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Principles of formation and development of clustering systems of the national economy

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The article deals with the process of formation and development of clustering systems of the national economy, which ensures the generation of competitive advantages of enterprises, regions and the state as a whole and achievement of their competitiveness, ensuring rapid economic growth, achieving synergy effects, promoting the development of national trade and the formation of a favorable business environment, etc. At the same time, clusterization is considered in the article as a process of creating clusters and other network structures to achieve the goals of these associations by providing appropriate conditions and taking organizational and economic measures by their participants. Clusters are proposed to be considered as open systems, in which material, financial, labor and other resources, separate economic units, institutions, authorities are located at the entrance, and at the output – are products, profit, synergy effect, innovations, etc. The clusters consist of management and managed subsystems. Cluster management bodies may be formed from representatives of a managed subsystem, regional executive bodies or in a mixed form. The achievements of the mentioned advantages in the article are grounded from the point of observing the principles of clusterization as the basic laws, rules and regularities of the formation of cluster entities. The principles of clusterization in the article are summarized in the local (geographic localization, the tightness of economic ties, voluntary association of enterprises and organizations in clusters, systemic, resource support, public-private partnership, etc.), regional (priority of stimulating innovation activity, support of small and medium enterprises, systematic and interrelated with the strategic tasks of the development of related industries, unity and collegiality, etc.) and national (polycentrism, priority, the unity of the economic space, legality, etc.). This classification is aimed at forming a comprehensive understanding of clustering, gaining experience in its implementation, developing processes for the formation of clustering systems of the national economy.

Key words: clustering, clustering systems, principles, local, regional, national.

Принципи формування та розвитку систем кластеризації національної економіки

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У статті розглядається процес формування і розвитку систем кластеризації національної економіки, який забезпечує генерування конкурентних переваг підприємств, регіонів і держави загалом та досягнення їх конкурентоспроможності, забезпечення швидкого економічного зростання, досягнення синергетичних ефектів, сприяння розвитку національної торгівлі і формування сприятливого ділового оточення тощо. При цьому, кластеризація розглядається у статті як процес створення кластерів та інших мережевих структур для досягнення цілей цих об'єднань шляхом забезпечення відповідних умов та вжиття організаційно-економічних заходів їх учасниками. Кластери пропоновано розглядати як відкриті системи, на вході у які перебувають матеріальні, фінансові, трудові та інші ресурси, відокремлені господарюючі одиниці, інституції, органи влади, а на виході – продукція, прибуток, синергетичний ефект, інновації тощо. Кластери складаються із керуючої та керованої підсистем. Органи управління

кластерами можуть сформуватись із представників керованої підсистеми, регіональних органів виконавчої влади чи у змішаній формі. Досягнення зазначених переваг у статті обґрунтовано з позиції дотримання принципів кластеризації як основних законів, правил та закономірностей формування кластерних утворень. Принципи кластеризації у статті узагальнено у локальні (географічної локалізації, тісноти господарських зв'язків, добровільності об'єднання підприємств та організацій у кластери, системності, ресурсного забезпечення, приватно-державного партнерства тощо), регіональні (пріоритетності стимулювання інноваційної діяльності, підтримки малих та середніх підприємств, системності і взаємозв'язку із стратегічними задачами розвитку суміжних галузей, єдиновладдя і колегіальності тощо) та національні (поліцентризму, пріоритетності, комплексності, законності тощо). Така класифікація спрямована на формування комплексного уявлення про кластеризацію, набуття досвіду її здійснення, розвиток процесів формування систем кластеризації національної економіки.

Ключові слова: кластеризація, системи кластеризації, принципи, локальні, регіональні, національні.

Introduction

As you know, in the implementation of any processes in various types of economic activity, rules, laws, rules, peculiarities that are characteristic of it and affect the effectiveness of the results should be guided by.

Their study should be done in order to form a comprehensive understanding of economic processes, gaining experience of their implementation, ensuring the prerequisites of effectiveness, for which all the features, rules, outcomes should be generalized with the help of principles. They should be guided by the formation and development of clustering systems of the national economy.

As noted by Gerasimchuk Z.V., Smolich DV, the principles of cluster formation are objectively inherent in the process of clusterization of initial principles, the basic laws, rules and regularities of the formation of cluster formations (Gerasimchuk and Smolich, 2014). Given that clustering, in its essence, is the process of forming clusters and other network structures, the principles of cluster formation lie at the heart of the formation and development of clusterization systems. They also ensure the validity of clustering, the diversity of forms of cluster formations (cluster systems), the effectiveness of the processes of formation and development of clusterization systems, which is formed in particular, by introducing a mechanism for regulating relations in a cluster (Gerasimchuk and Smolich, 2014). Let's consider them more carefully.

