



# **International Experience of Ensuring the Competitiveness of Regional Economies with Instrumental Functions of the Cluster Approach**

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## **ABSTRACT**

As the results of the study, the clusters are the driving force for increasing exports and attracting foreign investment. Because of this, the authors note that you need to pay special attention to the need for enhanced clustering spatially localized economies. Holding company has a special role in shaping the country's budget, therefore, exploring new forms of economic relations generated by the cluster, we consider it necessary to consider the formation of the holding clusters that combine the features of the holding company as a conglomerate of different entities and cluster technologies developed on the basis of flow knowledge from one company to another. Through the creation of an extensive system of participation in a cluster ensures the stability of the whole group, because in this case significantly reduced business risks.

**Keywords:** Region, Cluster, Competitiveness, State, Regional Institutions

**JEL Classifications:** F00, P25

## **1. INTRODUCTION**

The high level of competitiveness is increasingly dependent not on production factors, and the ability of businesses to create and apply new knowledge and technology. Using the cluster approach to enterprise development promotes social and economic development of regional economic systems by optimizing costs by combining a variety of enterprises and improve the quality and competitiveness of the manufacturing process. At the same time, effective management is achieved through the economic effect of the cluster, through the exchange of market information, technology, modifications motivations and quality of human capital, i.e. due to the flow of knowledge, providing innovative development of enterprises.

Implementing the ideas of creating spatially localized economic systems of cluster type and other forms of innovative activities hampered by the lack of adaptation of organizational and economic

instruments of its management. The principles of the organization and the formation of enterprises laid a cluster type of knowledge - is a key resource of the global economy. There are no common criteria for determining the level of knowledge for each action (business process), reflect only the knowledge of the specific results of the company in a given area, which are the result of both in-house mechanisms and the result of spillover of knowledge. Organizational knowledge is developed based on the knowledge of every employee of the enterprise. High level of knowledge at the appropriate management level should lead to the effective functioning of the enterprise results. Knowledge must form the foundation for the further development of the competitive advantages of the cluster.

## **2. THE MAIN PART**

Considering the principles of the cluster, it should be noted, that its internal and external environment can be viewed as a

prototype of the institutional landscape of the process layer and the future of the regional innovation system. Thus, in the implementation of an innovative project formed the core technology cluster, which includes the organization of protection of knowledge generation. To cluster could play a catalytic role in the development of innovative territory or the sector and has a high level of institutional density, it is necessary to lay the appropriate priority in the organization of the cluster. In the process of the successful organization of the cluster of great importance has its internal environment. However, at the stage of stable operation of a separate role for cluster analysis of environmental factors, the effect of which further enhances the efficiency of the enterprise cluster. The collection of scientific and technological clusters and innovation infrastructure creates conditions for the development of the territory in which they are placed.

The most important institutional mechanism to support the formation of the territory of innovative development by state and local authorities is the development of infrastructure of the regional economic structures, which will be formed as enterprise clusters. The processes of globalization in the world economy contributes to the development of cluster technology, it can reduce (optimize) the company labor costs, increase the efficiency of individual branches due to the consolidation of knowledge and experience, as well as to reduce transaction costs on a separate territory.

Analysis of the trends of economic progress in the most developed countries shows that the reproduction in part of many business systems became steadily intense based in each of his series on the use of new scientific and technological achievements. The process of expanded reproduction began to be identified with an innovative type of developing itself as a reproduction that became known as an innovation (Kushlin, 2005. p. 34, 35; Kobersy Iskandar et al., 2015).

Without the introduction of innovation, the process cannot be the formation of an efficient economic structure, ensuring its high competitiveness. The success of the solution to this problem depends largely on the degree of activation of the innovation process, the formation and implementation of an effective innovation model enterprises cluster type (Kondrasheva, 2005. p. 34).

This is the most important conditions for economic development of the world's leading countries were the increase in competitiveness and ensure a leading position of the national economies in the international markets of high technology products. This condition, as the world practice shows, is possible only on the basis of the economy on the path of innovative development. The world economy is undergoing a transformation of reproduction, change of accumulation and change of the perceptions of performance criteria for the development of the economy. It began its transition to an innovative path of socio-economic development, including the use of cluster technology (Valentey, 2008. p. 14, 15).

Only innovation-oriented production and the economy, based on the latest achievements in science and technology can create products with high added value is in demand, can take advantage of the opportunities offered by the globalization of the world economy. At the same time setting targets and defining the

parameters - A necessary but not sufficient condition for achieving the desired objectives of innovation. It is absolutely essential to plan and measure the social and economic policies in a timely manner to concentrate resources on promising areas, to achieve their effective use (Glazyev, 2008; Arregle et al., 2013).

Describing the transformation of the world economy on an innovative path of development, the researchers say the formation of "innovation economy," "knowledge economy," "the economy based on knowledge," "the new economy" and others.

