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Clusters in the System of Interindustry Regional Integration

Inna V. Chizhankova¹, Nina V. Novikova², Elena V. Povorina³, Elena V. Duplij⁴ and Irina V. Androsova⁵

¹Plekhanov Russian University of Economics, Moscow, Russia

²Don State Technical University, Rostov-on-Don, Russia. Email: roseland2003@mail.ru

^{3,4}Russian State Social University, Moscow, Russia

⁵Southwest State University, Kursk, Russia

ABSTRACT

The article examines the problems of identifying and targeting the factors that ensure the innovative development of regions in the context of globalization. Based on the analysis of trends and prospects for the development of the world economy in the context of ensuring competitiveness, a conceptual approach to the formation of an innovative mechanism for transforming the regional economy is substantiated. The peculiarities and advantages of using clusters in the context of strengthening regional integration of Russia are revealed. The factors of the regional economy that contribute to the growth of the effectiveness of clusters and the territory as a whole at the micro and macro levels are determined; The components of the cluster development strategy are justified. The problems of identifying and focusing on and developing the factors of innovative development of the Russian economy in conditions of globalization. Based on the analysis of trends and perspectives of world economy development in the context of ensuring international competitiveness grounded conceptual approach to the formation of the innovative mechanism of transformation of the national economy through the development of international technology transfer.

JEL Classification: C38, P48, F15.

Keywords: Cluster, region, innovative development, integration, technology transfer.

1. INTRODUCTION

In the issue of the formation of Russia's innovative economy at the present stage of development, it is necessary to carry out a deep technological modernization of the manufacturing industry and reform of

the basic industries through the development of a mechanism for borrowing technologies of the fifth way in highly developed countries. It is obvious that such a strategy, involving a combination of its own and borrowed technological innovations due to their synergistic effect, will allow achieving high sustainable growth rates of the Russian economy.

At the same time, a comprehensive analysis of the experience of countries that have passed the stage of development based on the adoption of technologies allows us to conclude that the simplest and fastest way is to significantly increase our technological potential-to correctly organize the flows of technological knowledge from the outside.

Clusters in the information economy plays the role of a liaison between the public and private capital, basic research and technological innovation, which has been lost in the countries of the former USSR in connection with the transition from a planned to a market economy.

One of the advantages of the command-administrative economic system was balanced and planned approach to regional socio-economic development of the regions. In a market economy, social sphere and ecology are out of focus the priorities of big business, resulting in most industries there is a trend for pumping resources out of business. In such circumstances, the state has no levers of influence on the strategy of private business development. Therefore, the search for motifs to the formation of relations in the framework of public - private partnership is an important aspect of regional development. In this context, clusters allow us to achieve high efficiency industrial and socio-economic development of the region. Currently, the cluster theory of development has been widely discussed in the framework of the Organization for economic cooperation and development (OECD), world trade organization (WTO), European Union, USA and Russia (Lenchuk & Vlaskin, 2009).

The clusters are considered as a key instrument to attract foreign direct investment and development of fifth and sixth technological structures in the framework of the national innovation strategy, improve the international competitiveness of countries. For example, the EU formed a common European model to promote growth of clusters through national and regional financing, increasing the degree of cooperation between them. Ideas about the advantages of cluster organization of business emerged in the late nineteenth century in the work Alfre Yes Marshall "Principles of Economics", which was first observed manifestation of the strategic effect, as a consequence of mergers and the increasing specialization of commercial structures.

2. DISCUSSION

It is obvious that with the present level of development of market and technology even a successful implementation of a pure simulation model sooner or later capable to lead the country to a standstill. Therefore, as the development and strengthening of the technological base of the country of its innovation strategy needs to change. The need for timely formation of the resource and institutional base for the transition from the dominance of the processes of simulation to the predominant creation of innovations, that is, to the next stage of development based on its own innovations. It is important for the early formation of the infrastructure for the production of new fundamental knowledge and their transformation in competitive advantages and creating conditions for technology transfer of commercial knowledge within a national innovation system (Hasaev & Miheev, 2009).

In modern conditions, all the more evident become the advantages of the cluster approach as one of the methods of improving the system of diffusion of innovation and transfer of technology.