Often, in the economic literature, the following principles of clustering can be found: geographical localization (territorial placement, concentration), the tightness of economic ties (including community ties, unity of interests of cluster members, coherence of development, general industrial infrastructure, common goal, community, integrity, integrity, specialization, communication of cooperation and competition), voluntary association of enterprises and organizations in clusters, resource provision (self-financing, p fiduciary), systemicity (synergy, self-development, integrity), etc. (Gorjaeva, 2008; Pjatinkin and Bykova, 2008; Semenov and Bileha, 2012; Plahin, 2014). Geographic localization indicates that cluster systems are close to the geographical location of the enterprise. The principle of the tightness of economic ties indicates that in the process of clustering, ties between the members of cluster systems that allow the implementation of joint projects that provide the development of cluster infrastructure are strengthened. In addition, clusters are formed around key activities around which all cluster members are united. The principle of a common goal (unity) means the subordination of process-

es for the formation and development of clustering systems to a single goal (strategy) and the availability of long-term strategic goals for its development. Voluntarity indicates that enterprises and organizations form cluster systems on a voluntary basis, can freely enter and exit the cluster system. This principle also involves the principles of corporate and sustainability (points to the presence of a climate of trust and the culture of communication between cluster members, supporting the cluster's business reputation, etc.), dynamism (flexibility of the cluster boundaries, which allows changing the structure of the cluster depending on the factors of the internal and external environment), adherence to the critical mass of the cluster (to maintain a balance between the cluster participants, it must consist of a certain number of participants, the excess of which leads to negative effects), n Depending participants cluster systems (for participants clustered systems characterized by economic and judicial independence, protection of members of the cluster), equity participants (Strategy cluster system is based on reconciling the interests of each of its members), selection of partners, outsourcing.

The principle of resource provision assumes that entering the cluster of an enterprise provides resources that can meet the needs of the cluster. This ensures their concentration.

Synergism described above, it manifests itself in exceeding the socio-economic consequences of the formation and development of clustering systems as a result of its implementation, in comparison with the functioning of its elements separately from each other. Synergy arises at each of the stages of achieving the strategic goals of the enterprise, which forms its multilevelness. Systemicity indicates the openness of cluster systems and their ability to develop, change the structure and composition of participants, accumulation of information, etc.

Among other clustering principles, public-private partnership is distinguished in economic literature. It is characterized by: the combination of tangible and intangible resources of the state and the private sector on a long-term and mutually beneficial basis to achieve the greatest efficiency of the cluster; Legislative support for the activities of the cluster; the priority of the interaction of universities, regional authorities and business representatives; the correspondence of the cluster system to the policies of the state policy (Saltykov, 2011; Lobanova, 2014; Lyfar, 2014).

The above principles are systematized by the authors in different groups:

- general (territorial localization, synergistic effect, voluntary association, etc.), system principles (availability

of resources, isolation, etc.), principles of intra-cluster interaction (universality, universal connections, complementarity, etc.) (Neustroeva, 2013);

- geographic location, system, selection of participants, building relationships, advantages (Kunshenko, 2014);

Lobanova G.A. the principles of clustering are divided into goal-setting (complex development, long-term strategic goals, etc.), public-private partnership (selectivity, legislative support, economic responsibility, etc.), resource provision (information, staffing, introduction of innovative development, etc.), organizational (flexibility, sustainability, concentration, economic responsibility), economic (payback, self-financing, self-financing, etc.) and social principles (labor stimulation, hierarchy, corporate culture) (Lobanova, 2014).

Another group forms the principles of state management of clustering processes. Among them Pavlova AV highlights the principle of stimulating innovative processes (due to the stimulation of clusterization activity, there is a single corporate culture that can provide dynamism, flexibility of the formation of the innovation cluster and competitiveness), a programmatic approach to phased solving the tasks of building a cluster system (involves conducting integration processes initiated by the state, in parallel with the joint development procedures by the participants public-private affiliate program of effective policy of development and production of perspe tive products and its market position within the cluster system), the most effective management (arising from the creation of a management cluster), the construction of the systems economically stable cluster structure (due to the relationship with the strategic objectives of the development of related industries) (Pavlova, 2011).

Pechatkin VV considers the principles of cluster policy in the regions: unity of economic space, polycentrism, coherence of strategic priorities of regional development and socio-economic development of the country as a whole, the complexity of quantitative accounting and valuation of all components of the economic potential of regions, dynamism (Pechatkin, 2012).

Butko M.P. Among the principles of clustering among others is legitimacy, which is to ensure compliance with the requirements of domestic and international legislation in the management of the clusterization process and priority, which involves the application of the cluster model in the priority and promising types of economic activity (Butko, 2010).

