DEVELOPMENT OF INNOVATIVE TERRITORIAL CLUSTERS AS A TOOL FOR DEVELOPING THE INNOVATIVE POTENTIAL OF THE NATIONAL ECONOMY

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Abstract

The goal of the paper is to present the results of the authors' research focused on the analysis of the development of financial and economic mechanisms for the development of innovative territorial clusters in Russia. Achieving the goal of the paper is based on the analysis of available internal data from large territorial clusters in Russian regions. Based on these data, it was possible to assess the impact of territorial clusters on the innovative potential of the Russian regions in terms of financial, economic, organizational and technological aspects. The results showed the absence of strategic goals focused on the innovative development of the national economy. The main measure of success should be the increase of the level of social and economic development and the improvement of the quality of life of the society. The results include a definition of the concept of the development of innovative territorial clusters. It was also possible to define the financial and economic mechanisms for the development of innovative territorial clusters. These mechanisms are important for the sustainable development of innovative territorial clusters.

Key words: innovative potential, innovative territorial clusters, Russian Federation

JEL Code: R10, R58, O32

Introduction

Existing concepts of economic development require continuous changes in their interpretation. At the same time, the understanding of different changes has always been variable. The principles of studying the dynamics of innovative processes always correspond to the current level of research and development. However, as is well known, research and development activities presuppose setting clear goals and selecting specific methods, which, on the one hand, provides a scientific approach to the economic research and, on the other hand, prevents an incorrect interpretation of the results obtained.

A successful integration of the Russian economy into the world economic system assumes the continuous development of its innovative potential (Kostygova, 2016). The main characteristic of the sustainable development of the Russian economy is the increase of its technological level (Selyukov, Shalygina, Kodenko, Dobrydina, & Mamatova, 2018). Over the years, a large amount of statistical data has been accumulated that allow identifying some general principles and models of the development of innovative processes in the Russian economy (Sekerin & Gorokhova, 2016). One of these principles is the development of innovative territorial clusters as the most important tool for developing the innovative potential of the national economy (Davydova, 2017).

1 Goal and method

The goal of the paper is to present the results of the authors' research focused on the analysis of systems of management and development of financial and economic mechanisms for the development of innovative territorial clusters in Russia.

Achieving the goal of the paper is based on the analysis of available internal data from large territorial clusters in Russian regions. Based on these data, it was possible to assess the impact of territorial clusters on the innovative potential of the Russian regions in terms of financial, economic, organizational and technological aspects. The current results of the authors' research are summarized in the monograph published in 2016 (Veselovsky & Kirova, 2016)

2 Results

The results of the authors' research are presented in three parts, focusing on: 1) tendencies and determinants of the development of the innovative potential of the Russian economy; 2) trends in the development of innovative territorial clusters in Russia; 3) System of management and mechanisms of the development of innovative territorial clusters.

2.1 Trends and determinants of the development of the innovative potential of the Russian economy

The development of the innovative potential is a priority of the government of the Russian Federation. In 2011, the Strategy for Innovative Development of the Russian Federation until 2020 was approved, which includes the following main steps to stimulate innovative activities: tightening environmental, technical and hygienic requirements and requirements for

energy and resource usage; improving the quality of engineering education and closer integration of theory and practice; adapting educational standards and introducing new learning technologies into the basic education; providing of public services in electronic form and so on. Nevertheless, innovative activities in Russia do not show a high level of development (see table 1).

Tab. 1: Trends of the innovative development in Russia in 2000-2016

Indicators	2010	2014	2015	2016	
				Fact	Deviation from 2010
Number of organizations performing research and development	3492	3604	4175	4032	540
Number of organizations performing research and development related to nanotechnology	480	462	450	420	- 60
Number of developed advanced manufacturing technologies	864	1409	1398	1534	670
Number of used advanced manufacturing technologies	203330	204546	218018	232388	29058
Percentage of innovative activities of organizations in mining, manufacturing, electricity, gas and water production and distribution (%).	10,8	10,9	10,6	10,5	- 0,3
Share of innovative products and services in the total volume of goods and services transported in mining, manufacturing, electricity, gas and water production and distribution (%).	4,9	8,2	7,9	8,4	3,5

Source: authors based on Veselovsky and Kirova (2016)

The determinants of the development of the innovative potential of the Russian economy are as follows (Veselovsky & Kirova, 2016):

1. The development of innovations requires the introduction of a monitoring system of factors that support and limit this process. Among the current most important negative factors of the development of innovations are: high costs of innovations, lack of own financial resources and insignificant financial support from the state.
2. The innovative activities of organizations should be focused primarily on the improvement of the quality of life of the society.