The cluster approach is a way of implementing the principle of management of economic development based on identification of leading clusters. Cluster (cluster, bunch, clot) – a group of adjacent interconnected companies (suppliers, manufacturers) and related organizations (educational institutions, state administration, infrastructure companies) operating in a certain area, characterized by common activities and complementary to each other. Application of cluster approach is a natural stage in the development of the economy.

As world practice shows, the cluster in the contemporary world becoming the key link to ensure the competitiveness of the country, leads the country to the forefront of the global economic process. So, clusters of winemaking in Chile, world renowned Silicon Valley, the automotive clusters from Austria, Hungary, etc. largely determine the economic development of their countries. In the world, there are now more than 2000 cluster formations, concentrated mainly in the fields of information industry, automotive, bio - and nanotechnology, APK.

Cluster as the current system of cooperation between different companies and research institutions is becoming a source of proliferation of new technologies, knowledge, products based on joint research base. Enterprises that are part of this system, get the additional competitive advantages due to the possibility to carry out an internal specialization and standardization, minimize the cost of innovation.

To increase the tension and the density of innovation processes is possible through creation of appropriate infrastructure is one of the tools of intensification of innovation processes and the main element of the innovation system at the level of individual region or country as a whole (Ragulina, Lebedev & Popov, 2013). Innovative infrastructure acts as a link between research results and market, government and the business sector of the economy, promotes innovation and more efficient implementation of this product on the market.

However, the analysis of existing organizational-economic methods of innovation management has shown that they do not provide a sufficiently effective linkage of separate spheres and stages of the innovation process, is not taken into account the complex nature of their impacts. Innovation infrastructure should include elements that enable the isolation of innovative processes in the region, well-functioning communication, the unity of the process of innovation.

Activities of the cluster can take different forms depending on scale of operation: from one city to the region, unifying a number of countries; and depending on the specific industry and scope of distribution channels, interactions with the cluster of public authorities, local governments, research institutes.

In accordance with this, in developed and developing countries is the economic performance of clusters in relation to the different degree of integration of its members. The factors that contribute to the effectiveness of the clusters:

- production of final or intermediate product (extraction and processing of raw materials, semi-finished products, machines and units);
- involvement in the cluster of manufacturers of highly specialized equipment and the provision of business services to the specific nature;

- availability in the region, financial institutions and availability of financial resources;
- interaction with industries related products and activities;
- feedback with customers, extensive sales network, established distribution channels;
- availability of technologies and plants for recycling and processing of waste and by-products;
- the development of appropriate infrastructure (market, production, transport);
- regional training in General and special education services staff development and training;
- regional and industry research centers that shared information, research, advice and technical support;
- centers of standardization and certification of products as well as other government agencies that may join the cluster, thereby increasing its importance in the context of public-private partnerships;
- strategic alliances and other forms of public cooperation in production and trade spheres in the cluster that are in the form of associative support the activities of its members.

Consideration of economy with the position of the clusters has a number of advantages compared to the traditional grouping along industrial lines or production activities.

First, the clustering of the economy does not contradict the theory of competition, in conformity with which each member of the cluster acquires its own competitive advantages, that is not in contradiction with the sectoral approach, in which intra-industry competition is ignored or takes on the character of monopolistic collusion.

Second, intra-cluster production (commercial) communication, achieve a higher degree of efficiency due to the speed and timeliness of flow of information about technological features, customer satisfaction, successful marketing solutions, troubled counterparties. Also, highly expressed clusters of individual adaptation, which appears to minimize competition when targeting specific segments and niches of the market. In the end, due to this features clusters significantly increase internal productivity, effectiveness, and use of innovation, including in the context of local regional development, and improve the international competitiveness of the region (Androsova, Melnichuk, Bondaletov, Vinichenko & Duplij, 2016).

Third, the commonality of conditions for regional development and international competition, threats, and growth opportunities allow participants to shape such development strategy with the cooperation of the action and interaction of companies within and outside the cluster, with government agencies and other institutions of market infrastructure. This interaction may have a beneficial impact on the members of the cluster through joint use of infrastructure and results from the implementation of public and private investment in the region.

Fourth, the selection of clusters in the structure of the industry allows to reduce the level of corruption – registered lobbying of industries, preferential subsidies and reducing the tax burden. It is no misallocation of investment and targeted funding that can distort the existing market structure.

