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# Exploring the Impact of Territorial Clusters on Driving Innovative Development Management

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**Abstract**

This article examines the nature and importance of territorial clusters in the management of innovative development. It examines the current state of emerging and established territorial innovation clusters, the financial support mechanisms available, and strategies for managing risks associated with cluster financing. In addition, it outlines the fundamental principles of implementing cluster policies. The article is intended for researchers, educators, and students of economic disciplines, as well as managers and specialists working in innovative enterprises. It was developed as part of a research project funded by a grant from the President of the Russian Federation for young scientists—candidates of science MK-3834.2019.6.

**Keywords:** Innovation Development, Financial Risks, Cluster Policy, Territorial Innovation Clusters, Subsidies, Financial Mechanisms.

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## Introduction

At the current stage of economic development, economic growth driven by innovation is widely recognized. A territorial cluster refers to a network of enterprises, equipment suppliers, component manufacturers, specialized production and service providers, as well as research and educational institutions, all interconnected through geographic proximity and functional interdependence in the production and distribution of goods and services. The development of such clusters helps optimize the integration of domestic enterprises into production value chains while enhancing the competitiveness of Russian products and services.

Over the past decades, innovation clusters have proven to be one of the most effective tools for stimulating and improving the quality of innovation. Implementing an active cluster policy can strengthen the market positions of cluster participants, support positive development trends in administrative regions, expand export potential, address structural imbalances, and encourage the adoption of modern technologies, management methods, and production models.

However, only a limited number of clusters have progressed to the stage of practical implementation. The actual development of clusters depends not only on cluster policy but also on entrepreneurial activity, innovative initiatives, and a competitive business environment.

### *Problem Statement*

A knowledge-based economy cannot achieve sustainable development without a strong emphasis on innovation. The innovative activities of different economic entities play a crucial role in determining their efficiency and competitiveness, as well as that of the national economy as a whole. With global competition intensifying, businesses must explore and implement new organizational models for creating and developing innovations.

The challenges of fostering innovation-driven economic growth have been extensively analyzed in economic literature. The foundations of innovation theory were laid by J. Schumpeter, who distinguished between "economic development" and "economic growth". Theories of post-industrial and new-industrial societies, which have shaped the modern innovation-driven economy, were further developed by scholars such as J. K. Galbraith, P. Drucker, and M. Ketelsen. Among Russian economists, academician N. I. Ivanov has made significant contributions to the theory of global innovation development.

Innovation-driven economic development leads to qualitative structural transformations that prioritize technological advancements. This approach aligns with contemporary trends, where technological and scientific progress forms the backbone of productive forces.

Each country and region possesses unique characteristics and potential for innovation, which define the structure of its national innovation system. In the context of globalization, one of the key strategies for enhancing innovative potential is the development of territorial clusters. This approach has gained widespread adoption in Russia and is recognized as an effective mechanism for fostering growth at global, national, and regional levels.

The relevance, theoretical and practical significance, and the relatively limited research on this topic have guided the focus of this research.

### *Purpose of the Study*

This study aims to develop strategies for sustainable regional growth through industrial import substitution. The objective is to mobilize the territorial and spatial potential of industrial production by utilizing industrial parks as localized hubs of production infrastructure, enabling the generation of competitive advantages.

## Methods and Materials

This research utilized various analytical methods, including system analysis, design analysis, extrapolation, and comparative analysis. Additionally, general scientific approaches such as synthesis, structural analysis, indicator comparison, grouping, and generalization were applied.

The empirical data for this study was drawn from sources such as the Russian statistical service, industrial enterprises in the North Caucasus Federal District, and other regions of the Russian Federation. Quantitative analysis was conducted using statistical and economic-mathematical techniques.

To ensure the reliability of theoretical findings, the study incorporated economic analysis, systematic evaluation of economic trends and processes, strategic and investment management approaches, as well as methodologies related to industrial organization, regional economic planning, and socioeconomic system administration.

