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## ENSURING INTEGRATED ECONOMIC SUSTAINABILITY OF BUSINESS STRUCTURES IN THE CURRENT CRISIS CONDITIONS

## ЗАБЕЗПЕЧЕННЯ ІНТЕГРОВАНОЇ ЕКОНОМІЧНОЇ СТІЙКОСТІ ПІДПРИЄМНИЦЬКИХ СТРУКТУР В СУЧАСНИХ КРИЗОВИХ УМОВАХ

According to the author's research of scientific literature and practical experience of cluster creation and development, most authors and experts consider the processes of formation and management of cluster structures exclusively in conditions of economic stability, which is due to the relatively short duration of functioning of these integrated business structures in terms of economic history. In fact, there is no significant work that would indicate how a cluster should function and develop in the face of crisis. The impact of the crisis affects both individual business structures and more complex integrated entities, such as research and production and educational clusters. In this regard, there are urgent aspects of developing certain methodological recommendations that would increase the level of integrated economic sustainability of clusters of various types and nature in the current environment. Coordinated investment activities of cluster members aimed not only at acquiring property rights, but also at designing and developing various intellectual property objects that can later form collective intangible assets of cluster structures with appropriate regulation of their right to use as an element of private property in the knowledge economy are of great importance for counteracting modern crises.

**Key words:** economic sustainability, entrepreneurial structure, cluster, crisis conditions, provision.

Як показують проведені авторські дослідження наукової літератури та практичного досвіду створення та розвитку кластерів, більшість авторів та експертів розглядають процеси формування та управління кластерними структурами виключно в умовах економічної стабільності, що зумовлено відносно невеликою, з погляду історії економіки, тривалістю функціонування даних інтегрованих підприємницьких структур. В умовах криз кінця ХХ – навіть початку ХХІ століття кластерні структури ще не мали такого економічного значення для національної економіки, що знижувало практичний інтерес щодо проведення досліджень у даному напрямку, особливо в умовах, де кластерні структури стали формуватися значно пізніше західних аналогів і були частково орієнтовані на досвід великих радянських виробничо-господарських комплексів, основа функціонування яких – міжгалузева кооперація, комбінування ресурсного забезпечення і тісний взаємозв'язок з інфраструктурним забезпеченням того регіону або території, де вони розміщувалися, виходячи з вимог планів господарства та потреб радянської економіки. Практично можна говорити про відсутність значимих робіт, які б вказували на те, яким чином має функціонувати та розвиватись кластер в умовах кризових явищ. Вплив кризи зачіпає як окремі підприємницькі структури, так й серйозно впливає на більш складні інтегровані утворення, якими є науково-виробничі і освітні кластери. У зв'язку з цим існують нагальні аспекти вироблення певних рекомендацій методичного характеру, які б підвищили рівень інтегрованої економічної стійкості кластерів різного типу та природи в сучасних умовах. Важливе значення для протидії сучасним кризам має скоординована інвестиційна діяльність учасників кластерного утворення, спрямована не тільки на придбання прав власності, але й на проектування та розробку різних об'єктів інтелектуальної власності, які у подальшому можуть утворити колективні нематеріальні активи кластерних

структур з відповідним регламентом їхнього права користування як елемента приватної власності в умовах економіки знань. Особливо актуальним є дане твердження за наявності профільної науково-дослідної установи, яка могла бути центром здійснення подібних інтелектуальних розробок та скласти конкуренцію іншим учасникам національного та міжнародного ринку високих технологій.

**Ключові слова:** економічна стійкість, підприємницька структура, кластер, кризові умови, забезпечення.

**Statement of the problem.** Partnership interaction of various business structures as a basis for ensuring integrative economic sustainability in the context of current crisis phenomena can take various organizational and legal forms and involve a choice of a large number of alternative models of doing business, the development of which will be increasingly influenced by the factor of virtualization and the use of modern digital technologies. Among them, one of the most promising is the formation and development of cluster structures that can be created in traditional industry segments. First of all, this is the industrial sector, including within the framework of ensuring the effectiveness of the state defense order and the development of military-industrial complexes, which, in accordance with the diversification strategy, can simultaneously produce civilian products and dual-use goods. Also, the agricultural sector, where cluster structures contribute to the creation of a single chain of agricultural production development), and new segments of the national economy (the service sector, including the creation of scientific and educational, cultural, tourist and event clusters and social and creative spaces based on the principles of the cluster approach).

