

THE IMPORTANCE OF INNOVATION CLUSTERS IN THE KNOWLEDGE ECONOMY

The formation and effective functioning of innovation clusters gives a powerful impetus to the innovative development of entrepreneurship in the country, as these structures contribute to the innovative orientation of production and the achievement of a qualitatively new level of technology, optimization and production management in all spheres of economic activity.

Clusters play the role of growth zones of the domestic market and the basis of foreign economic development for the entire national economy, especially in the formation of the knowledge economy.

International competition, which is constantly intensifying, determines the urgency of conducting an in-depth analysis and finding new forms of ensuring accelerated economic development and increasing the competitiveness of the country and certain territories in the conditions of the knowledge economy. In this regard, industrial innovations, that is, improvements in the field of equipment, technologies, and the organization of the production of finished products, should be an integral part of the production and economic activity of any economic system that cares about its future.

In the conditions of globalization of world economic development, there is a need for further structural transformations in national economies and the formation of more advanced innovative systems on this basis.

World experience demonstrates the high efficiency of the cluster form of integration, which is an element of structural economic transformations based on methods of managing the growth of economic entities. This is due to the fact that the participants of the innovation cluster, while maintaining their independence, acquire strong mutually beneficial organizational, financial and other ties that make corporate structural formations the most stable, competitive and reliable.

In the cluster, competitive advantages are created thanks to the joint use of production factors, technologies, information, the formation of specialized infrastructure and the coordination of actions with other related companies based on common interests. In this regard, the most important property of the cluster is the emergence of effective interaction - a synergistic effect in the process of

interaction of its participants in the conditions of the knowledge economy. The synergistic effect involves an increase in the effectiveness of the joint activity of the cluster participants due to the concentration of the interests and resource potential of several organizations in one project, which, in turn, determines the relevance of the study of the mentioned phenomenon.

In today's conditions, the actively developing processes of globalization of economies dictate the need to adapt state support taking into account the national characteristics of the institutional environment and the minimization of state intervention in market processes. It is the institutional diversity of national economies and the specific conditions formed in each country that causes the consideration of individually necessary differentiation of forms of state support, taking into account the existing national business models.

The international experience of state management of innovative and socio-economic development of national economies testifies to a powerful synthesis of scientific, industrial, industrial, cultural, economic and social policy in the form of specific formations, which have received the name of innovation clusters, with the aim of creating and maintaining an environment that contributes to the creation and active use of innovations in a certain territory.

The specificity of an innovation cluster in the conditions of the knowledge economy is the achievement of a synergistic effect by the stakeholders included in it, which is expressed in increasing the competitiveness of the entire system in comparison with individual business entities. At the same time, national security and the high competitiveness of the national economy depend not only on technical achievements, innovations, inventions, and the creation of knowledge, but also on economic and organizational changes that contribute to the best process of commercialization of products of scientific and technical developments, as well as technological innovations. In this regard, ensuring the effective functioning and development of innovation clusters in order to achieve a sufficient level of competitiveness of the economy of any country in the world is of particular importance. At the same time, it becomes important to determine the effectiveness of the interaction of enterprises as part of an innovation

cluster, which determines the overall effectiveness of the functioning of the cluster.

It should be noted that according to the theory of economic interaction, the synergistic effect is the result of coherent cooperation of the structural elements of the economic system, which causes revolutionary changes in its current state and contributes to the adaptation of the system, despite constantly occurring exogenous and endogenous fluctuations. Fluctuations are intensified due to the imbalance that occurs in the system, which leads to the shaking of the previous structure and the emergence of a new one. As a result, a new structure emerges and a new order emerges from the resulting chaos. Thus, from the point of view of the synergistic approach, the evolution of complex economic systems, which can include an innovation cluster, is realized through stochastic (probable) fluctuations and bifurcations.

The emergence of synergistic interaction in the conditions of the knowledge economy causes a transition from one current equilibrium state of the system to another, which already appears at a higher organizational level. In the past equilibrium, stakeholders, working separately, achieve the desired efficiency and cost minimization at the same level. However, after the transition to the updated equilibrium state, which involves the unification of stakeholders, there is a powerful increase in the level of effectiveness, efficiency and cost reduction.

Attention should be paid to the fact that in industrially oriented systems focused on the production and effective commercialization of innovative products, there is a need to coordinate long-term goals, strategies and interests of various stakeholders of the integration process, since cooperation is carried out at all stages of the innovation cycle. It is medium- and long-term goals, which are formed on the basis of a mutually beneficial commonality of interests and in the system of collective development, that are the basis for the realization of long-term effective synergy.

The degree of manifestation of the synergistic effect in an innovation cluster depends on many factors, including: the number of stakeholders of the innovation cluster, the presence of territorial potential and resources, proximity to product consumers, good faith of competitors, as well as enterprises that supply the necessary components, technologies, materials or services to achieve agglomeration effect.

Vector information flows, existing technological progress, widespread innovations, the qualification level of the workforce, capital and labor flows within and outside the innovation cluster are of great importance. The synergy effect in the cluster is facilitated by the independence of its members from each other. Competition among cluster members forces them to increase their own competitive advantages, which leads to the elimination of inefficient forms of functioning. Each participant develops its strengths, transferring poorly developed functions to other structures, which determines the implementation of the principle of complementarity of cluster participants, and also leads to an increase in the synergistic effect.

Thus, the importance of innovation clusters in the development of the knowledge economy is mainly characterized by the emergence of a synergistic effect from the action of clusters. The synergistic effect implies an increase in the effectiveness of joint activities due to the concentration on a long-term basis in one project of the interests and resource potential of several organizations strategically linked to each other with a common goal. In other words, the sum of the effective effects obtained from each participant of the innovation cluster separately is less than the total amount of results obtained from the joint actions of the specified participants in the cluster. Conversely, the sum of the results obtained from joint actions in the cluster is greater than the sum of the effective effects obtained from each participant of the innovation cluster separately.

Список літератури.

1. Гнатенко І.А. Методологічні аспекти розвитку інноваційного підприємництва: теорія та практика: монографія / І.А. Гнатенко. – Харків: СГ НТМ «Новий курс», 2019. – 253 с.
2. Гнатенко І.А. Особливості функціонування сучасного малого підприємництва як органічного елементу ринкової економіки / І.А. Гнатенко // Вісник Хмельницького національного університету. Економічні науки. – 2015. – № 2(1). – С. 214-217.