## Results and Discussion

Competitive advantages are primarily cultivated at the regional level rather than at national or supranational levels. Several factors influence the development of these advantages, including historical economic trends, regional entrepreneurial cultures, and established models of production and education.

These elements highlight the necessity of fostering and expanding territorial innovation clusters (TICs). As outlined by M. Enright, a regional cluster typically comprises:

A network of small and medium-sized enterprises operating within an industrial area.

A concentration of high-tech firms interconnected by shared production techniques, technologies, and methodologies.

A production system formed by companies that were previously part of a corporate entity.

Institutional support from government bodies and research organizations, as regional clusters are crucial for enhancing both national and regional economic competitiveness.

Russia currently faces challenges in innovation and global competitiveness, indicating weaknesses in its innovation framework. Strengthening territorial clusters could serve as a strategic approach to stabilizing and enhancing the country's innovative and economic potential.

### *Barriers to Russia's Innovative Development*

Several key factors contribute to the insufficient level of innovative development in Russia:

Underdeveloped national innovation system elements: This includes gaps in insurance for innovation investments, an incomplete venture financing system, and limited leasing options for high-tech products.
Economic structure favoring raw materials: The composition of Russia's economy makes investments in the raw materials sector more profitable than in innovation-driven industries.
Limited government regulation and support: There is an inadequate level of state intervention to promote and sustain innovation.
Restricted dissemination of innovative ideas: Innovation does not spread widely across industries and regions.
Low interest in innovation among enterprises: Many businesses find innovation unappealing, leading to weak adoption of new technologies and practices.
A review of successful innovation-driven economies shows that the strength of a national innovation system is closely linked to the quality of institutions responsible for developing and promoting innovation [1]. Leading economies employ effective mechanisms such as public-private partnerships, business angel networks, and venture funds to modernize their national economies. Additionally, innovation clusters play a critical role in these ecosystems.

### *The Role of Clusters in Innovation Growth*
Clusters provide an optimal environment for fostering, implementing, and scaling innovation due to their unique characteristics [2]:
Access to a highly skilled workforce.
Geographic proximity facilitates knowledge exchange.
A high concentration of small and medium-sized enterprises (SMEs) is known for their adaptability and responsiveness to innovation.
The presence of more industrial and innovation clusters within a country is directly linked to its ability to generate and promote innovation. This correlation is evident in countries such as the United States, Finland, the United Kingdom, France, Canada, and Germany, all of which have a high number of clusters and rank among the top in the Global Innovation Index. An exception is Italy, where clusters are generally smaller and not primarily focused on innovation [3].
As clusters expand, their focus on innovation intensifies, strengthening their overall competitiveness. In Europe, for instance, clustering is prevalent in sectors such as machinery and electronics, biotechnology, pharmaceuticals, cosmetics, transportation, infrastructure, and light industry. Globally, three major hubs of innovation cluster development exist: North America, Western Europe, and Asia.

### *Innovation Clusters in Russia*
Innovation clusters have been a focal point of Russia's economic policy for over a decade. A structured approach to innovation policy at the macro and meso levels began in response to the 2008 financial crisis. In 2012, the Russian government selected 25 priority regions to develop innovation-driven territorial clusters with state support.
An innovative territorial cluster (ITC) is a cluster characterized by a high proportion of innovative products relative to industry and national benchmarks. It features a well-developed innovation infrastructure that fosters collaboration among key stakeholders, including universities, research institutions, technology transfer centers, business incubators, science parks, financial institutions, and cluster development centers.
Today, clustering has expanded across almost all federal districts of Russia. Currently, 39 innovative territorial clusters exist, with 27 (69.2%) designated as pilot innovation clusters. These clusters are expected to play a crucial role in enhancing Russia's position in the global innovation landscape.