**Analysis of recent research and publications.** Many Ukrainian and foreign scientists are studying the trends and problems of sustainable development of industrial enterprises in an innovative economy. Among them are domestic ones: O. Amosha, [1], O. Balan [2], V. Heets [3], L. Dovgan [4], Y. Klius [5], E. Krykavsky [6]; foreign: C. Andrews [7], V. Baumol [8], E. Chafee [9], A. Chandler [10]. Despite the importance of scientific research, certain aspects of ensuring the sustainable development of industrial enterprises require further study, in particular, in the context of studying the organizational and economic features of crisis situations in the innovation economy.

**Formulation of the research task.** The purpose of the article is to study the peculiarities of crisis phenomena and their destructive impact on the functioning of business structures and to develop recommendations for ensuring their economic sustainability.

**Summary of the main research material.** To ensure an appropriate level of sustainability of a cluster formation, its organizational structure and composition of permanent participants are of great importance. The main actors of a modern cluster, primarily focused on the needs of the extractive and processing industries, are such business structures and other participants in market relations as [5]:

- a large, usually industrial, enterprise of the cluster, often, especially in the foreign economic literature, also called an "anchor" enterprise. In the scientific literature, the term "cluster nucleus" is the most common, indicating the central position of this participant. In the context of service-oriented clusters, the cluster core can be several different organizations whose main activities are closely interrelated with the peculiarities of technological support of the service provision process (for example, in the context of tourism clusters, the core is most often a large

tourist and recreational or health resort complex that unites several tourism enterprises under its auspices);

- enterprises (so-called "satellites") that are not part of the cluster core but actively interact with it on the basis of long-term economic contracts and/or corporate integration relations (for example, in the context of industrial clusters, these are companies producing equipment, components, semi-finished products, providing repair, service, transport, logistics, information, communication and other services within the cluster);

- specialized organizations of higher, secondary specialized and primary vocational education related to the formation of a cluster development strategy based on the use of systematic and rational approach tools, provide training, advanced training and retraining of personnel for the needs of enterprises participating in the cluster core, which carry out certain evaluation actions and monitor the functioning of the cluster, if it is provided for by the nature of partnership relations and the charter of the cluster;

- specialized research organizations that can be the center for the development of the cluster's research and innovation potential and contribute to the enhancement of the economy's technological sovereignty by concentrating the necessary resources and infrastructure for conducting applied research in the most important areas of knowledge;

- companies of the financial and credit sector of the economy, the investment sector and the insurance market – if, for example, they are part of a financial and industrial group (FIG) whose activities correspond to the boundaries of the relevant economic cluster (companies of this profile meet the need of organizations of the real sector of the economy that are part of the economic cluster for financial and investment resources of the required volume at an acceptable cost).

The specific composition of cluster participants depends on many conditions and may vary depending on the projects implemented, including the extent to which the state plays an active role in implementing cluster initiatives (in the context of the cluster-public-private partnership relationship).

Unfortunately, official statistics currently lack more recent data that would reflect the dynamics of cluster development in quantitative terms during and after the crisis caused by the coronavirus pandemic. However, in our opinion, it is necessary to take into account that cluster structures as integration formations are more resistant to changes in the external environment due to the possible redistribution of resources, including financial ones, and transformations within the strategic management system, provided that there is effective and rational interaction between its participants based on the principles of a classical market economy, i.e., ensuring the required share of profit while reducing or keeping the total cost of a particular activity unchanged. In addition, most clusters are focused on the development of industrial production, including high-tech and innovative production, which

helps to maintain sustainability in the face of new crises and non-economic challenges.

The situation of a general deterioration in the economic environment and reduced access of the economy and specific business structures to global markets due to martial law should be recognized as more complex and challenging. The key problems that cluster members may face include:

- the policy of restrictions on one of the cluster members negatively affects the sustainability and efficiency of the entire cluster structure and reduces the level of business activity and interaction, which can lead to the destruction of intra-cluster ties;

- the destruction of the sales and logistics system for ensuring the functioning of cluster structures in the field of procurement and wholesale sales, especially in the field of industry and agribusiness, also leads to a decrease in the sustainability of cluster formation;

- another negative trend is that reduced access to the international high-tech market will require a significant change in the cluster's internal policy and a reorientation towards the development of its own high-tech innovative production, which is associated with significant amounts of funding and possible time costs, which further negatively affects the level of integrative economic sustainability of business structures;

- restrictions on exports of products or services of cluster formation, which, however, can be somewhat balanced by anti-crisis diversification strategies and a number of other negative aspects related to the new economic crisis that our country has entered.

