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**THE DEVELOPMENT
OF TERRITORIAL INDUSTRIAL-LOGISTIC CLUSTER
(the example of the textile industry of the Region of South Kazakhstan)**

The paper discusses the principles and mechanisms for the development of territorial clusters based on the example of the textile industry of the South Kazakhstan region. Cluster, as an initiative for the development of the region's economy, attracted much attention around the world. The fact that many governments invest significant resources and efforts in the growth and development of such clusters can be seen as yet another proof of their importance. Kazakhstan is not an exception, therefore in this article integration of the cluster approach into governmental programs and strategies of regional and economic development is considered. The transition to innovative development requires concentration of resources and efforts on the most promising complementary groups of enterprises that can form the innovative potential of the region and have the highest opportunities for increasing competitiveness. Formation and development of clusters is an effective mechanism for regional development, facilitating the attraction of foreign direct investment and enhancing foreign economic integration.

Key words: territorial-production cluster, development, South-Kazakhstan oblast, logistics clusters, concentration, logistics.

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**Аумақтық индустриялды-логистикалық кластердің дамуы
(Оңтүстік Қазақстандағы текстильді индустрия мысалында)**

Аталған мақалада Оңтүстік Қазақстан облысындағы тоқыма өнеркәсібі кластерін дамыту принциптері мен механизмдері қарастырылған. Кластер аймақ экономикасының дамуының инициативасы ретінде бүкіл әлемнің назарын аудартты. Көптеген мемлекеттердің осындай кластерлерді дамытуға үлкен ресурстармен күштерді салуы олардың маңыздылығын дәлелдейді. Бұл Қазақстанға да қатысты, сондықтан бұл мақалада кластерлік тәсілді мемлекеттік бағдарламалар мен экономикалық және аймақтық стратегияларына интеграциялануы қарастырылады.

Инновациялық дамуға көшу ресурстар мен күштерді ең келешегі бар қосымша кәсіпорындар тобына шоғырлануын талап етеді. Бұл топтар аймақтың инновациялық потенциалын құруы мүмкін және олардың бәсекелестікті жоғарылатуына мүмкіндіктері бар. Кластерлерлі құру және дамыту аймақтық дамудың тиімді механизмі болып табылады, және олар шетелдік тікелей инвестицияларды тартуды ынталандырады, сыртқы экономикалық интеграцияны күшейтеді.

Түйін сөздер: өндірістік кластерді дамыту. Оңтүстік Қазақстан облысы, кластерлер, логистика, концентрация, логистика кластерлері.

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г. Астана, Казахстан, e-mail: e-mail: korkem07@inbox.ru**Развитие территориального индустриально-логистического кластера
(на примере текстильной индустрии регионов Южного Казахстана)**

В статье рассматриваются принципы и механизмы развития территориальных кластеров на примере текстильной промышленности Южно-Казахстанской области. Кластер как инициатива развития экономики региона привлек большое внимание во всем мире. Тот факт, что многие правительства вкладывают значительные ресурсы и усилия в рост и развитие таких кластеров, можно рассматривать как еще одно доказательство их важности. Казахстан не является исключением, поэтому в этой статье рассматривается интеграция кластерного подхода в государственные программы и стратегии регионального и экономического развития. Переход к инновационному развитию требует концентрации ресурсов и усилий на наиболее перспективных дополнительных группах предприятий, которые могут сформировать инновационный потенциал региона и имеют самые высокие возможности для повышения конкурентоспособности. Формирование и развитие кластеров – эффективный механизм регионального развития, способствующий привлечению прямых иностранных инвестиций и усилению внешнеэкономической интеграции.

Ключевые слова: территориально-производственный кластер, развитие, Южно-Казахстанская область, кластеры логистики, концентрация, логистика.

Introduction

Cluster, as an initiative for the development of the region's economics, has drawn a lot of attention. The fact that many governments invest significant resources and effort into growth and development of such clusters (MIT), can be seen as further evidence of their importance. Kazakhstan is not an exception, therefore this paper will look at the integration of cluster approach into governmental programs and strategies of the regional and economic developments. Logistic clusters are relevant and important aspects of regions and countries economic and social development. Therefore, it is of no surprise that many governments pay significant amount of attention and invest resources into growth and development of such clusters.

Experimental part

Theoretical and methodological foundations of territorial clusters are presented in the works of various economists, researchers and practitioners, including Vitor Constancio, Esteban Vesperoni, Kravtsova GI, Tarasov VE, IK Pochtarev and others. The need to increase the efficiency of the functioning of «subnational economies poses new challenges for the territories, primarily those related to the selection of a competitive regional economy model that will maximize the inherent resource potential, absolute and relative competitive advantages. Currently, the world economic science recognizes that regional clusters are the instrument that has the most significant impact on the efficiency of current

production processes and largely predetermines the level of development of the economy with a long-term period, while the presence in the cluster of competing enterprises of the main and auxiliary industries, intermediary and Scientific research organizations, institutes of developed infrastructure, as well as consumers of final goods and services provide rivalry The ability of the region's economy to be able to function at the national and world levels. The study used the following methods: modeling, analysis, synthesis, deduction, induction, classification, observation.