### *Development and Distribution of Innovation Clusters in Russia*
Innovation clusters in Russia differ in their level of organizational maturity. More than half of these clusters (56%) are still in the early stages of development, while 23% have reached a medium level, and only 21% are considered highly developed. These clusters are distributed across various federal districts, with the highest concentration in the Volga and Central Federal Districts. However, some regions, such as the North Caucasus and Crimea, lack innovation clusters entirely. The Ural and Far Eastern Federal Districts have the lowest representation, with just one cluster each.
The most prominent sector within Russian innovation clusters is pharmaceuticals, which has the highest number of clusters. Other key specializations include nuclear and radiation technologies, microelectronics, instrumentation, machinery production, information and communication technologies, aircraft manufacturing, and the development of new materials. This diverse range of industries highlights the strategic focus on advancing high-tech sectors through innovation clusters.

### *Performance and Investment Trends*
Between 2013 and 2016, Russian innovation clusters achieved significant economic results. According to the Ministry of Economic Development, the total output of goods, services, and works reached 7.39 trillion RUB. The number of newly

created or modernized high-performance jobs exceeded 137,000, while around 55,900 employees received professional retraining and skill upgrades. Additionally, the average annual output per employee in cluster organizations was 2.85 million RUB, and 551.64 billion RUB was attracted from non-budgetary sources.

A positive growth trend was observed in production volumes, labor productivity, and employment rates, with annual increases exceeding 10%. However, while investments in cluster development continued to rise, the rate of growth began to slow, particularly in 2015. This indicates that while clusters are expanding, additional financial incentives and structural improvements may be necessary to sustain long-term investment momentum.

### *Global Competitiveness and Future Prospects*

Despite these challenges, Russian innovation clusters have shown steady progress. The Ministry of Economic Development has identified eleven clusters as having global-level investment attractiveness. Most of these leading clusters are located in the Volga region, with a strong emphasis on pharmaceuticals and engineering. Their success suggests that targeted government support and strategic industry development can enhance the competitiveness of Russian innovation clusters on the global stage.

Moving forward, expanding the cluster model to underrepresented regions and ensuring continuous investment growth will be crucial for sustaining innovation-driven economic development in Russia (**Table 1**).

**Table 1.** Key performance indicators of innovative territorial clusters in Russia (2013–2016)

| Indicator | 2013 | 2014 | 2015 | 2016 | Growth rate (%) (2014/2013) | Growth rate (%) (2015/2014) | Growth rate (%) (2016/2015) |
|---|---|---|---|---|---|---|---|
| Total output of goods, services, and works (trillion RUB) | 1.54 | 1.71 | 1.97 | 2.17 | 11.0 | 15.2 | 10.2 |
| New or upgraded high-performance jobs (thousands) | 27.21 | 32.68 | 36.09 | 41.42 | 20.1 | 10.4 | 14.8 |
| Employees trained or retrained within TICs (thousands) | 8.29 | 15.23 | 16.22 | 16.13 | 83.7 | 6.5 | -0.6 |
| Average output per employee (thousand RUB) | 2630 | 2630 | 2899 | 3235 | 0.0 | 10.2 | 11.6 |
| Investment costs of participating organizations (billion RUB) | 82.6 | 93.2 | 93.3 | 98.1 | 12.8 | 1.1 | 5.1 |
| Total external investments in cluster development (billion RUB) | 91.2 | 132.29 | 139.4 | 181.75 | 45.1 | 5.4 | 30.4 |

The 2016 report from the Ministry of Economic Development highlighted the progress in the formation and growth of innovative territorial clusters over three years. Between 2013 and 2016, output per employee in participating organizations increased from 2.63 million to 3.24 million rubles. Additionally, the number of new or upgraded high-performance jobs rose from 27,200 to 41,400, while the total volume of goods, services, and works expanded from 1.54 trillion to 2.17 trillion rubles annually.