Based on the study of a fairly large number of scientific sources and analytical data ([2; 3; 4; 6; 8]), in our opinion, the following main topics should be noted that are most in demand in terms of the current conditions of development of cluster structures:

- the ratio of autonomy and freedom in making management decisions within the cluster structure (to what extent can cluster members be free to conduct their own business activities, does the cluster impose certain obligations on the members in terms of current operating activities, how does the type and kind of cluster structure affect the powers and capabilities of its members in terms of the principles of business organization);

- description of the organizational and economic structure of the cluster management (which type is most preferable, what sources of funding are used to finance the cluster management, what are the powers of this management, how is the management hierarchy within the cluster built);

- what is the role and functional purpose of the cluster core (which of the cluster structure participants and on the basis of what criteria should be part of the cluster structure, whether it is possible to rotate the cluster core participants, whether the cluster core can form a non-production structure – an institution or a research organization, what are the organizational relations between the cluster core and other satellite participants);

- how to carry out strategic management and planning of cluster structures development in modern conditions (who is responsible for this activity and how it can be implemented) in practice in the context of different approaches of cluster members to the formation of development strategies based on their own economic interests, what planning tools are most needed in cluster structures,

what is the role of proactive, reactive and indicative strategic planning in the implementation of cluster initiatives);

- what is the role of the joint investment activity of the participants of the cluster formation (how to form a unified investment policy of the participants of the cluster structure, what should the investment investments be aimed at – the acquisition/development of intellectual property objects, the modernization of the existing infrastructure base or the improvement of personnel training to ensure a high level of human capital cluster formation in a strategic perspective, which is the regulation of project activity in the implementation of investment investments, and, finally, the regulation of investment activity terms, determination of the optimal planning horizon);

- which organizational and economic mechanisms should be used to carry out the innovative activities of cluster formations (should the entire life cycle of innovations be represented in the conditions of the cluster or only a number of its stages, for example, only the spread of innovations among the participants of the cluster formation, or is it possible to ensure collective access to the strategic innovation resources of each of a specific participant of the cluster, including educational structures, which digital technologies are most needed in the conditions of cluster formations and how it is possible to ensure sustainable growth of innovative activity of participants of cluster structures without making additional investments or implementing a policy of control over innovative activity);

- what is the role of the state in the formation and regulation of cluster structures (is it possible to create a cluster from the point of view of a decision of a state authority or should this initiative come from the business environment, what support measures should the state use) to support cluster initiatives and should these measures be correlated with the final indicators of the activity of a cluster formation, i.e. the state should support initially unprofitable cluster structures from the point of view of observing interests, for example, in the social sphere, what are the promising forms of state control and supervision of the activities of participants of cluster structures);

- how to evaluate the efficiency and effectiveness of the activity of cluster formations (whether it can be considered from the point of view of achieving the total cumulative socio-economic effect from the entrepreneurial activity of the participants of the cluster formation, or whether individual approaches to the construction of mechanisms for conducting evaluation procedures for each specific participant of the cluster structure, which would allow to highlight the basis for further adoption of the necessary management decisions from the point of view of implementing certain organizational changes) and a number of other relevant issues of modern cluster design and development.

Before we talk directly about the peculiarities of crisis phenomena and their destructive impact on the functioning of cluster structures, it is necessary to note a separate methodological issue related to what is meant by the integrated economic sustainability of a cluster structure. From our point of view, the term "integrated economic sustainability of a cluster structure" should be understood as a set of organizational and economic mechanisms and instruments and a certain level of entrepreneurial capacity of cluster members, which allow to maintain and strengthen the position and role of the cluster structure in the market not only in a stable economic environment, but also in the

face of crisis phenomena, while maintaining the possibility of integration processes and continuing joint activities within the cluster.

