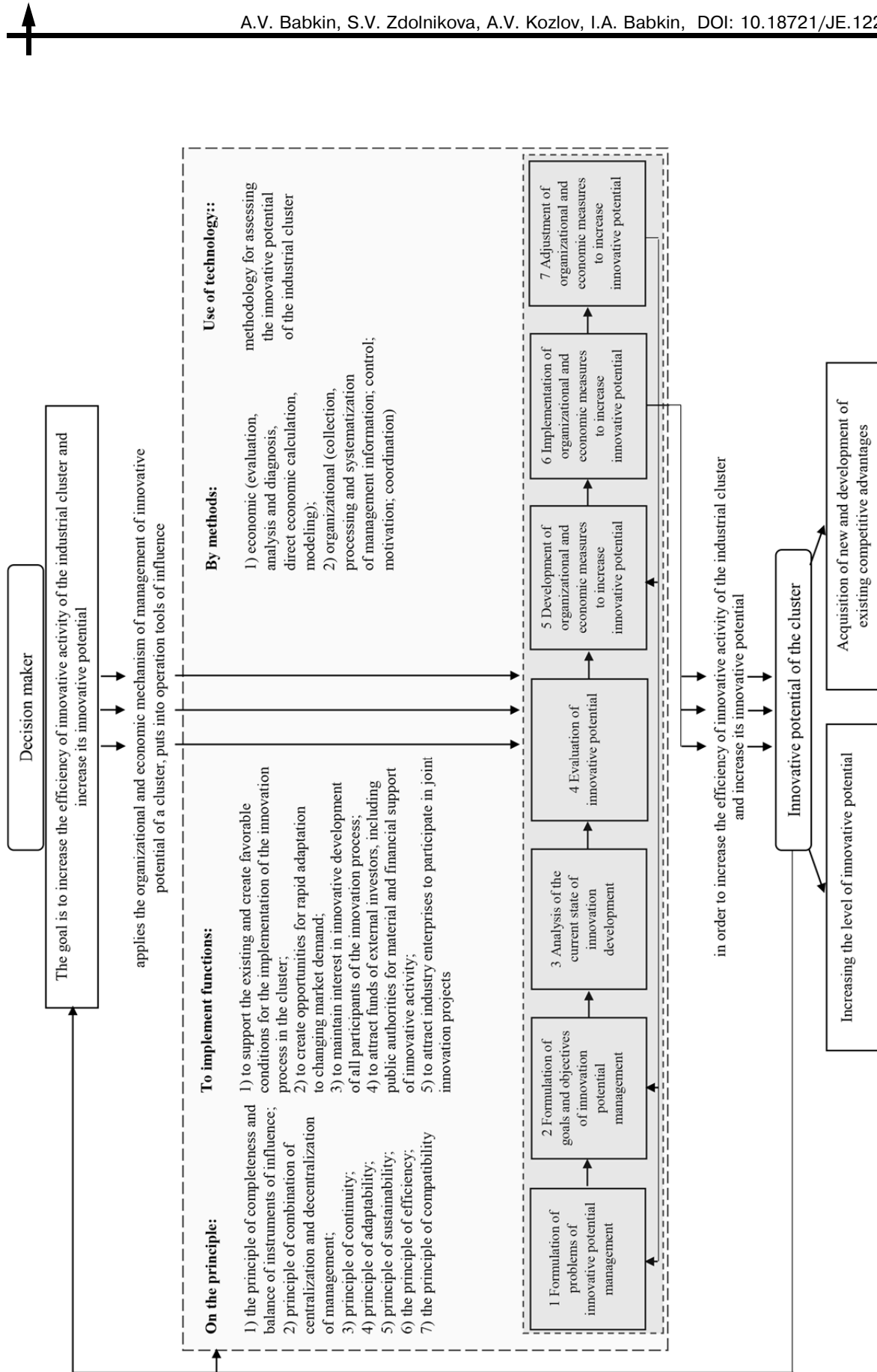


Fig. 2. The organizational and economic mechanism for managing the innovative potential of an industrial cluster

2) to create opportunities for rapid adaptation to changing market demand;

3) to maintain interest in the innovation development of all participants in the innovation process;

4) to attract funds from external investors, including government agencies, for the material and financial support of innovation activities;

5) to attract industry enterprises to participate in joint innovation projects.