Vazhinsky F. A., Molnar A. S. note, with clustering principles, is to balance the interests of the cluster participants by ensuring equal economic conditions of economic activity and equality of benefits of production for all participants; an effective democratic system of self-organization and self-governance, based on analytical, regulatory and coordination functions on the part of the relevant bodies (Semenov and Bileha, 2012).

Reshetova K.Yu. highlights the following principles of state support for innovative clusters:

- target principle, envisages the orientation of all measures of the state regional economic policy on the development of cluster systems in the priority areas of capital investment or types of economic activity;

- the principle of complexity, aimed at integrated support of clusters that implement innovative projects within the strategy of regional development or national economy;

- the principle of objectivity in the decision-making by state authorities regarding the formation and development of a clustering system of the national economy;

- the principle of targeting, aimed at the adoption of appropriate management decisions that are aimed at achieving specific goals, taking into account the peculiarities of the development of each particular cluster;

- the principle of legitimacy, involves the recognition of clusters, their legitimacy, the definition of state authorities in order to develop the national economy;

- the principle of parity of financial and economic relations between state authorities and cluster management bodies in order to ensure a balanced development of the clustering system of the national economy (Reshetov, 2014).

Saltykov M.A. as the principles of the mechanism of clustering highlights: the principle of priority policy incentives over administrative tools; the principle of support of small and medium enterprises; principle of research support and introduction of innovations; the principle of ensuring the coordination of the interests of the cluster participants; the principle of interaction between business, administrative structures and research organizations; the principle of involving related activities in the correction of the cluster development strategy (Saltykov, 2011).

Material and methods

In the article used methods of scientific abstraction, analysis, synthesis, theoretical generalizations, etc.

Results and discussion

On the basis of the conducted research we consider it expedient to carry out the division of clustering principles according to the levels of the structure of the national economy into local, regional, national ones. Local principles are characteristic for the formation and development of a separate cluster system (cluster). These include the above principles of geographical localization, the tightness of economic ties, voluntary association of enterprises and organizations in the clusters (includes the principle of sustainability of dynamism, adherence to the critical mass of the cluster, the independence of participants in cluster systems, the equality of participants selection partners, outsourcing), systemic (synergy, self-development), resource support, public-private partnership, etc.

Regional principles are characteristic for the formation and development of a clustering system in the region. We believe that regional principles point to the strategic directions of cluster development in the regions, which ensure the effectiveness of the processes of formation and development of the clusterization system. They are beyond the competence of the cluster system management bodies and can be applied by the relevant authorities within their competencies. These include the principle of priority of stimulating innovation (the principle of research support and innovation), the principle of support for small and