But regardless of the terminology and the assessments of causes of innovation, most of them recognize that change the type of reproduction. Its main feature serves the formation of national innovation systems, including through the creation and development of cluster technology.

There is a Standard International Trade Classification, according to which a group of 16 key technologies include high-tech products. Among them - The radioactive materials, pharmaceuticals, equipment for automatic data processing, semiconductor devices, telecommunications equipment, aerospace and medical equipment and others. In a group of high-level technology also includes 41 kind of products (including automotive products, machinery, electrical, chemical industry), which are designed for the mass consumer (Folomiev, 2005. p. 71-92). The participation of our country in this work is almost imperceptible.

Even amid the global economic crisis of the past the most developed western countries did not abandon the policy choice of innovation, involving innovative changes in the system of regional government with the use of cluster technology, as evidenced by the data in Table 1.

Analyzing Table 2, we note that in the United States according to the Small Business Act allocated 152 large cluster, which are supported by the state. The relatively small population of Canada, such clusters 8. In Japan they are 18, and here in the UK - 165. It is common clustering of small businesses in Italy, in the program of assistance to the sector included 152 such entities.

The effectiveness of the clustering of regional economic system is confirmed by a considerable number of examples. The most striking of which everyone knows - a cluster of information technology in Silicon Valley (USA). His influence on the development of the modern world cannot be overestimated.

But there are many other successful projects. Automotive Cluster - in Germany, in the region of North Rhine - Westphalia, perfume cluster - in Grasse (France), telecommunications - in Helsinki, Finland, that illustrate the data in Table 3. Among other clusters can be locked timber in Finland, the chemical - in Singapore biotechnology - in Sweden, the grocery - in the US state of Arizona, telecommunications - in Italy, aerospace - in Spain. It is no coincidence authorities in many states pursue a policy of creation of cluster areas in the individual regional economies.

Consider the basic model of competitive clusters of regional economies in the developed western countries (Italy, Japan and Finland) as an example of individual technologies (Gorky, 2008).

In Italy, a cluster called “industrial districts.” After World War II industrial district received a significant development in the north of Italy, it was formed as a result of a new economic region, which bears the name of “Third Italy.” Industrial districts in the country, as a rule, are located in small towns, with a significant role in the development of the cluster played by local municipalities. Clusters consist of many small craft businesses employing more workers. Despite their small magnitude, Italian craft firms are highly competitive in the global market.

High competitiveness achieved by three factors:

- Active cooperation of small producers through the creation of collective institutions that support firms county
- Maximizing the potential of product differentiation
- The high innovation activity of firms, flexibility and quick response to new consumer demands.

Thus, the “Italian model” cluster of regional economic system is highly useful for the production of relatively low technological level, but with a high degree of differentiation (Francese et al., 2014). The demand for products is subject to frequent changes, which allows small businesses to take advantage of its flexibility.

The main collective institutions for the development of Italian industrial districts are:

- National Conference of Artisans (NKR)
- Industrial parks;
- Financial consortia;
- Marketing consortia;
- Institute of Technology.

NKR combine small enterprises and have a wide network of representative offices for the provision of administrative services. The main features of the NKR representatives include:

- Services on accounting

**Table 1: Distribution of existing clusters in the countries of the world**

Country	The number of existing clusters
United States of America	380
Russia	72
Denmark	29
Netherlands	10 (megaclusters)
Finland	9

**Table 2: Number of clusters formed and operating under the support of the state**

Country	The number of clusters, using the support of the state
United States of America	152
Canada	8
Japan	18
United Kingdom	165
Italy	152

- Financial services (collectively, the provision of guaranteed loans)
- Assisting in the development of property assets
- Information services (including the provision of marketing and information technology)
- The organization of cooperatives to solve problems common to certain groups (quality control, purchasing large quantities of raw materials, export marketing).

Financial Consortium - An association of producers, facilitating small businesses obtain business loans in the bank. Financial Consortium provides an objective evaluation of the internal entrepreneurial ideas at the expense of a good knowledge of the industry, this estimate inexpensive. Consortium monitors the implementation of obligations under the loan, possessing the levers to collect funds in the event of failure of credit obligations. Borrowers get a loan through a financial consortium, bear liability to it and strive to make every effort to repay the loan.

Marketing consortium - Association of companies in the field of marketing, which contributes to international marketing opportunities. It provides the following services:

- Export promotion
- The organization of trade fairs and exhibitions, preparation of national and export catalogs
- Travel trade missions to foreign markets
- Communication with government authorities
- Market research, and business services
- Translation services
- Maintaining filing financial reliability of existing and potential customers
- The purchase of raw materials in bulk and warehousing
- Training.

So, in our opinion, based on the Italian model of cluster formation is the role of collective institutions that promote the effective development of a single industry. It should be noted that this model can be adapted to Russian regions for the production of low technological level, but with a high degree of differentiation (Kobersy et al., 2015).