Results and discussions

Cluster policy is an integral part of the economic policy pursued in order to form and support clusters in certain territories by creating additional conditions for increasing the competitiveness and effective interaction of cluster members.

The implementation of cluster policy becomes relevant within the framework of the indicated transition to a new model of spatial development of the Kazakh economy within the framework of the Concept of Long-Term Social and Economic Development of the Republic of Kazakhstan for the period up to 2020.

The transition to the Concept is marked by the formation of new development centers, based on the creation of a network of territorial clusters that realize the competitive potential of the territories.

The main goal of implementing cluster policy is to ensure high rates of economic growth and diversification of the economy by increasing

the competitiveness of enterprises, suppliers of equipment, components, specialized production and service services, research and educational organizations that form clusters.

One of the conditions for the formation of a cluster in the region is the availability of specialization of industries.

There are five main prerequisites for the formation of territorial branch clusters:

1. *Availability of competitive enterprises.* A key condition for cluster development is the availability of competitive enterprises in the cluster. As indicators of competitiveness can be considered: a relatively high level of productivity of companies and sectors included in the cluster; High level of export of products and services; High economic performance of companies.

2. *The presence in the region of competitive advantages for cluster development.* For example, advantageous geographical position; Access to raw materials; Availability of labor resources, suppliers of components and related services, specialized educational institutions and educational programs, specialized organizations conducting R & D, the necessary infrastructure.

3. *Geographic concentration and proximity.* Key clusters are geographically close to one another and have opportunities for active interaction.

4. *A wide range of participants.* Cluster can consist both of companies that produce final products and services, usually exported outside the region, systems of suppliers of components, equipment, specialized services, and professional educational institutions, research institutes and other support organizations.

5. *Presence of connections and interaction between the participants of clusters.* One of the key success factors for the development of clusters is the availability of working links and coordination of efforts among the cluster members.

To substantiate the formation of a cluster in a region of a certain industry specification, it is necessary to identify the potential for clusterization, that is, the availability of competitive advantages of enterprises by types of economic activities and infrastructure organizations located in the region, the possibility of their unification.

Before proceeding, it is necessary to consider several key terms. Marshall's ideas of industrial cluster brought the term cluster to a broader use [1], cluster can be said to exist when unique expertise of the region is formed. The success of the industrial cluster depends on the interconnectedness of organizations (institutions, companies, banks etc.), product

suppliers, infrastructures, universities, scientific research centres and other institutions concentrated on a given territory, their complementarity and amplification of competitive advantages of some actors and the cluster in general [2]. Logistics is a process of detailed organisation, coordination and management of transportation, warehousing and other operations to facilitate effective and sustained flow of goods, services and information from point of origin to the point of consumption, in order to satisfy consumer needs.

Logistic clusters can differ in their sizes, breadth, and the levels of development [7]. Firms that join logistics clusters can be divided into three categories. Companies in the first category are providers of logistics services (e.g. freight forwarders, warehousing services and other). Second category is logistic departments of retail and industrial companies, and finally, industrial companies whose main costs are spent on logistic operations [15].

Logistic clusters show similar characteristics to industrial clusters: collective resources and suppliers what leads to higher productivity, trust; increase in high-qualified labour force, research institutes; organizations of technology transfer, innovations; and analytical centres. Nevertheless, logistic clusters have some unique features exhibited in the creation of clusters and impact they have on economic growth.

The main difference between logistic and industrial clusters lies in the fact that, above all, companies join logistic clusters for logistic-related advantages of co-locating (Sheffi, 2010), thus the main objective of logistic clusters is pooling of logistic capabilities. Meanwhile industrial clusters attract companies for other, not logistics related, reasons, and the objective is pooling of other capabilities.

Benefits of industrial-logistic clusters

The most valuable benefit of cluster is also its distinctive feature, due to the expansion of common interests and mutual trust firms share more of «non-tradable business inputs», including information, skills and knowledge. Another beneficial externality of clustering is the growth of the suppliers base and arrangement of the workforce reserve. The former reduces importing and delay expenses, while the latter minimizes recruitment expenses associated with search and transaction [17].

Collaboration

Concentration of competing firms on the same territory facilitates collaboration among them.