According to the Ministry's projections released in April of the previous year, by 2020, cluster development was expected to boost output per employee by 20% compared to 2016 levels. The number of jobs within cluster organizations was anticipated to surpass 100,000, while investments from non-budgetary sources were projected to increase by at least 300 billion rubles. Additionally, the total value of research and development activities conducted by cluster companies was forecasted to exceed 100 billion rubles. Revenue from the export of non-resource-based cluster companies was expected to double, while the number of patents for inventions was predicted to triple.

Innovation clusters play a crucial role in fostering competitive and sustainable businesses. Development institutions are expected to support not only individual company projects but also collaborative initiatives within clusters. An effective innovation cluster policy is a key factor in accelerating innovative activity, utilizing several strategic tools [4]:

- Implementation of regional, interdepartmental, and interregional strategies and programs for innovative development.
- Government support for the commercialization of research findings and applied developments.
- Creation of a favorable business environment, including tax reductions on R&D expenditures, financial backing for cluster projects, and streamlined public administration.
- Encouraging demand for cluster-produced goods and services.

- Strengthening collaboration between scientific and educational institutions, innovative infrastructure organizations, and industrial enterprises.
- Enhancing partnerships between the state, businesses, and research institutions.
- Conducting regular assessments of innovation progress and cluster-focused activities.
- Expanding infrastructure and communication networks.
- Promoting the development of a skilled workforce.

By leveraging these tools, the innovation cluster policy aims to create a dynamic and sustainable ecosystem that supports industrial growth, technological advancement, and increased global competitiveness.

The primary legal framework that outlines the parameters for Russia's cluster policy is the "Concept of Long-Term Socio-Economic Development of the Russian Federation for the Period up to 2020" [5]. Additionally, the Russian Federation's innovative development strategy up to 2020 emphasizes the necessity of supporting cluster initiatives. A key document in this area is the Ministry of Economic Development's priority project titled "Development of Innovation Clusters – Leaders of Investment Attractiveness of World Level." This document stresses the importance of creating a network of territorial production clusters in two types: innovative clusters in urban areas and regional production clusters. These clusters are aimed at restructuring industries and promoting high-tech advancements.

The active implementation of the cluster policy began in June 2012, with the creation of the "List of Pilot Programs for the Development of Innovative Territorial Clusters." As a result of a competitive selection process, 25 cluster projects with significant scientific and technical potential were chosen. Many of these projects are based in innovation centers that benefit from special advantages, such as science cities, closed administrative-territorial entities, and technical implementation zones [6].

Financial mechanisms designed to support clusters in Russia largely mirror international practices, including special tax regimes, preferential lending, debt financing, loan guarantees, investments through state programs and state-owned companies, direct investments, the development of regional venture ecosystems, subsidies to businesses and educational institutions, co-financing of regional programs, support for foreign economic activities of cluster participants, educational programs for cluster management, and information support for cluster members.

For innovation projects to succeed, sufficient financial resources are critical. In an environment where financial resources are increasingly competitive, it is crucial to determine the optimal balance between funding sources. However, the current regulatory and methodological framework does not provide a standardized process for evaluating the effectiveness of public and private funding for innovation, including territorial clusters [7].

In the absence of a comprehensive approach, public investments in the formation of innovative infrastructure do not always correspond with the expected levels of extra-budgetary financing. Furthermore, increased spending does not always result in higher revenues or greater economic growth. To improve the effectiveness of resource allocation, it is essential not only to ensure adequate funding but also to establish a robust financial mechanism that can sustain innovation and create long-term competitive advantages for territorial clusters.

A financial mechanism includes a set of principles, sources, and financing methods, along with coordinated tools that have a direct impact on innovation processes in territorial clusters [8]. Around 70% of the public funds allocated to clusters are directed toward the development of innovation and educational infrastructure.

Stakeholders in the development of innovation clusters in Russia include a variety of entities such as federal, regional, and municipal governments, professional business communities, and other institutions invested in the growth of innovation-driven initiatives, particularly territorial innovation clusters (TICs).

