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THE AGGLOMERATION AND NETWORKING APPROACHES TO THE INTERPRETATION OF THE ECONOMIC CLUSTER CONCEPT

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The agglomeration and networking approaches to the interpretation of the concept of the economic cluster are examined in the article. The advantages of the networking concept of cluster stratification of the economy are shown in the context of facilitating the natural process of establishing sustainable competitive innovation clusters and the formation of an active innovative knowledge-intensive environment. Regarding the definition of the cluster, it is suggested adhering to an expanded networking concept, which is based on the idea of stimulating the development of sustainable structured business networks in the economy.

Keywords: *agglomeration, economic cluster, innovation cluster, cluster stratification of the economy, agglomeration concept of clusters, cluster network concept, business network, collaboration.*

Introduction. At the present stage of economic development, collaborative network models of interaction, involving the collective creation of innovations through networks, contribute to the continuous innovation processes generation. The unique spillover effect of the networking cooperation of scientific, entrepreneurial circles and government may consist in the formation of an innovative ecosystem, where on a regular basis is provided an unlimited expansion of the list of benefits created by a complementary combination of knowledge and competencies in various combinations [1]. In many respects, the effective use of the innovation potential in modern knowledge-intensive economies is facilitated by a stably functioning superdynamic networking and cluster business environment of continuous improvements. In this connection, the study of the formation and development of the theory of business networks and clusters in economics, the modern content of the cluster concept, the conditions and prerequisites of their occurrence becomes relevant.

Results and discussion. Innovative and industrial clusters are considered as the most efficient ecosystem for creating and spreading innovations. Clusters are characterized by agglomeration effects of traditional integration formations, however, they rise to a higher level of complexity and, at the same time, the productivity of business communications, because they generate collaboration networking externalities: reduce the level of uncertainty due to the information transparency and organizational openness of the actors; provide a systematic increase in productivity and an unlimited expansion of the list of benefits created by the complementary combination of knowledge and competencies in various combinations; are sustainable and capable of self-empowerment due to intranet incentives, rather than external incentive measures or enforcement [2].

At the present stage, the following important question for determining the content of a cluster concept becomes topical: what is the main factor in the formation of strategic competitive advantages for cluster members - their geographical proximity or a developed system of effective business communications? Scientific community hasn't reached the consensus on this issue. For example, in the fundamental works of the Scandinavian researchers of the contemporary cluster theory, the Green Book of Cluster Initiatives and the White Book of Cluster Policy, geographical location, along with others, is considered as an essential attribute of the cluster [3; 4].

As factors contributing to geographic localization, these works indicate: the availability of natural resources or other unique local assets; savings due to growth in production, optimization of the scale of activities; reduction of transaction costs associated with obtaining access to knowledge and its transfer; development of local specialized markets for labor and material resources; effective exchange of commercial information and technologies; a better understanding of the needs of the local consumer in the context of the formation of a complex and diverse demand [3; 4; 5].

It should be noted that all of the listed potential benefits, with the possible exception of the first two, may occur in the case of both close and remote locations of the subjects. However, the key conditions for their emergence are the actual need or awareness of the benefits of convergent and divergent interactions and the resulting desire to cooperate. Despite the fact that specific forms of knowledge creation and learning, especially implicit ones, are often localized and tied to a territory, knowledge actors can interact not only through localized input-output market relations, but also in the form of interactive networks with different geographic scope.

Knowledge sharing and social capital in the White Book of the cluster policy are considered as potential benefits that directly or indirectly motivate geographic localization processes, which are an important condition for the formation of a cluster. According to the authors of the White Book of Cluster Policy, the motivating factor contributing to geographic localization is an increase in the level of social capital: "geographical proximity between commercial organizations and non-profit institutions can facilitate informal exchange and accumulation of tacit knowledge" [3]. Similar studies, which emphasize that co-location can create the benefits of knowledge sharing, even if the level of trust is insignificant and there is no long history of interaction or complex relationships, are numerous.

On the one hand, there are a lot of examples of stable cluster formations, which at the early stages of the life cycle were characterized by an insignificant level of localization of participants and significant geographic scope. On the other hand, the dirigiste approach is replete with unsuccessful attempts to transform agglomerations into cluster groups due to the impossibility of overcoming interorganizational and interpersonal barriers. The obvious conclusion is that the geographical proximity of the location of the actors is not a sufficient condition for a cluster emergence. In some cases, geographical proximity is also not a necessary condition for or a cluster emergence. This conclusion caused by the objective processes of softization and informatization, which facilitate the transfer of knowledge and stimulate unplanned interactions, regardless of the geographical scale of the activity.