3. The innovative activities should not be focused on achieving a quick profit, but on a long-term perspective. More than 70 percent of Russian companies are focused on expansive innovations to acquire new or expand existing market segments. About half of innovation-active companies apply a strategy orientated on minimizing production costs. A pioneer strategy is applied by individual companies.
4. Many Russian research and development projects do not match global trends. Moreover, the problem is that in recent years many Russian innovators have preferred to implement their innovative ideas abroad.

2.2 Trends in the development of innovative territorial clusters in Russia

Porter (2005) defined a cluster as a group of related businesses that operate in a certain area, have common activities and complement each other. He believed that businesses create clusters to gain competitive advantage and survive a competitive struggle. He assumed that the most successful and competitive businesses are located within a certain territory. He also defined functions of clusters (Dumitry, Tudor, Micu, & Micu, 2017):

- Clusters are driving engines of the national and regional economies.
- Clusters determine basic strategies and influence the competitive advantage of national and regional businesses.
- Clusters provide a new way of thinking and show main trends in the development of national and regional businesses.

Porter also states that clusters can be defined as the geographically proximate groups of the interconnected companies and the associated institutions in a particular field, which are linked by the commonalities and the complementarities (Palfyova & Kovac, 2015). The cluster concept defined by Porter belongs to methods of stimulation of social and economic development of certain regions and the countries in general (Baulina, Klyushin, & Shchukin, 2016). The cluster concept represents a specific form of economic organization of different economic entities to take advantage of common beneficially cooperation. Besides the cooperation, business clusters are linked with innovation capacity, technology development, transfer of knowledge, skill formation and other positive results, from which may benefit not just collaborating entities, but also customers, hosting region and the national economy (Kramarova, 2016). From this perspective, one of the most important tools for developing the innovative potential of the Russian economy seems to be the development of innovative territorial clusters. The state supports the development of innovative territorial clusters through the state program that is represented by a set of projects linked by one strategy. At the

same time, the state supports programs aimed at linking large, medium and small businesses, scientific and educational institutions. This approach makes it possible to choose the most suitable clusters in terms of their impact on the economy as a whole (Izmailova, Reshetova, Rukina, Seifullaeva, & Yunusov, 2016).

At federal level, the state aid is provided to 25 innovative territorial clusters. Many Russian businesses realize their own projects focused on the development of innovative territorial clusters. Some of these projects are international (Dutta, Lanvin, & Wunsch-Vincent, 2016).

The trends in the development of innovative territorial clusters in Russia are as follows (Veselovsky, Izmailova, Bogoniz, Lobova, & Alekseev, 2018):

1. The application of the results of innovative projects of innovative territorial clusters for the development of the regional and national economy.
2. The development of regional innovative infrastructure, including innovation and technology centres.
3. The increase of the share of innovative products in the total volume of manufactured and exported products.
4. The improvement of the management of innovative territorial clusters based on Cluster Development Centres.