The primary financial mechanisms used to support these clusters include the following [9]:

1. Budget financing: This form of financing often takes the shape of investment tax credits, which are viewed as an effective means to fund innovative activities within territorial clusters.
2. Equity financing: In this case, commercial banks and institutional investors provide financial resources to support research and innovation. These investments are typically not designated for specific purposes, and their higher risk makes them difficult to utilize effectively in the Russian context.
3. Project financing: A combination of stakeholders including governments, international financial institutions, commercial banks, and both local and foreign investors provide targeted funding for specific innovation projects. This form of financing allows for risk distribution and project oversight, although its success in Russia is challenged by factors such as political instability, high credit risks, and uncertainties in legal and tax frameworks.
4. Franchising: This is considered an indirect financial tool that helps to minimize costs associated with developing new technologies, entering markets, and engaging in promotional activities [10].

In innovative territorial clusters, companies have access to not only financial support but also shared resources like production and information technologies. Innovations often emerge as a result of ongoing adjustments made by multiple businesses within the cluster during different stages of the innovation process. These companies typically finance innovation efforts using their funds, and external financing is more easily secured because of the companies' proven financial stability.

The cluster policy in Russia is overseen by two main government bodies: the Ministry of Economic Development and the Ministry of Industry and Trade. Since 2010, the Ministry of Economic Development has been providing subsidies to regional governments to help establish and support cluster development centers (as shown in **Table 2**).

**Table 2.** Expenditures on the development of innovation infrastructure in the Russian Federation: current and planned

| Financing area | 2010 (Billion RUB) | 2012 (Billion RUB) | 2020 (Billion RUB) |
|---|---|---|---|
| Expenditures for the development of innovation infrastructure | | | |
| Innovation Center "SKOLKOVO" (excluding co-financing of company projects) | 3.98 | 10.1 | 20.5 |
| Infrastructure for technical and innovation zones | 11.9 | 7.8 | 10.0 |
| High-technology technopark construction program | 3.1 | - | - |
| Subtotal | 18.98 | 17.9 | 30.5 |
| Additional expenses for supporting regional innovation development | | | |
| Additional financial support to regions contributing actively to the innovation economy | - | 5.1 | 15.2 |
| Funding for science cities | 0.55 | 1.1 | 3.2 |
| Development of innovation clusters (including support for small and medium-sized enterprises) | 0.15 | 1.1 | 10.1 |
| Total | 0.7 | 7.3 | 28.5 |

Between 2010 and 2016, the total funding allocated to the program amounted to 1.01 billion rubles. By the end of 2016, 34 cluster development centers had been established across 33 regions of Russia. These centers were dedicated to helping cluster initiatives by offering consulting and organizational support to small and medium-sized enterprises (SMEs). Their services included market research, organizing events such as educational workshops, exhibitions, and communication campaigns, and developing business plans and strategic documents.

In 2012, the Ministry of Economic Development launched the first and most extensive program to support pilot innovative territorial clusters (ITC), with a total budget exceeding 5 billion rubles. This marked a major initiative in advancing innovation clusters [11]. A significant feature of the program was the provision of federal subsidies to regional budgets where the pilot ITCs were located.

From 2013 to 2015, the total subsidies provided to the regions surpassed 5 billion rubles. These funds were primarily directed toward developing innovation and educational infrastructure, with 3.6 billion rubles allocated to this purpose. Additional funding of 951.1 million rubles was earmarked for training, retraining, and providing organizational support. Another 432.1 million rubles were allocated to the promotion of cluster products, including through business missions, fairs, and exhibitions in foreign markets.

The support for 25 pilot ITCs was the first and largest of its kind at the national level, significantly boosting the vitality of the organizations involved. From 2013 to 2018, production within the clusters grew to nearly 3 trillion rubles. Despite facing overall economic challenges, the participating businesses saw positive results: employee output increased by 10%, the number of new high-performance jobs grew by over 30%, and approximately 40,000 employees participated in training and professional development programs.

