

Creation of Clusters of Small Enterprises of the Region

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ABSTRACT

Under the conditions of continuous economic progress, modernization of production, development of the world market there is the need for increasing competitiveness of small enterprises of the country and regions. This dynamics of changes demands new approaches to socio-economic development of the Russian industries. Each region of the country can be competitive not only in the domestic market, but also and in the world if it uses the reserve which has necessary economic, intellectual and financial potential. Thus, one of the ways of the effective realization of economic potential and stimulation of economic growth is the creation of competitive regional clusters, both large-scale organizations and small enterprises. Now the given problem is one of essential for the decision in the sphere of economic regional government as the analysis of world practice shows rather high efficiency of development of Russia also defined cluster approach as the main instrument of management of regional development. However, this approach demands detailed studying, first of all, from the point of view of adaptation of the international experience to the Russian conditions.

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1. INTRODUCTION

Nowadays economic policy, both of the state and local authorities of different countries including Russia consider clusters of small enterprises as a means for employment and productivity increasing of goods and service productions, product promotion and realization of goods in the sales market. At the same time, there is a great interest of a number of researchers focused on studying of the processes taking place during the implementation, and on clustering (Arzhakov and Silnov, 2016) consequences in industries and regions (Groen et al., 2015). One of the first studies of clusters was published in the Michael Porter's works "The competitive advantage of Nations."

In this research on the basis of the economic process analysis of 10 countries Porter suggested that these countries have a considerable competitive and economic advantage when these countries concentrate the enterprises in similar or related industries (clusters). These competitive advantages derive from the territorial and industrial interrelations of enterprises within these clusters. The basis of the benefit of these enterprises is a possibility of solution simplification of the problems: The spread of innovations, access to qualified personnel, process simplification of production organization, competition possibility among new technological decisions.

Creation of clusters in economy of the region, which concentrates the state resources to support both self-standing businesses within sectors and sectorial clusters in general, can become an effective instrument for increasing of the economic activity in Russia. Growth of economy allows to create and implement state programs of solving essential social problems.

It is obvious that it requires the participation and interaction of state authorities of all levels, local governments and branch unions and associations (Mamycheva et al., 2016; Kunelbayev et al.,

2016) that determines the need to use the corresponding program methods and objectives of cluster implementations among small enterprises of regions.

Thus, it is possible to suggest that the realized cluster of small enterprises promotes the complementarity of participants of a cluster, creating the competitive advantages of a cluster in general and stimulating the business activity of their participants. Nevertheless, a number of issues remains unsolved and this article considers some of them.

A distinctive feature of the mechanism of functioning of clusters of small businesses is the appearance in it of a number of positive effects:

- Economic activity scale, the foundation of which is the specialization of enterprises in the production or provision of certain types of products and services, which leads to a cluster of activities to multiply the effect as a whole.
- Coverage effect, formed at the same time the production of several types of products.
- The effect of reducing the costs arising from the reduction of a number of additional expenses in the process of interaction between the companies that allows you to produce products at a lower cost.

The main principles of the formation mechanism of managing a cluster of small businesses should include the following (Schmid, 2013; Kurbanov et al., 2016):

- 1. The principle of independence and cooperation in which participants retain the freedom and independence in their work. At the same time, they can pass on the overall level of control a number of issues for coordination.
- 2. The principle of competition are part of the cluster enterprises compete, both subjects of the environment and with each other within the cluster.
- 3. The principle of free entry and exit means that any enterprise cluster, subject to certain rules established in the cluster, may on its own initiative to go out of its composition or to enter.
- 4. The principle of the obligations under which companies commit themselves in the interaction with the other members of the cluster, keeping the legal, commercial and industrial and technological independence. In general, the cluster must support the development of the industry by bringing new ideas to implement internal projects, by attracting new partners who offer a more effective solution of internal problems.
- 5. The principle in which the relationship between cluster members should contribute to achieving the shortest period of production and the lowest production costs.
- 6. The principle of awareness the changes in the production of various innovative processes can be made available to all cluster members.

2. DISCUSSION

Enough impact on the origin and development of the cluster theory had the works based on the primary theoretical concepts: The location theories (Todaro, Peddle, Senor, Singer) and concepts of Porter's competitive advantages of territories, the analysis of which allowed to draw a conclusion that the competitiveness of a country and regions is caused not only by separate enterprises, but also by efficiency of interaction of firms and organizations within a cluster in borders of certain territories (Todaro and Todaro, 1994; Peddle, 2006; Senor and Singer, 2009; Porter, 1998).