Collaborative relations are established over a period of time; they develop between companies functioning within the same cluster because logistic

actions performed are standardized despite the type of goods transported. The further the companies are located from each other geographically, the harder it is for them to establish collaborative relationships.

One of the aims of collaboration is increasing competitiveness of firms, thus collaboration is based on economic considerations and leads to trust among the players what further spills to information and power sharing. Integration of interests of participants happens only when cooperative actions are based on mutual aid [9]. In their research Riviera et al. (2016) brought examples of two firms (manufacturers of cleaning products and batteries) both shipping their goods from their neighbouring distribution centres in Georgia to the same distribution centre in Florida. Two firms collaborated and decided that instead of sending two separate truckloads of goods from their distribution centres to distribution centre in Florida, they would send single truckload which would alternate picking up goods from one firms distribution centre and the other. Although such collaboration wasn't easy and didn't come naturally (both manufacturers had to reconsider and match their freight schedule, while the retailer had to modify its ordering pattern and arrangements of delivery acceptance), the goal of significantly lowered transportation costs was achieved.

In such clusters, even competitors have favourable conditions for collaboration, under which they can cooperate and solve common problems. The main principle is to ensure that actors with greatest expenses feel outcome of aggregate benefit.

Therefore, collaboration is established when firms join their resources and integrate their approaches to achieve mutual benefits such as lower costs, greater innovation and higher quality of products and services (Riviera et al., 2016). Firms join collaborative actions to identify strength or weaknesses, and to develop strategies to face external threats or to meet coming opportunities. Such collaborative efforts facilitate conditions for mutual cooperation.

Cooperation and competition

Most of the cooperation occurring in clusters is vertical, it engages local organisations and inter-connected industries (Porter, 1998). Cooperational activities include distribution of production, shared use of infrastructure, communicational and informational systems of logistics commercial partnership, mutual guarantees of risks, common protection of investments and industrial sectors. With that, cooperation is desired because it provides companies with economic benefits due to shared warehousing, lower transportation costs and higher quality distri-

bution – what makes such firms more attractive for customers. As was mentioned on one of the OECD forums (1996): «The key to growth for many small firms within a cluster is its ability to gain strength through co-operation and collaboration utilising formal and informal networks».

It is important to note that clusters encourage not only cooperation, but also competition. The two seemingly contradicting processes can actually co-exist as they involve separate set of actors and take place on different dimensions. By definition, firms offering similar services and goods in cluster are located in close proximity to each other, that makes it vital for them to compete strongly to keep customers and stay in business [17].

The compound of cooperation and competition stimulates companies to improve the quality of their services, technology and productivity, it acts as a driver for learning and innovation [16]. Such mixture is also a significant factor for creation of new firms: formed connections and the success of existing regional businesses decrease evaluation of risks [17].

Transportation related benefits

Industrial-logistic clusters have authority to forward regional administration's attention to transportation, what often leads to transportation system being well financed and upgraded to a superior level of development [10]. Economic theory indicates that advanced transportation infrastructure in cluster contributes to extended trade and the prosperity of local economy [2]. Furthermore, clusters contribute to high levels of employment and local economies in developed countries where conventional manufacturing is decreasing [3].

Transportation costs in established clusters are also lower than such costs outside the cluster, such differences are due to the opportunity that clusters provide for shared transportation and logistic services [12]. In addition, well organised physical infrastructure can advance access to such factors of production as raw materials and skilled labour (DTI, practical guide to cluster development).

Employment

By attracting firms and workers clusters increase demand for workforce and is an important factor of job creation. Kasarda (2008) at the example of airports showed that employment level around airports increased faster compared to areas located further from the airports.

Value added services, such as labelling, sorting and packing, increase the worth of goods and opportunities for additional income for companies (Riviera et al., 2016); they also extend the capacity

for additional workplace, as firms require labour to perform the value added activities.

Cluster related disadvantages

Nevertheless, clusters can also magnify already existing socio-economic issues in the region: clusters intensify traffic congestions, enhance land price increases and aggravate ecological problems[15]. The main transportation related concern is not freight transportation, but rather the transfer of people and impact traffic jam has on rides to work and business travels. Such issues occur because available infrastructure can't cope with rapidly growing flow of people and transport[6]. Housing issues can have similar effect, as sharp growth of demand might increase land pricing and lead to prolonged journey to work for the cluster's employees [11]. Due to poor presence of commercial developers in area, they don't regard housing as a problem for them to solve[6]. In addition, being part of a cluster, doesn't automatically trigger trust and shared knowledge, and therefore may not develop further collaboration [5]. Because of the collective nature of collaborative activities, the problem of free riding is also persistent in clusters where costs and gains are not distributed equally. Therefore, some companies might not wish to take part in resources-consuming practices like planning and organizing[18]. Moreover, development of new technologies reduces importance of geographical location and facilitates coordination even among distant firms. Therefore, regional clustering is argued to become less relevant. However, such geographical considerations are still the main foundation for logistic clusters, and advantages of industrial-logistic clusters clearly outweigh drawbacks.