There also exist a diametrically in relation to the agglomeration approach idea of the exclusive priority of trust between the cluster members. The idea of the priority of information transporency, conscious interaction, motivated desire for cooperation and achievement of various benefits as the dominant condition for the cluster emergence that determines its stability and competitiveness is also supported by a large group of scientists, including P. Maskell, E. Feser, E. Bergman, W. Elsner, S. Rosenfeld, T. Andersson, and others. In its most general form, this idea is reflected in the work of P. Maskell «Social Capital, Innovation and Competitiveness", where he claims that "the company reduce the costs associated with interactions if they are located in a cluster characterized by trusting relationships and other social capital features that help reduce the level of malicious acts, encourage voluntary provision of reliable information, ensure compliance with agreements, create conditions for employees to use implicit information and ensure understanding each other in negotiations» [6].

In addition to the antagonistic approaches to understanding the content of the cluster concept discussed above, there is also a "compromise" extended network interpretation, according to which in the theory of cluster development the following concept gradually gets the form of reliable knowledge: on the basis of stable structured business networks that pursued not only the potential benefits of interaction, but predominantly specific development goals, the formation of competitive clusters proceeds much faster and requires less additional effort in com-

parison with territorial localizations, many of which do not have the potential for cluster transformation and do not need it [7; 8].

An extended multi-criteria networking approach recognizing the existence of clusters with both high and low degree of localization of participants is shared by J. R. Gordon and F. McCann, Markussen, J. Terstrip and others. The number of supporters of the multi-criteria approach can also include the follower of M. Porter and the founder of the regional concept of clusters M. Enright, which classifies cluster formations in the context of geographical scale into localized and dispersed [9].

In accordance with the extended networking concept, the starting point for innovative clusters emergence is the weakly structured informal networks of interacting actors, pursuing the potential benefits of the exchange of configuration information. In the process of interaction more structured collaboration patterns can be formed within the business network. These patterns unite actors who pursue specific project goals and fulfill certain economic roles (developer, supplier, consumer, investor, etc.). In accordance with the expanded networking concept, the structured patterns of collaboration, regardless of their degree of localization, are full-fledged economic clusters at different stages of the life cycle.

At the present stage of economic development, collaborative network models of interaction, involving the collective creation of innovations through networks, contribute to the continuous innovation processes generation. The unique spillover effect of the networking cooperation of scientific, entrepreneurial circles and government may consist in the formation of an innovative ecosystem, where on a regular basis is provided an unlimited expansion of the list of benefits created by a complementary combination of knowledge and competencies in various combinations [1]. In many respects, the effective use of the innovation potential in modern knowledge-intensive economies is facilitated by a stably functioning super-dynamic networking and cluster business environment of continuous improvements. In this connection, the study of the formation and development of the theory of business networks and clusters in economics, the modern content of the cluster concept, the conditions and prerequisites of their occurrence becomes relevant.

Conclusions. Following the logic of the advanced networking approach, it is suggested that a cluster should be understood as an economic system based on a combination of competition and vertical and / or horizontal collaboration of not related by property relations commercial and non-profit organizations united by a single goal, recognizing and pursuing the benefits of interaction in the circulation of commodity, material, intangible, financial and information flows with the participation of the government and innovation infrastructure organizations [10].

The advantage of the formulated definition is as follows: the attention of the subjects of innovation activity is not focused on the degree of localization or specialization of potential cluster members, but concentrates on the nature and the content of the interactions between them. Changing the focus of attention presupposes concentrating not on the forced cluster transformation of localized production agglomerations, which often do not have the features of cluster-networking systems, but on the cultivation of networking interaction and collaboration mechanisms.

This approach, on the one hand, reduces the likelihood of the emergence of nominal similarities of clusters lacking internal incentives for self-empowerment and development, on the other hand, aims to create conditions for the emergence and strengthening of natural networking externalities.

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АГЛОМЕРАЦИОННЫЙ И СЕТЕВОЙ ПОДХОДЫ К ОПРЕДЕЛЕНИЮ ПОНЯТИЯ КЛАСТЕРА В ЭКОНОМИКЕ

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Статья посвящена сравнительному исследованию агломерационного и сетевого подходов к интерпретации содержания понятия экономического кластера. В результате исследования сформулированы преимущества сетевой концепции кластеризации экономики, содействующей естественному процессу формирования устойчивых конкурентоспособных инновационных кластеров и инновационно-активной интенсивно-знаниевой среды. Предлагается придерживаться расширенной сетевой концепции для интерпретации содержания понятия кластера, в основе которой лежит идея стимулирования развития устойчивых бизнес-сетей в экономике.

Ключевые слова: *агломерация, экономический кластер, инновационный кластер, кластерная стратификация экономики, агломерационная концепция кластера в экономике, сетевая концепция кластера в экономике, бизнес-сеть, коллаборация.*

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