As a means of influencing the organizational and economic mechanism on the process of managing the innovation potential of a cluster, the following can be singled out:

1) economic:

– attracting external sources of financing innovation;

– resource provision of the innovation process;

– economic incentives for the development of production and business relations within the cluster and other business entities;

2) organizational:

– organizational and methodological assistance for joint innovation activities of organizations within the cluster;

– organization, coordination and control of the innovation process;

– organization of the system of continuous monitoring of the development of innovation activities in the cluster.

The presented organizational and economic management mechanism is designed to ensure the effective development of the cluster's innovation activities based on the management of its innovative potential.

Effective management of the cluster's innovative potential involves solving the problem of financial sustainability in the long term, as well as solving the problem of sustainable development of the cluster as a whole. In this connection, it is necessary, firstly, to develop the cluster innovative development strategy in a timely manner and formulate on its basis actual goals and objectives for managing the innovation potential; secondly, to systematically evaluate the innovative potential of the cluster; thirdly, to determine the compliance level of the innovation potential of the cluster required.

The coordinated development and interaction of enterprises engaged in innovative activities within the cluster structure forms an innovative system, which is not just the sum of individual components, but a new whole, which causes the appearance of a synergistic effect. This circumstance determines the relevance of improving the organizational and economic mechanism of managing the innovation potential of the cluster, since modern market conditions force us to look for opportunities for a balanced and sustainable innovative development of the cluster through a significant transformation of its innovation management system

Conclusions. During the study, the following results were obtained:

1) the authors' definition of the term «innovation potential of an industrial cluster» is given, which represents it as the ability and ability of cluster enterprises to transform available resources into concrete results of innovation activities;

2) developed a system for managing the innovative potential of an industrial cluster, which is a combination of components, including the subject and object of management, strategic installations, functions, principles, resources and tools, interrelated and forming the mechanism of influence on the innovative potential of the cluster in order to increase the efficiency of innovation

3) the authors' definition of the term «organizational and economic mechanism for managing the innovative potential of an industrial cluster» is given, and the main components of the organizational and economic mechanism are highlighted, among which are functions, principles, methods, technologies;

4) an organizational-economic mechanism has been developed for managing the innovative potential of an industrial cluster, designed to ensure the effective development of the cluster's innovative activities based on the management of its innovative potential.

The organizational and economic mechanism for managing the innovation potential of an industrial cluster is a system of tools and impact processes that are used in practice to obtain innovative results. It should be noted that only the effective and scientifically grounded use of various instruments of

influence will allow to carry out the required influence on the innovation process and to ensure obtaining the desired results.

Thus, the implementation of the organizational and economic mechanism of managing the innovation potential of an industrial cluster allows the structure to fully adapt to the conditions of fierce competition in the market, develop existing technologies and launch

new ones, to produce complex innovative products by maximizing the existing innovation potential and increasing it, which ultimately increases the competitiveness of the cluster.

The paper is elaborated in framework of scientific project №18-010-01119 financed by Russian Foundation for Basic Research