Development of Clusters

In terms of the strength and the level of development, clusters can be categorised into two groups: static and dynamic clusters. The difference between the two lies in competitive capabilities of the companies within such clusters. Firms in dynamic clusters are able to compete on international level, while firms in static clusters are only competitive within regional borders[16]. The textile cluster in the South Kazakhstan region is static, but is prioritised and should be advanced to the dynamic level due to its perspectives of «mutually beneficial cooperation of companies and organizations of private sectors, scientific research centres and engineering organizations, investors, financial institutes and Special Economic Zones (SEZ), techno-parks, industrial zones, integrated for the production of competitive, innovative goods and services based on modern technologies and business models» [8]. Conditions for such

development can be categorised into three groups: resources, and internal and external forces [14].

Resources

After reviewing relevant literature, we identified six primary conditions for such development: the presence of the effective systems of linkage and partnership, established scientific innovative platform, adequate human resources, advanced infrastructure, availability of leading enterprises and sufficient investments. It is noteworthy that such conditions should be fulfilled at certain times.

Effective system of linkage and partnership

The existence of a cluster signals an opportunity. Individuals working somewhere in or near the cluster more easily perceive new gaps in products, services, or suppliers to fill. Having had these insights, these individuals more readily leave established firms to start new ones aimed at filling the perceived gaps [17].

Merger of interests of firms, their readiness to share information and knowledge. Therefore it's a network of suppliers, consumers, producers, elements of manufacturing infrastructure, research institutions, local authorities interconnected in the process of creation of added value.

The conditions for inclusion of potential participants in the textile cluster formed in the South Kazakhstan Oblast are determined by the initiators of the cluster project at the regional level. General conditions for the inclusion of enterprises in the territorial-production textile cluster of SKO can be as follows:

- Correspondence of the activity type of the enterprise to the branch specification of the emerging cluster
- Openness of information on the performance of the enterprise
- Positive dynamics of the main production indicators (production volumes)
- Presence of an enterprise's development plan (strategy) for the medium term
- The enterprise has an investment project aimed at reconstruction, modernization of the enterprise, production of new products, etc.
- Presence of elements of modern high-tech production (elements of innovation)
- High level of quality of products (services)
- Demand for products (services) in the regional market
- Synergetic effect (interaction) with other cluster members

As for the creation of favorable conditions for the development of a textile cluster in the South-Kazakhstan region, the first place is the existing

measures of financial support for investment activities in the region.

1. Budgetary investments (participation of the Republic of Kazakhstan in the ownership of the investment entity).

2. Subsidies, including compensation for part of the costs of paying interest on the loan.

3. State guarantees of the Republic of Kazakhstan (not more than 5 years).

4. Tax privileges (for profit tax, corporate property tax, transport tax). The term is limited by the project payback, but not more than 5 years.

5. Investment tax credits (the term from 1 year to 5 years).

6. Preferential rates of rent for the use of property owned by the Republic of Korea (no more than 5 years, the rate – 50% of the rent).

Despite the existing measures to support investment activities at the regional and municipal levels, a set of tools for financial support of cluster projects from budget sources is currently limited.

As a result of the implementation of cluster policy in the region:

1. The necessary conditions for the development of clusters are being formed. After studying the level of development and potential of the basic branches of the economy, the balance of supply and demand for products should be determined by the industry specification of the clusters being created. In accordance with the selection criteria, potential participants in the cluster are identified.

2. Priorities were chosen to support investment projects for the development of participants and project support was provided. Financial support for

cluster development projects is carried out within the framework of the activities of the development program for the respective cluster.

3. The necessary documents for methodological support for the implementation of cluster policy have been developed, and a body providing information and consulting support has been identified.

The main results of implementing the cluster policy are the growth of productivity and innovation activity of cluster enterprises, as well as increasing the intensity of development of small and medium-sized businesses, increasing the attraction of direct investments, and ensuring accelerated socio-economic development of the region.

Conclusion

Thus, economic theory and business practice shows that partnership relations between all business entities are a key factor in the development and enhancement of the competitiveness of the national economy. Innovative development of the domestic economy is impossible without the organic interaction of participants within the cluster. Based on the results of analysis of the main forms and methods of managing territorial and logistics clusters used in the current practice of assessing the efficiency of the region and as a tool to stimulate investment activity of analysis of the main directions of the state investment policy for the development of the infrastructure complex of regions for the medium- and long-term prospects, Territorial-logistical clusters in the infrastructure Complex of the region.

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