**Table 3: Distribution by country and industry sector clusters in the world**

Country and location	Branch cluster
Silicon Valley (USA)	Cluster information technology
Germany (in the area of North Rhine - Westphalia)	Automotive cluster
Grasse (France)	Perfume cluster
Helsinki, Finland	Telecommunications cluster
Finland	Forest cluster
Singapore	Chemical cluster
Sweden	Biotechnology cluster
US State of Arizona	Food cluster
Italy	Telecommunications cluster
Spain	Aerospace cluster
UK areas around Edinburgh, Oxford and South East England	Cluster of biotech firms
Norway	Cluster “maritime economy”
Moscow, Moscow region	Cluster of Skolkovo Valley

Considering the Japanese model of cluster formation, it should be noted that the main distinguishing feature of the Japanese model of industrial cluster is the leading part of a large company, implementing an internal economies of scale and remain at the forefront of new technologies. “Japanese model” in the most complete form can be reflected on the example of companies “Toyota Motor Co.”

Background of the automotive cluster in Japan is the availability of entrepreneurial ideas (at that time in Japan, there was no car of their own business). The initial capital formed from the sale of technology in the textile industry. Demand for cheaper products from the United States formed the flow of necessary investments. History of the development of this company has been saturated with innovative ideas not only in direct mechanical engineering (e.g. creation of fuel-efficient vehicles), but also in all the elements of industrial activity. Principles of organization of the company’s business can be described technique “kaizen,” which implies a constant transformation and improvement of all the company’s activities (Gallenkämper et al., 2015).

Structure interaction in the automotive cluster in Japan is that the company leader manufactures the final product and creates a demand for components, it “gives life” many small supplier firms. Suppliers of the parent company are organized on the principle of a “pyramid.” Provided several levels: Suppliers of Level 1, Level 2, etc. Parent company directly interacts only with first-tier suppliers, the number is limited (usually 300). On the second level, the number of companies increased up to 5000, at the third level - up to 20,000 first-tier suppliers of Toyota, a special form of informal association “Kyoryokukai” (Association for the Advancement), within which there is a coordination using common production systems and the development of new products. Association defending the interests of suppliers to the parent company. Thus, the “Japanese model” is most applicable for the production of technologically sophisticated products, as product development requires high fixed costs that can be recouped only if the high volume of sales of the company (Shkurkin et al., 2015; Finaev et al., 2015).

The production process is characterized by a large number of links within the processing chain, and the parent company closes the chain and carries out “integration” of all the individual producers. In our opinion, the Japanese experience of cluster technology can be successfully applied in domestic science cities, specializing in technological developments.

Studying international experience, it is necessary to turn to the Finnish model of cluster formation of the regional economic system. A special feature of Finland is that it is a small economy that does not have a self-sustained domestic demand, so the clusters in the country were originally targeted for export. The main prerequisite for the creation of clusters in Finland is to ensure that the factors of production, mostly highly skilled workforce. Due to the fact that the overall economy is export-oriented (and thus firms within the cluster to compete with other large companies in the world market), the clusters in the economy are not exclusively national. Inside the cluster or present ties with the companies of - neighbors (e.g. Sweden and other Baltic Sea countries), or

take measures to search for and implementation of such ties. It should be noted that the Finnish economy has no significant natural resources, so the main engine of economic growth in Finland and the clustering is a high level of innovation.

Innovation is widely implemented thanks to development of the education sector, which has the active support of the state. For the Finnish economy is characterized by a high degree of clustering: All the key sectors in which created the bulk of the value added, clustered as well as a high degree of cooperation between clusters. For example, most cluster development (foundation of export economy) is a forest (wood), a cluster of supporting industries for him are the mechanical engineering and chemical industries, which in turn are also clustered.

Thus, the Finnish model is most useful for small compact countries, a relatively scarce natural resource. The economy of these countries initially focused on exports, it provides powerful support for the sector of research and development, as well as a developed system of education. In our view, the Finnish experience of cluster technology can be applied in the Russian regions with poor resource-base.

### 3. CONCLUSION

In summary, we consider it necessary to make the following conclusions:

1. The processes of globalization in the world economy contribute to the development of cluster technology can reduce (optimize) the company labor costs, increase the efficiency of individual branches due to the consolidation of knowledge and experience, as well as to reduce transaction costs on a separate territory.
2. On the basis of the Italian model of cluster formation is the role of collective institutions that promote the effective development of a single industry. Said model can be adapted to Russian regions to enterprises producing products of low technological level, but with a high degree of differentiation.
3. The Japanese model of clusters in the most useful for the production of technologically sophisticated products, where product development requires high fixed costs that can be recouped only if the high volume of sales of the company. In our opinion, the Japanese experience of cluster technology can be successfully applied in domestic science cities, specializing in technological developments.
4. The Finnish cluster model is most useful for small compact countries (regions), relatively scarce natural resource. The economy of these countries initially focused on exports, it provides powerful support for the sector of research and development, as well as a developed system of education. In our view, the Finnish experience of cluster technology can be applied in the Russian regions with poor resource-base.

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