REFERENCES

- [1] **I.V. Antonenko**, Tipologiya i klassifikatsiya innovatsionnogo potentsiala ekonomicheskoy sistemy, Problemy sovremennoy ekonomiki, 2 (2010) 33–37.
- [2] **A.V. Babkin, A.O. Novikov**, Cluster as a subject of economy: essence, current state, development, St. Petersburg State Polytechnical University Journal. Economics, 1 (235) (2016) 9–29. DOI: 10.5862/JE.235.1
- [3] **O.V. Vasyukhin, E.A. Pavlova**, Strategiya formirovaniya i razvitiya innovatsionnogo potentsiala promyshlennogo predpriyatiya, Nauchno-tehnicheskii vestnik SPbGU ITMO, 2 (2010) 113–120.
- [4] **T.T.K. Guseynova**, Innovatsionnyy potentsial – vazhneyshaya sostavlyayushchaya ekonomicheskogo potentsiala, Aktualnyye problemy nauki. ekonomiki i obrazovaniya XXI veka : sb. (2012) 85–92.
- [5] **M. Danko**, Innovatsionnyy potentsial v promyshlennosti Ukrainy, Ekonomist, 10 (1999) 26–32.
- [6] **A.B. Titov, O.V. Mashevskaya**, Organizatsionno-ekonomicheskii mekhanizm upravleniya innovatsionnoy deyatelnostyu predpriyatiya, Voprosy ekonomiki i prava, 1 (2016) 110–114.
- [7] **O.V. Donets**, Ekonomicheskaya kategoriya «innovatsionnyy potentsial»: sushchnost i sodержaniye, Nauka i sovremennost, 32-2 (2012) 136–145.
- [8] **S.A. Egorychev**, Organizatsionno-ekonomicheskii mekhanizm upravleniya ustoychivym razvitiem munitsipalnogo obrazovaniya, Vestnik OGU, 1 (162) (2014) 49–56.
- [9] **G.I. Zhits**, Innovatsionnyy potentsial. Saratov, 1999.
- [10] **A.V. Kozlov, Sya, Chzhan**, Innovatsionnyy potentsial promyshlennykh predpriyatiy: metodika opredeleniya i sravnitelnyy analiz na primere ugolnoy promyshlennosti Kitaya, Vestnik Zabaykalskogo gosudarstvennogo universiteta, 05 (120) (2015) 100–109.
- [11] **S.A. Knyazev**, Upravleniye innovatsionnym potentsialom predpriyatiya: dis. ... kand. ekon. nauk. Volgograd. 2010.
- [12] **E.N. Krolivetskiy, O.K. Olnev**, Rol organizatsionno-ekonomicheskogo mekhanizma v ratsionalizatsii vzaimodeystviya tekhnologicheskikh elementov sistemy strategicheskogo upravleniya investirovaniyem v novshestva, Vestnik Chuvashskogo Universiteta, 1 (2012) 392–395.
- [13] **A.V. Babkin**, The problem of decision making on the development of business systems, St. Petersburg State Polytechnical University Journal. Economics, 3 (173) (2013) 119–130.
- [14] **P.P. Lapshin, A.E. Khachaturov**, Sinergeticheskii effekt pri sliyaniiakh i pogloshcheniyakh, Menedzhment v Rossii i za rubezhom, 2 (2005) 27.
- [15] **B.K. Lisin, V.N. Fridlyanov**, Innovatsionnyy potentsial kak faktor razvitiya (Mezhgosudarstvennoye sotsialno-ekonomicheskoye issledovaniye), Innovatsii, 7 (2002) 17–35.
- [16] **E.A. Monastyrnyy**, Termíny i opredeleniya v innovatsionnoy sfere, Innovatsii, 2 (2008) 28–31.
- [17] **L.E. Morozova, O.A. Bortnik, I.S. Kravchuk**, Ekspertnyye metody i tekhnologii kompleksnoy otsenki ekonomicheskogo i innovatsionnogo potentsiala predpriyatiy. M.: MGUS. 2009. 81 s.
- [18] **A.O. Novikov, A.V. Babkin**, Innovative system of the enterprise: the condition and development prospects, St. Petersburg State Polytechnical University Journal. Economics, 4 (61) (2008) 208–218.
- [19] **A. Nikolayev**, Innovatsionnoye razvitiye i innovatsionnaya kultura, Problemy teorii i praktiki upravleniya, 5 (2001) 75–79.
- [20] **A.S. Osipenko**, Tekhnologicheskii transfer v sisteme obespecheniya innovatsionnogo razvitiya promyshlennosti, Ekonomicheskoye vozrozhdeniye Rossii, 1 (39) (2014) 83–88.
- [21] Osnovnyye ponyatiya IDEF0. URL: <http://www.management.com.ua/qm/qm014.html>
- [22] **B.A. Rayzberg, L.Sh. Lozovskiy, E.B. Starodubtseva**, Sovremennyy ekonomicheskii slovar. M.: Infra-M. 1999.
- [23] **A.V. Reshetnikov**, Upravleniye realizatsiyey innovatsionnogo potentsiala v promyshlennosti: dis. ... kand. ekon. nauk. Volgograd. 2004.
- [24] **A.B. Titov, O.V. Mashevskaya**, Organizatsionno-ekonomicheskii mekhanizm upravleniya innovatsionnoy deyatelnostyu predpriyatiya, Voprosy ekonomiki i prava, 1 (2016) 110–114.

[25] **A.A. Triflova**, Analiz innovatsionnogo potentsiala predpriyatiya, *Innovatsii*, 6 (2003) 67–72.