Fifth, the absence of direct competition between members of the cluster with each other not weakens it in the face of external competitors, reducing the intensity of production and business activity; enterprises are not afraid to weaken each other and strengthen the competition.

Ultimately, the development of industry with consideration of the theory of clusters allows to increase the inflow of capital, technologies and direct investments, which bring to the region in addition to financial resources and new technologies, and intellectual resources, and managerial skills, and the world-famous brand (Dalinchuk, 2009).

As world practice shows, the cluster in the contemporary world becoming the key link to ensure the competitiveness of the country, leads the country to the forefront of the global economic process. So, clusters of winemaking in Chile, world renowned Silicon Valley, the automotive clusters from Austria, Hungary, etc. largely determine the economic development of their countries. In the world, there are now more than 2000 cluster formations, concentrated mainly in the fields of information industry, automotive, bio - and nanotechnology, agro-industrial complex.

At the same time the benefits for the region. Cluster as the current system of cooperation between different companies and research institutions is becoming a source of proliferation of new technologies, knowledge, products based on joint research base (Bogoviz, Ragulina & Kutukova, 2016). Enterprises that are part of this system, get the additional competitive advantages due to the possibility to carry out an internal specialization and standardization, minimize the cost of vnedrenie.info.

Very important for the region becomes and the possibility of development of small business. In terms of the cluster are constantly in contact with large business and research organizations, small firms specialized on specific business activities, occupy a niche in the market. And it happens with less cost and in a shorter time, since they as participants, cluster associations facilitated access to resources, exchange of ideas and knowledge transfer from experts experienced managers to new, budding entrepreneurs. And participation in the overall development process, involvement in scientific and technological progress in major industries often leads to the fact that small businesses begin to participate in the creation of new and promising ideas turn into innovation or purely innovative firms, i.e. become a testing ground for innovation. May result in the emergence of new industries in the region and, consequently, new directions of its development. Of course, in this work, small businesses need some assistance from the regional authorities, and first of all you need to provide small firms access to industrial-technological infrastructure.

It needs to understand also that the cluster is not existed before in the country's territorial-production complex (TPC) and not a cartel. In TPC based on socialist principles, was completely absent of competition, resource allocation and all activities carried out on the basis of the planned tasks.

Theory and practice there are three main types:

- clusters with a limited form of regional economic activity within related sectors, usually linked to the different scientific institutions (research institutes, universities, etc.)
- clusters with vertical relations in the narrow spheres of activity, are educated about a parent firm or of a network of key enterprises, covering the processes of production, supply and distribution.
- clusters with different types of production with a high level of concentration prevailing in the industry.

If to speak about the Rostov region, in our view, preference should be given to the first kind of clusters. This is due to the development of this region. Rostov oblast has a developed machine-building complex that has a good technical base and a long tradition whose products are known not only in the country but

also abroad. It can serve as a basis on which to build the cluster. Of course, that in the future there may be companies in other industries, for which mechanical engineers create equipment or to be connected with them through other channels.

For successful business, economic growth and increased competitiveness need constant interaction of science and production, ensuring effective implementation of competitive scientific and technical achievements. But this requires certain conditions conducive to accelerated development and launch of high-tech and competitive products. In some regions of the country there is the necessary base: on the one hand, a significant number of industrial enterprises, which need constant updating of the production apparatus and products, and the other is the accumulated, but unused potential of research organizations and educational institutions (Zudin, 2009).

The analysis of existing organizational-economic methods of innovation management has shown that they do not provide a sufficiently effective linkage of separate spheres and stages of the innovation process, is not taken into account the complex nature of their impacts. Innovation infrastructure should include elements that enable the isolation of innovative processes in the region, well-functioning communication, the unity of the process of innovation.

In Russia there is practically no competitive territorial cluster as a dynamic and internally competitive network close localized companies producing the same or related products and together provide a good market position for countries, industries and enterprises themselves. Approximately one quarter of subjects of the Russian Federation has not diversified the economy, and a major donor, their budgets are not production networks, and large vertically integrated corporations. In the changing economic conditions of the most vulnerable monofunctional city. In 13 regions of the Russian Federation the share of such cities exceeds 60%. More than 74% of them small and medium-sized with a population of less than 50 thousand people. Therefore, investments in Russia are mainly in raw materials, in a large Corporation, in large markets, but not in a globally competitive territorial-production clusters.