The development of pilot ITCs also played a key role in boosting investment activity. For every ruble spent by the government on supporting cluster members and infrastructure, more than 3.5 rubles were raised from extrabudgetary sources [12]. Over three years, investments from both public and private sources totaled 98 billion rubles and 360 billion rubles, respectively.

The results of the pilot ITCs far exceeded the average regional performance. For instance, the revenue generated by cluster participants from foreign product sales was 20% higher than the average, and the volume of innovative products and services produced increased by 61-90%.

The ITC pilot's primary performance metric is the total volume of joint research projects, which surpassed 75 billion rubles during the program's execution between 2013 and 2015. The project began with the development of roadmaps through 2020, facilitating early detection of any misalignments with the set goals for cluster development. This allowed for swift corrective measures to be implemented.

Based on both domestic and international experiences, ITCs provide various competitive advantages, including:

- Boosting economic growth
- Accelerating regional economic development
- Promoting increased innovation and investment activity in industries
- Enhancing the export of high-tech and technological products
- Improving the efficiency of economic resources, such as labor and capital productivity

- Supporting the growth of small and medium-sized enterprises
- Reducing regional unemployment [13].

Innovation territorial clusters also offer more effective access to specialized production factors, including advanced technologies, new equipment, skilled labor, and well-developed infrastructure. This is particularly true when the region has competitive suppliers and industries that are interconnected technologically, whether locally or internationally.

For financing innovative enterprises, which helps reduce risks in ITCs, the following state-based sources can be tapped:

1. Federal: Venture partners associated with the Seed Investment Fund of Open Joint-Stock Company "RVC."
2. Regional: Regional venture capital funds, state-controlled seed and venture funds, grant programs, targeted subsidies for small innovative enterprises, and other initiatives [14].

To reduce costs and attract resources effectively, joint cluster projects should be promoted. Small and medium-sized businesses, especially fast-growing "gazelle" companies, should be prioritized. These companies demonstrate significant potential for growth and development, making them attractive to various stakeholders such as suppliers, contractors, and service organizations.

The absence of these "gazelle" companies in an innovation cluster may hinder its potential to grow. Without such companies, the likelihood of the cluster becoming a regional economic driver diminishes, and the pace of innovative breakthroughs may slow down.

In selecting participants for the cluster, it is crucial to ensure that their collective potential enables competitiveness both within the country and globally. Thus, it is essential to carefully consider applications for cluster participation. Adopting a multi-stage selection process, as seen in European cluster programs, would help in adapting the applications to meet financing rules, addressing bureaucratic procedures, fulfilling investment needs, and evaluating the support mechanisms in place. This phased approach will also allow for testing the effectiveness of the cluster format through the alignment of visions, goals, strategies, and the development of collaborative projects.

## Conclusion

Territorial clusters are pivotal in advancing the Russian national innovation system. They serve as key drivers of growth, ensuring balance and stability across industries and scientific domains. For these clusters to function effectively, it is essential to leverage the lessons learned from previous experiences and focus on the following strategic areas:

- Establishing clusters based on a network of business incubators and medium-to-small enterprises that collaborate with government bodies. This approach will foster the creation of innovation infrastructure and attract foreign investments.
- Ensuring that regional specifics are considered, including the economic and foreign trade potential of each region.
- Advancing legislation in areas such as public-private partnerships, the commercialization of innovations, and the importation of promising foreign technologies.
- Implementing regular monitoring of both the actual and potential production capabilities of cluster members, based on a unified methodology. This will serve as a foundation for effective decision-making.
- Forming partnerships with foreign entities, such as China, in sectors critical to Russia's strategic interests, focusing on research and development collaboration and the implementation of significant projects in priority fields.
- Creating a conducive business environment that nurtures innovation in small and medium-sized businesses.
- Actively promoting innovative enterprises with state-backed financial support.
- Expanding regional, industrial, transport, financial, and social infrastructure to enhance the overall ecosystem.