In other words, cluster sustainability is the sustainability of the overall cluster system, which reflects the extent to which cluster members and related management subsystems within the cluster are able to continue their joint activities in the face of crisis. Even the presence of accumulated positive experience of interaction gained in conditions of certain economic stability does not guarantee the continuation of relationships in a crisis.

The termination of a cluster's activity in a crisis means, in fact, that it is not sustainable as a separate economic entity. In this case, the question is, of course, twofold: on the one hand, the phenomenon of cluster liquidation and disruption of inter- and intra-cluster relations is a negative experience, on the other hand, it should be noted that only those cluster structures that function by obtaining certain material or other benefits from the interaction between participants are promising for the market, i.e. in this case, we are talking about those clusters that have a high level of competitiveness in the market and their functioning is expedient, first of all, from an economic point of view. Otherwise, the question arises as to the need for such cluster structures, the level of their adaptation to changing market conditions and other practical aspects of organizing their activities in the face of market uncertainty.

As practice shows, this statement is especially true for those clusters whose initiators at the stage of their formation and formation of the main vectors of production and economic activity and interaction of participants were not entrepreneurial structures, but state or territorial administration bodies that tried to propose cluster initiatives that did not always meet market demands. While in conditions of economic stability the state can support cluster participants through certain administrative and economic regulatory measures (preferential taxation, reduced rent rates, preferential requirements for foreign economic operations, partial subsidization of cluster project activities, incentives for hiring employees from among local residents of the territory where the cluster structure is located), in a crisis situation, the possibilities for state support are often significantly reduced. Naturally, in the absence of clear interrelationships and goal-setting that involves interaction to achieve common goals, such clusters become completely unstable in the market and cease to operate, which can be viewed positively from the point of view of the efficiency of any business structure, based on the ratio of costs incurred and results obtained to ensure sustainable growth in the strategic perspective.

At the same time, in our opinion, in order to ensure a high level of integrated economic sustainability within cluster structures, it is quite possible that the following methodological recommendations should be taken into account for further practical testing:

1. The basis for ensuring the integrated economic sustainability of a cluster formation is a clear cluster goal-setting policy in terms of achieving common goals both in stable market conditions and in a crisis. Thus, anti-crisis management measures within the cluster structure should be agreed upon by all cluster members and implemented equally, regardless of the main type of activity, specifics of market regulation and other important conditions. Lack of coordination between cluster members in crisis condi-

tions is the most dangerous factor that reduces the overall efficiency of management in the cluster structure and leads to a decrease in the overall level of cluster sustainability.

2. Cluster formations should have a clear organizational structure that should facilitate the development of unified management decisions and a unified response to crisis phenomena. A clear regulation of interaction within cluster relations will help to achieve levelling of the possible sustainability of business structures due to the resource potential of business partners within the cluster. In this regard, initially, when forming a cluster in a stable economic market, it is necessary to take into account the factor of achieving (striving to achieve) a certain equality of economic potentials of the cluster members. In this case, we are talking about participants of the same profile and type of activity (for example, levelling the potential of industrial enterprises – members of the machine-building cluster).

3. Regarding the level of differentiation between cluster members, the cluster structure is likely to be less resilient during the crisis. In this case, we are talking not only about the generalized indicator of integrated economic sustainability, but also about its main components mentioned earlier in the thesis. Striving for the same level of financial sustainability should help to preserve ties between cluster members and create conditions for balanced financial flows, including investment flows.

4. One of the most important practical aspects of ensuring the economic sustainability of the cluster structure should be the preservation of human resources in times of crisis, which is made possible by the transfer of labour resources between cluster members. This solution contributes to the fulfilment of several management tasks at once:

- preservation of the human resources potential of the studied cluster in the conditions of crisis phenomena;
- increasing the level of staff competence through certain re-profiling in their main labour activity and expanding the range of functions performed;
- growth of human capital due to the absence of a high level of staff turnover and the possibility of using human potential.

However, the search for an optimal solution should be carried out long before the crisis occurs and involve a well-thought-out option for the synchronous development of the cluster's staffing, including such areas as common methodological and organizational and managerial approaches to the implementation of HR policy, the development of uniform qualification requirements for employees holding similar career positions in different organizations participating in the cluster, the implementation of a unified policy in the field of staff motivation in terms of correlation of material and non-material incentives.