[26] **A.E. Uskov**, Sovershenstvovaniye sistemy upravleniya biznes-protsessami v elektrosetevykh kompaniyakh: dis. ... kand. ekon. nauk. M., 2012.

[27] **S.V. Fedorayev**, Innovatsionnyy potentsial: soderzhanie. struktura. metodika otsenki, *Problemy upravleniya riskami v tekhnosfere*, 2 (14) (2010) 97–104.

[28] **F.Kh. Tskhurbayeva. I.T. Farniyeva**, Organizatsionno-ekonomicheskii mekhanizm upravleniya predpriyatiyami APK, *TERRA ECONOMICUS (Ekonomicheskii vestnik Rostovskogo gosudarstvennogo universiteta)*, 2 (3) (2009) 151–154.

[29] **F.I. Chudakov**, Mekhanizm formirovaniya i upravleniya innovatsionnym potentsialom promyshlennogo predpriyatiya: dis. ... kand. ekon. nauk. M., 2003.

[30] **T.Iu. Goraeva, L.K. Shamina**, Monitoring and assessment technique of innovative activity of an enterprise, *St. Petersburg State Polytechnical University Journal. Economics*, 3 (221) (2015) 198–210. DOI: 10.5862/JE.221.19

[31] **I.S. Shatilov, N.A. Slyudayev. M.P. Tushkanov**, Ekonomicheskii mekhanizm khozyaystvovaniya i intensivnyye tekhnologii. M.: Agropromizdat. 2002.

[32] **K.S. Kholodkova**, Analiz podkhodov k opredeleniyu sushchnosti organizatsionno-ekonomicheskogo mekhanizma upravleniya, *Sovremennyye nauchnyye issledovaniya i innovatsii*, 5(61) (2016) 213–221.

BABKIN Aleksandr V. E-mail: al-vas@mail.ru

ZDOLNIKOVA Svetlana V. E-mail: s.v.zdolnikova@yandex.ru

KOZLOV Aleksandr V. E-mail: avk55-spb@yandex.ru

BABKIN Ivan A. ivan.babkin@spbstu.ru

СПИСОК ЛИТЕРАТУРЫ

[1] **Антоненко И.В.** Типология и классификация инновационного потенциала экономической системы // *Проблемы современной экономики*. 2010. № 2. С. 33–37.

[2] **Бабкин А.В., Новиков А.О.** Кластер как субъект экономики: сущность, современное состояние, развитие // *Научно-технические ведомости Санкт-Петербургского государственного политехнического университета. Экономические науки*. 2016. № 1 (235). С. 9–29. DOI: 10.5862/JE.235.1

[3] **Васюхин О.В., Павлова Е.А.** Стратегия формирования и развития инновационного потенциала промышленного предприятия // *Научно-технический вестник СПбГУ ИТМО*. 2010. № 2. С. 113–120.

[4] **Гусейнова Т.Т.К.** Инновационный потенциал – важнейшая составляющая экономического потенциала // *Актуальные проблемы науки, экономики и образования XXI века : сб.* 2012. С. 85–92.

[5] **Данько М.** Инновационный потенциал в промышленности Украины // *Экономист*. 1999. № 10. С. 26–32.

[6] **Титов А.Б., Машевская О.В.** Организационно-экономический механизм управления инновационной деятельностью предприятия // *Вопросы экономики и права*. 2016. № 1. С. 110–114.

[7] **Донец О.В.** Экономическая категория «инновационный потенциал»: сущность и содержание // *Наука и современность*. 2012. № 32-2. С. 136–145.

[8] **Егорычев С.А.** Организационно-экономический механизм управления устойчивым развитием муници-

пального образования // *Вестник ОГУ*. 2014. № 1 (162). С. 49–56.

[9] **Жиц Г.И.** Инновационный потенциал. Саратов, 1999.

[10] **Козлов А.В., Чжан Ся.** Инновационный потенциал промышленных предприятий: методика определения и сравнительный анализ на примере угольной промышленности Китая // *Вестник Забайкальского государственного университета*. 2015. № 05 (120). С. 100–109.

[11] **Князев С.А.** Управление инновационным потенциалом предприятия: дис. ... канд. экон. наук. Волгоград, 2010.

[12] **Кроливецкий Э.Н., Ольнев О.К.** Роль организационно-экономического механизма в рационализации взаимодействия технологических элементов системы стратегического управления инвестированием в новшества // *Вестник Чувашияского Университета*. 2012. № 1. С. 392–395.