Territorial clusters, through the development of entrepreneurial activity and increased regional competitiveness, play a vital role in the socio-economic growth of their areas. Therefore, the state's role is not to create clusters from scratch but to encourage clustering at both the national and regional levels. This can be achieved through the implementation of cluster policies, supported by targeted governmental programs aimed at nurturing territorial clusters.

*Summary*

Territorial clusters play a crucial role in fostering business activity and enhancing the competitiveness of their regions, ultimately contributing to the social and economic development of the territory. A key priority for attracting financial resources to Territorial Innovation Clusters (TIC) is foreign investment. Addressing the financial support challenges for TICs requires action at the state level.

The main areas for improving cluster policy in Russia include broadening the financial instruments available for support, assisting in the enhancement of pilot cluster strategies, and developing a robust monitoring and evaluation system for cluster policies.

The recommendations provided by the authors can serve as a guide in the creation of territorial industrial development programs, particularly within the framework of import substitution, as well as in the design of regional innovative

development projects. Additionally, these suggestions can aid in the preparation of strategic agreements between regional economic systems and large external investors.

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## References

1. Porter ME. How Competitive Forces Shape Strategy. The Harvard Business Review; 1979.
2. Andreeva TA, Astanina LA, Andreev VV. Features of formation and development of pilot innovative territorial clusters. In A. Babkina, Innovation clusters of digital economy: theory and practice. Saint-Petersburg; 2018.
3. Eickelpasch A, Fritsch M. Contests for cooperation–A new argous in German innovation policy. Res Policy. 2005; 34: 1269-82.
4. Pogodina TV, Kuznetsov N, Abdikeev NM, Tutukin EB, Kapranova LD. Moscow: Financial and economic mechanisms of creation of innovative territorial clusters; 2016.
5. Karganova E. Drivers of development of innovative territorial clusters. Bull Unive (State Unive Manag), 2017; (9): 34-8.
6. Lenchuk EB, Vlaskin GA. Investment and innovation potential of Russian regions. Modern Innov Devel. 2017; 8(4): 667-81.
7. Mokhov AA, Balashov AE, Shevchenko OA. Innovatsionnyye klastery: doktrina, zakonodatel'stvo, praktika [Innovative clusters: doctrine, legislation, practice], Moscow; 2018. p. 100.
8. Bogovik AV, Veselovsky MY, Kutukova ES, Ragulina YV. Management of the financial mechanism for the development of innovative territorial clusters. Manag Sci. 2016; 6 (4): 105-11.
9. Morzhakova KE. The Valuation Of The Effectiveness Of The Implementation Of Innovative Territorial Clusters. Bus Strategy. 2017.
10. Seredin VP, Gutman SS. Collection: SPBPU Science Week proceedings of the scientific conference with international participation. Strategies for financing innovative territorial clusters of the Russian Federation. Saint- Petersburg; 2017. pp. 202-5
11. Gokhberg LM, Shadrin AE. Pilot innovative territorial clusters in the Russian Federation. Moscow: National Research University" Higher School of Economics"; 2013. p. 108.
12. Popov IN, Kocherbaeva AA, Position GK. Analysis of models of formation of innovative territorial clusters. Econ entrepren. 2017; 8-4 (85): 258-62.
13. Today LV, Gorin IA, Kuznetsova EG. Modern approaches to assessing the strategic potential of territorial innovation clusters. Fundamental and applied research of the cooperative sector of the economy. 2018: 88-95.
14. Kutsenko ES, Abashkin VL, Fiyaksel EA, Alenkina EA. Ten years of cluster policy in Russia: the logic of departmental approaches. Innovation. 2017; 12(30): 12-6.