The development theory of clusters originates in Alfred Marshall's works which study the industrial regions of England of the XIX century. The main theories of Marshall are based on that he revealed the synergetic effect of the enterprises which on their geopolitics are close to each other. After publication of Marshall's works the leading economists have not almost raised for more than 50 years the questions which pay attention to the studying the spatial factor. Nevertheless, in the conditions of continuous progress and development in the 1950th of the XX century Mashunin, Mashunin and other researchers created the basis for the analysis of regional economy development (Mashunin and Mashunin, 2014; Suarez-Villa, 1991), relying in the works on works of the German economists (Emmenegger and Marx, 2011). Regionalists have formulated the Marshall's idea that firms which are closer to each other get a bigger advantage. Based on these statements a division into two types of the economic externalities determined by the external factors was shown: The economy from localization and economy from urbanization.

Since the beginning of the 1990th the researchers who have been studying the economy of cities and regions renewed the discussion about the relative importance of economy from localization and urbanization and their impact on factors of regional productivity and economic growth. The major contribution to these researches was made by Glasmeier and Christopherson (2015).

At the beginning of the 1990th of the XX century Michael Porter published his two works called "The international competition" and "The competitive advantages of the state of Massachusetts." The scientist revealed the consistent pattern which says that firms of one or two countries achieve a great success in the certain sectors. On the basis of this Porter created a theory about sectorial clusters. In his book "The international competition" Porter considers clusters as a result of interaction of four groups of factors which he unites in "a rhombus of competitive advantage:" The factorial conditions, demand conditions, similar and supporting branches, competition conditions and strategy of firms (Porter, 1998). According to the scientist, four elements of the rhombus play the main role for understanding why clusters are more competitive, than some firms.

The studies of famous American scientist Enrayt who created the theory of a regional cluster demand much interest and attention (Feser and Bergman, 2000). Following Enrayt's theory, competitive advantages are based not on the national level, as Porter claims, but on the regional one where historical prerequisites of the formation of regions, a variety of cultures of the business realization, the production organization of and education acquisition play a key role. Regional clusters should be supported by government institutions and research organizations.

Therefore, the concept regional cluster is considered as a regionally limited unity of enterprises round the industrial or scientific center promoting socio-economic development of the region under the influence of a synergetic effect.

3. RESULTS

Interest to the concept of regional clusters and a cluster approach has especially increased (Mullakhmetov et al., 2015; Kirillov et al., 2015) in policy of economic development of foreign countries in the last decade. The idea of clusters, as a result of competitiveness of economic development of regions has gained its extensive worldwide distribution. Development of clusters is formalized in cluster policy.

Table 1 presents two main models (liberal and dirigiste) within which cluster policy is conducted in certain countries of the world economy.

It should be noted that the liberal cluster strategy is characteristic for those countries which traditionally conduct liberal economic policy. They are the USA, Great Britain, Australia and Canada. The authorities of those countries which are actively involved in economic life of the country conduct dirigiste cluster policy. For example, France, Korea, Singapore, Japan, Sweden, Finland are among them.

The regional clusters existing both in developed and in developing countries have distinctions depending on the structure of participants and structure, types of products and provided services, features of geographical data, and also the level and stage of production modernization.

Comparative analysis of foreign experience of clustering of regional economy entities shows the presence of joint conditions of the creation of regional clusters, and also features in a certain country that allowed to prove the need for the creation and use of a "mixed" model of management of the process of the regional cluster formation in the conditions of domestic economy. Analysis of international experience of the use of a cluster approach and the realization of cluster policy conducted in the paper shows applicability in the Russian conditions at certain adaptation of its considerable part (Figure 1). A target problem of the present period of our country development is supply of high growth rates of the gross domestic product, the further accumulation of production efficiency and achievement on the basis of this high level and quality of life of the population.

Positive factors for development of regional clusters in Russia are the existence of great experience in the formation and development of territorial and production complexes and various forms of cooperation (Osadchy and Akhmetshin, 2015), the high level of intellectual potential, the development of technological infrastructure and technological culture. The factors constraining the formation of regional clusters are weak communications between research institutes and business, the weak quality of business climate and low efficiency of branch associations, insufficiently high level of trust between representatives of business, science, government.

Table 1: Models of cluster policy

Model	Countries	Characteristics
Dirigiste	Japan, the Republic	Active state (federal) policy
	of Korea, Singapore,	of the development of
	Sweden, France,	clusters plays a great role
	Finland and Slovenia	
Liberal	The USA, Great	A cluster is considered as a
	Britain, Australia,	market organism. The role of
	Canada	federal authorities consists
		in removal of barriers to its
		natural development

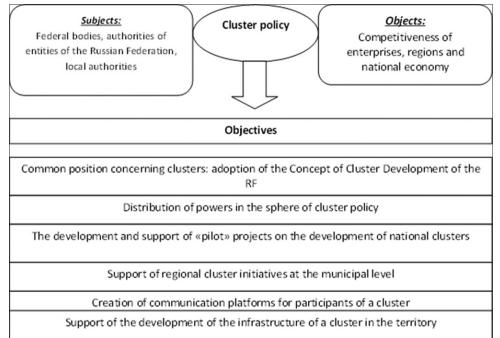


Figure 1: Structural elements of cluster policy of the region of the Russian Federation

A cluster approach in management of social and economic development of the country and its certain regions is realized in the form of cluster policy which is considered as a complex of actions of the state and business directed on association in clusters of economic entities and agents. The cluster policy is one of the main directions of state policy on increasing competitiveness, the level of socio-economic development of regions in developed and developing countries more than 10 years.