The capital now occupies the leading positions in Russia. The structure of the economy inherent in the proportions characteristic of developed countries. It promotes investment, including foreign, capital. The economic potential of Moscow is comparable to the economies of several countries in Central and South-Eastern Europe.

When accelerating processes of globalization intensifies competition not only between companies and countries but also between regions. All this poses new requirements for tools to maintain and enhance the competitiveness of regions.

The competitiveness of the regions based on the efficiency of the existing subjects of economic activities. That is why the cluster approach as an alternative to traditional industry, industrial policy is an effective tool for improving the competitiveness of the territory. International experience of formation and development of regional clusters demonstrates the effectiveness of this approach. For example, the share of U.S. GDP produced in clusters, is 61%. Only one automotive cluster PANAC in the economy of Hungary is 14%.

The cluster approach is directly connected with increase of competitiveness of the territory, not only because it affects both productivity and employment, but also because it removes the contradictions between them. The level of labor productivity in the cluster grows due to the specialization and outsourcing

of non-core activities. And the employment rate - due to the attraction and formation of new subjects of economic activities in related and supporting industries.

The basis of the competitiveness of the cluster is the development of small and medium business. For example, large companies (Time Warner, Random House, Sony Corp, Universal Music Group, Verizon Communications, Boyd Printing, etc.) represent approximately 2% of the total number of participants, media and communication cluster of the state of New York.

The advantages of the development of cluster initiatives is so large that the authorities do not conduct a policy to encourage the development of clusters, risk to leave the region without a competitive economy in the future. While cluster policy needs to be based on historical, cultural, social and other specifics of the territory (Granberg et. al., 2007).

3. CONCLUSION

Thus, in modern conditions, the development of reasonable approaches to setting goals and objectives for the formation and development of scientific and production clusters, determining the potential for clustering and identifying enterprises and organizations that can provide structural transformation of specific features of the regional economy in its competitive advantages by clustering.

The most favorable effects of the creation of scientific and production clusters are to increase labor productivity and improve production efficiency due to easier access to resources, information and technology; Stimulating the generation of new knowledge; Facilitating the commercialization of innovation. The advantages of forming clusters as the main element of reforming Russia's industrial policy are manifold. The concentration of scientific and production potential inherent in a planned economy is intensified, while maintaining intra-cluster competition, supplemented by an international division of labor, specialization of regional enterprises, establishing cooperative ties, significantly increasing the international competitiveness of regions characteristic of

Market system. It is the combination presented that reflects the specificity of the cluster approach.

As a result of the implementation of cluster policy, a clear vision of the strengths and weaknesses of industrial development is formed, the productivity of the partnership dialogue is enhanced, the regional economy is diversified. All this leads to an increase in the number of taxpayers, and as a consequence of the taxable base, reducing the dependence of budgets on individual business groups.

The cluster approach stimulates business development: using the human resources and infrastructure of the territory more fully, opening access to research and recommendations from research centers, which results in lower costs, ensuring access to new markets.

Statistics are not yet evidence in favor of the fact that Russia really is moving in innovative ways. Its economy is characterized by a prolonged period of usage of the technologies applied in industry, and, as a consequence, high degree of depreciation of machinery and equipment, the prevalence of low-technology.

To facilitate the solution of these problems in the following way:

1. To implement the transfer of technology (TOT) by purchasing effectiveness at the Russian science and bringing them to industrial use.

2. To implement the transfer of technology from developed countries. It should be noted that advanced technologies ready for industrial application, a little, and when buying a result of R & d in the early stages of the innovation cycle, the investor bears a large risk (of 100 ideas to market reach 5 – 10). It will also require additional investments, which will amount to more than 90% of the value of acquired R & d result (traditionally, the cost of NIR in industrial technology is about 5%). This leads to the fact that often technology is purchased abroad. In this case, the company will not receive windfall profits from innovation, but the risks are low, because it gets ready technology, and the final products already tested on the markets and has received positive feedback from the buyers. However, this will not allow the country to become a leader in the global market. Although the acquired technology can serve as a catalyst for the process of creating its own technology, the development of the national R & d sphere. Many countries, in particular Germany and Japan, emphasized the import of technology, as a result, these countries today are among the world leaders in terms of scientific and technological development. Hence the need for a comprehensive study of technology transfer and to find ways to revitalize it.

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