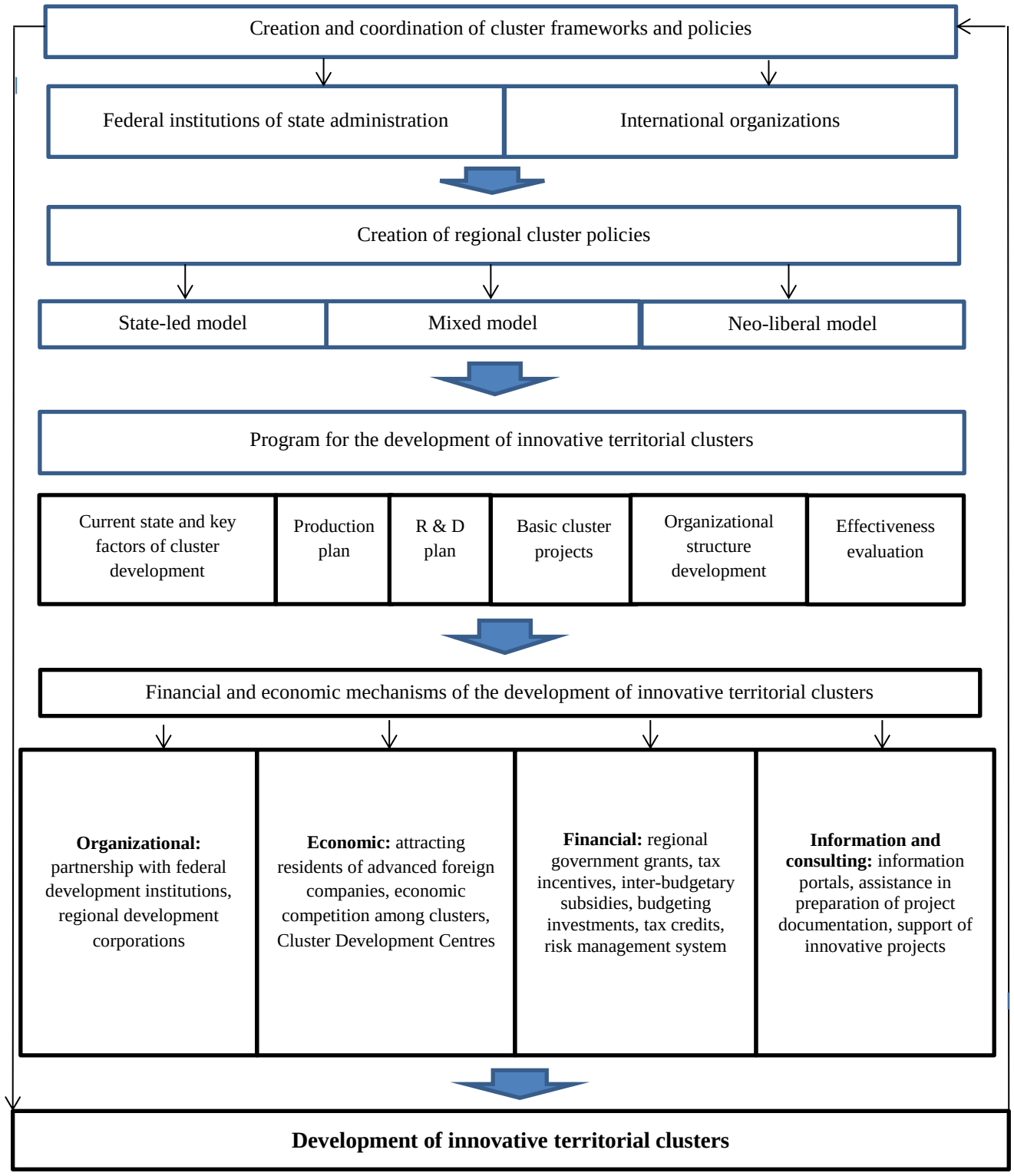
In recent years, innovative activities have developed in sectors related to the digital economy. Digital technologies are also increasingly used in the sector of social services. All this contributes to the increase of the innovative potential of the national economy and the quality of life of the population. (Veselovsky et al., 2016a)

2.3 System of management and mechanisms of the development of innovative territorial clusters

The system of management of the development of innovative territorial clusters includes three levels. The first level - federal level - carries out indirect regulation of the development of clusters. The second level - regional lever - defines the priorities of the development of clusters in regions and implements strategic and performs strategic and organizational functions through Cluster Development Centres. The third level - cluster level - represents the management of clusters.

To ensure the further sustainable development of innovative territorial clusters, it is important to develop appropriate financial and economic mechanisms (see figure 1).

Fig. 1: System of management and financial and economic mechanisms of the development of innovative territorial clusters



Source: authors

The main benefits of implementing an advanced system of management and appropriate financial and economic mechanisms of the development of innovative territorial clusters include the increase of the innovative potential of Russian regions, the introduction of progressive methods of production or the stimulation of research and development projects (Gorokhova, Šafránková, & Sekerin, 2015).

Conclusion

The development of the innovative potential of the national economy is a priority of the Russian government. The development of the innovative potential of the Russian economy through the development of innovative activities of innovative territorial clusters is a big challenge, but its realization will enable Russian high-tech businesses to gain a stable position on the national and world markets.

The main purpose of the proposed system of management and financial and economic mechanisms of the development of innovative territorial clusters is to create an appropriate environment for the effective operation of high-tech businesses within the Russian economy by optimizing business processes, increasing the competitiveness of the national economy and strengthening the innovative potential of the regional economy.

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