[13] **Бабкин А.В.** Задачи принятия решений по развитию предпринимательских систем // *Научно-технические ведомости Санкт-Петербургского государственного политехнического университета. Экономические науки*. 2013. № 3 (173). С. 119–130.

[14] **Лапшин П.П., Хачатуров А.Е.** Синергетический эффект при слияниях и поглощениях // *Менеджмент в России и за рубежом*. 2005. № 2. С. 27.

[15] **Лисин Б.К., Фридлянов В.Н.** Инновационный потенциал как фактор развития (Межгосударственное социально-экономическое исследование) // *Инновации*. 2002. № 7. С. 17–35.

- [16] **Монастырный Е.А.** Термины и определения в инновационной сфере // *Инновации*. 2008. № 2. С. 28–31.
- [17] **Морозова Л.Э., Бортник О.А., Кравчук И.С.** Экспертные методы и технологии комплексной оценки экономического и инновационного потенциала предприятий. М.: МГУС, 2009. 81 с.
- [18] **Новиков О.А., Бабкин А.В.** Инновационная система предприятия: состояния и перспективы развития // *Научно-технические ведомости Санкт-Петербургского государственного политехнического университета. Экономические науки*. 2008. № 4 (61). С. 208–218.
- [19] **Николаев А.** Инновационное развитие и инновационная культура // *Проблемы теории и практики управления*. 2001. № 5. С. 75–79.
- [20] **Осипенко А.С.** Технологический трансфер в системе обеспечения инновационного развития промышленности // *Экономическое возрождение России*. 2014. № 1 (39). С. 83–88.
- [21] Основные понятия IDEF0. URL: <http://www.management.com.ua/qm/qm014.html>
- [22] **Райзберг Б.А., Лозовский Л.Ш., Стародубцева Е.Б.** Современный экономический словарь. М.: Инфра-М, 1999. 479 с.
- [23] **Решетников А.В.** Управление реализацией инновационного потенциала в промышленности: дис. ... канд. экон. наук. Волгоград, 2004.
- [24] **Титов А.Б., Машевская О.В.** Организационно-экономический механизм управления инновационной деятельностью предприятия // *Вопросы экономики и права*. 2016. № 1. С. 110–114.
- [25] **Трифилова А.А.** Анализ инновационного потенциала предприятия // *Инновации*. 2003. № 6. С. 67–72.
- [26] **Усков А.Е.** Совершенствование системы управления бизнес-процессами в электросетевых компаниях: дис. ... канд. экон. наук. М., 2012.
- [27] **Федораев С.В.** Инновационный потенциал: содержание, структура, методика оценки // *Проблемы управления рисками в техносфере*. 2010. № 2 (14). С. 97–104.
- [28] **Цхурбаева Ф.Х., Фарниева И.Т.** Организационно-экономический механизм управления предприятиями АПК // *TERRA ECONOMICUS (Экономический вестник Ростовского государственного университета)*. 2009. № 2, ч. 3. С. 151–154.
- [29] **Чудаков Ф.И.** Механизм формирования и управления инновационным потенциалом промышленного предприятия: дис. ... канд. экон. наук. М., 2003.
- [30] **Гораева Т.Ю., Шамина Л.К.** Методика мониторинга и оценки инновационной деятельности предприятия // *Научно-технические ведомости СПбГПУ. Экономические науки*. 2015. № 3 (221). С. 198–210. DOI: 10.5862/JE.221.19
- [31] **Шатилов И.С., Слюдаев Н.А., Тушканов М.П.** Экономический механизм хозяйствования и интенсивные технологии. М.: Агропромиздат, 2002. 251 с.
- [32] **Холодкова К.С.** Анализ подходов к определению сущности организационно-экономического механизма управления // *Современные научные исследования и инновации*. 2016. № 5(61). С. 213–221.

БАБКИН АЛЕКСАНДР ВАСИЛЬЕВИЧ. E-mail: al-vas@mail.ru

ЗДОЛЬНИКОВА Светлана Вячеславовна. E-mail: s.v.zdolnikova@yandex.ru

КОЗЛОВ Александр Владимирович. E-mail: avk55-spb@yandex.ru

БАБКИН Иван Александрович. ivan.babkin@spbstu.ru

Статья поступила в редакцию: 22.02.19