The purpose of cluster policy is the improvement of the quality of socio-economic growth in the region on the basis of the creation of conditions for strengthening of competitiveness of economic entities forming regional clusters. The problems of regional cluster policy are aimed at the creation of favorable conditions for the formation and development of competitive clusters in the territory of the region.

4. CONCLUSION

The paper has shown that today the feature of the clustering process of the Russian economy is the active role of regional authorities in identification of clusters, support of cluster initiatives, stimulation of their development and carrying out monitoring of efficiency of clustering processes.

The question of the allocation and formation of sectoral and regional clusters and cluster policy takes place in the draft of the concept of long-term socio-economic development of the Russian Federation till 2020. At the federal level a number of the mechanisms allowing to provide flexible financing of actions for development of clusters is created. In a number of entities of the Russian Federation the first attempts of the formation of regional clusters are made.

REFERENCES

- Arzhakov, A.V., Silnov, D.S. (2016), New approach to designing an educational automated test generation system based on text analysis. ARPN Journal of Engineering and Applied Sciences, 11(5), 2993-2997.
- Emmenegger, P., Marx, P. (2011), Business and the development of job security regulations: The case of Germany. Socio-Economic Review, 9(4), 729-756. Available from: http://www.dx.doi.org/10.1093/ser/ mwr013.
- Feser, E., Bergman, E. (2000), National industry cluster templates: A framework for applied regional cluster analysis. Regional

Studies, 34(1), 1-19. Available from: http://www.dx.doi. org/10.1080/00343400050005844.

- Glasmeier, A., Christopherson, S. (2015), Thinking about smart cities. Cambridge Journal of Regions, Economy and Society, 8(1), 3-12. Available from: http://www.dx.doi.org/10.1093/cjres/rsu034.
- Groen, A., Cook, G., Sijde, P. (2015), New Technology-Based Firms in the New Millennium. Bingley, UK: Emerald. p288.
- Kirillov, A.V., Vinichenko, M.V., Melnichuk, A.V., Melnichuk, Y.A., Lakina, Y. (2015), Higher education institutions grading: Administrative and support personnel. International Journal of Economics and Financial Issues, 5(3S), 173-182.
- Kunelbayev, M., Auyelbekov, O., Katayev, N., Silnov, D.S. (2016), Factor of catching of solar radiation of a tubular heat receiver with a cellular transparent covering. International Journal of Applied Engineering Research, 11(6), 4066-4072.
- Kurbanov, A., Gurieva, L.K., Novoselov, S.N., Gorkusha, O.A., Novoselova, N.N., Kovalenko, A.A. (2016), Features sub-regional localities in the structural-level organization of the economic system. International Review of Management and Marketing, 6(1), 287-292.
- Mamycheva, D.I., Melnichuk, A.V., Taranova, I.V., Chernykh, A.I., Gadzhieva, E.Y., Ratiev, V.V. (2016), Instrumentation organizational and economic support of labor motivation of employees. International Review of Management and Marketing, 6(1), 142-147.
- Mashunin, Y., Mashunin, I. (2014), Forecasting the development of regional economy on the basis of input B^T output tables. Eor. p276-289. Available from: http://www.dx.doi.org/10.17059/2014-2-27.
- Mullakhmetov, K., Nazmiev, E., Akhmetshin, E. (2015), Control in the system of public administration in Russia. International Business Management, 9(7), 1732-1736. Available from: http://www.dx.doi. org/10.3923/ibm.2015.1732.1736.
- Osadchy, E., Akhmetshin, E. (2015), Accounting and control of indirect costs of organization as a condition of optimizing its financial and economic activities. International Business Management, 9(7), 1705-1709. Available from: http://www.dx.doi.org/10.3923/ ibm.2015.1705.1709.
- Peddle, M. (2006), Book review: Economic development finance. Economic Development Quarterly, 20(4), 389-390. Available from: http://www.dx.doi.org/10.1177/0891242406293244.
- Porter, M. (1998), On Competition. Boston, MA: Harvard Business School Publication.
- Schmid, P. (2013), The destabilizing effect of company income taxation. Society and Economy, 35(3), 365-388. Available from: http://www. dx.doi.org/10.1556/socec.2013.0002.
- Senor, D., Singer, S. (2009), Start-Up Nation. New York: Twelve. p384.
- Suarez-Villa, L. (1991), Regional evolution and entrepreneurship: Roles, eras and the space economy. Entrepreneurship Regional Development, 3(4), 335-347. Available from: http://www.dx.doi. org/10.1080/08985629100000022.
- Todaro, M., Todaro, M. (1994), Economic Development. New York: Longman. p178.