medium enterprises, the programmatic approach to phased solving the tasks of building a cluster system, the system and the relationship with the strategic tasks of the development of related industries, autonomy and collegiality (self-management and self-organization, while forming and developing cluster systems, cluster management bodies are formed, but other members of the cluster systems are also involved in management), the complexity of quantitative accounting and cost estimation of all components of economic potential of regions, self-development on the basis of involvement in cluster systems of related economic activities.
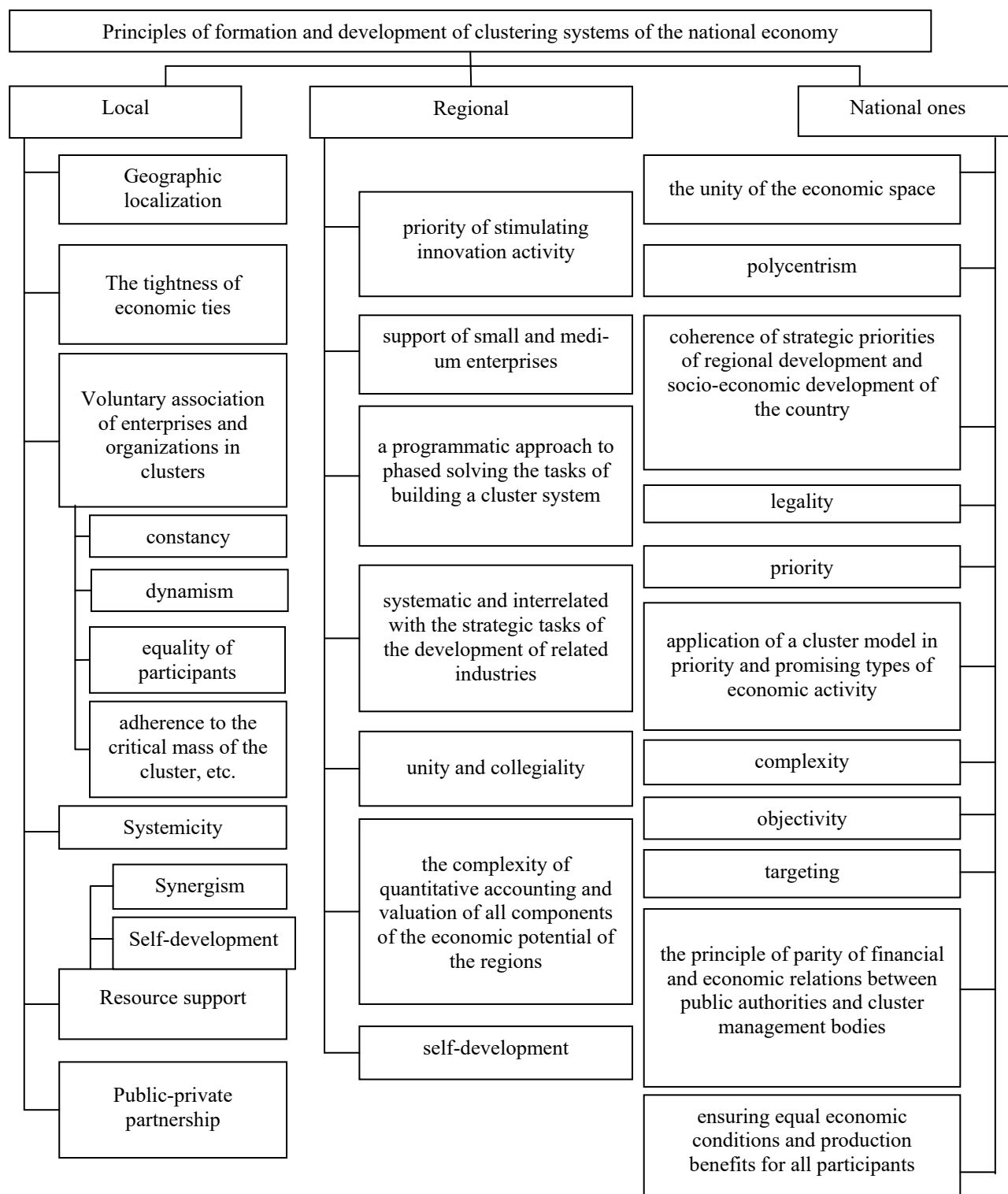

Fig. 1. Principles of formation and development of clustering systems of the national economy
Note: Summarized for (Gorjaeva, 2008; Pjatinkin and Bykova, 2008; Saltykov, 2011; Semenov and Bileha, 2012; Gerasimchuk and Smolich, 2014; Plahin, 2014; Lyfar, 2014; Lobanova, 2014).

National principles are in line with state policy in the field of clusterization, they are enshrined in legal norms, or generalization of current legal rules in the state. Also, national principles can be derived from the practice of clustering the national economy. These include the principle of the unity of the economic space (as is known, due to the general economic legislation, the unity of the monetary system, the unity of the customs territory, the functioning of common infrastructure systems for the formation and development of the clusterization system), polycentrism (multipolarity of the formation and development of cluster systems in national economy, indicating the presence of strong blocks of cluster systems that will determine the development of clusterization processes), the coherence of strategic prio the rhythms of regional development and the socio-economic development of the country as a whole, legitimacy (legitimacy), priority (application of the cluster model in priority and promising types of economic activity), the principle of complexity (integrated support for clusters implementing innovative projects within the strategy of regional development or national economy)), the principle of objectivity (procedural and tactical nature of decision-making on the formation and development of clustering systems of the national economy, ensuring their fairness and impartiality), targeting (orientation of decisions on the formation of the development of the clustering system on those organizational and legal forms or social relations that are in line with the desired characteristics for the implementation of the national economy development strategy), the principle of parity of financial and economic relations between state authorities and cluster management bodies , ensuring equal economic conditions of economic activity and equality of production benefits for all participants, etc. (Fig. 1).

Conclusions

Clustering as a process of forming clusters and other network structures requires compliance with certain principles. Principles of formation and development of clustering systems of the national economy can be divided into local, regional and national (fig. 1). Local principles are characteristic for the formation and development of a separate cluster system (cluster). They contain: geographic localization, the tightness of economic ties, systemicity, etc. Regional principles are characteristic for the formation and development of a clustering system in the region (priority of stimulating innovation activity, support of small and medium enterprises, etc.). National principles are in line with state policy in the field of clusterization, they are enshrined in legal norms, or generalization of current legal rules in the state. In further research on the problem, a modeling of the clusterization of the national economy should be carried out.

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