The above actions will actively contribute to increasing the level of integrated economic sustainability of both individual business structures and the cluster itself as a single organizational entity.

5. Coordinated investment activities of cluster members aimed not only at acquiring property rights but also at designing and developing various intellectual property objects that may later form collective intangible assets of cluster structures with appropriate regulation of their right to use as an element of private property in the knowledge economy are of great importance for counteracting current crises. This statement is especially relevant

in the presence of a specialized research institution (center, institute, private venture capital company, etc.) that could be the center of such intellectual developments and compete with other participants in the national and international high-tech market.

At the same time, the development of sectoral, research and production, and educational clusters creates a number of financial and economic risks to the level of integrated economic sustainability for their participants. Among them, the following should be noted:

- the risk of a decline in the financial and economic efficiency of cluster core enterprises due to a possible deterioration in logistics and a decrease in the quality of supply of goods, works and services by other enterprises participating in the cluster formation. It can be said that the long-term development of cluster relations in a stable market may lead to an objective decrease in the level of competitiveness of the latter, to a reduction in incentives to improve the quality and optimize the cost of products or services of cluster members, which will negatively affect its stability in a crisis situation;

- the risk of reducing the overall level of added value generated within the cluster due to the possible formation of stable shadow corruption ties between representatives of individual business entities (by means of overstating purchase prices for goods and services, irrational increase in capital construction estimates with further expansion of commercial bribery practices, beneficial for some unscrupulous representatives of the cluster structure's management, but dangerous from the point of view of the formation's sustainability under the following conditions

- if the cluster includes a large financial and industrial group, there is a potential risk of subordination of economic strategies of cluster companies in the real sector of the economy to the financial strategy of such a FIG (in this case, one of the key problems of cluster construction arises again – the existence of differentiation between its participants and imbalance of economic opportunities for resolving crisis situations;

- if the cluster closely cooperates with a financial and industrial group, then the possible bankruptcy of the latter (for example, a commercial bank that is part of the FPG) can lead to extremely significant financial and economic problems for all business structures that are part of the cluster structure, up to to the financial insolvency of the latter and the corresponding sharp decrease in the level of economic stability.

To minimize the impact of the above risks on the level of economic stability, the following management actions of a general nature should be used:

- in terms of the risk of reducing the level of competitiveness of the development of cluster participants who are not part of its core, and in this case reducing the level of financial and economic efficiency of the functioning of

the cluster, it is advisable to invest funds in increasing the level of competitiveness of the relevant enterprises, and at the same time, the key participant of cluster relations should not be limited to specialized supplies goods and services only within the framework of the cluster, it is more expedient to maintain and develop trade and economic, primarily economic and purchasing relations and beyond them;

- in terms of corruption risks that determine the decline in profits and added value generated within a territorial cluster, it is advisable to develop and improve the system of internal cluster financial control, increase the level of transparency of transactions within the cluster, and develop regulations for business operations, deviations from which, often due to corruption justification, will automatically require special consideration by the top management of the cluster companies. In addition, to mitigate this risk, which is quite relevant for many industrial clusters, it is necessary to improve the tools for controlling the property owners of cluster companies over the business activities of their management at various levels;

- in order to reduce the risks of financial dependence of the cluster development on the financial and industrial group that is part of the cluster, a strategy of diversification of sources of financial support for activities should be implemented, in particular, lending in several banks, not only the one integrated into the FIG, and interaction with several investment companies that are independent of each other.

**Conclusions.** Particular attention within the cluster structure should be paid to strategic management issues (selection of a specific anti-crisis strategy and its adaptation to the conditions of environmental change in the post-crisis period. Also, determining the procedure for strategic planning and the sequence of stages of investment activity), both within cluster projects and outside the cluster, in order to increase the level of financial stability of its participants. Strategic management of individual elements of resource provision of cluster members to maintain the required level of their integrated economic sustainability, coordination of actions at all stages of management activities, including regulation of procedures for expanding the cluster structure by attracting new members both to the cluster core and among potential satellite enterprises).

Particular attention should be paid to the organization of strategic control over the management process and activities of individual cluster members, based on compliance with its mission, goals and internal regulations.

In addition to the above methodological recommendations for ensuring the integrated economic sustainability of cluster structures in the current crisis conditions, their practical implementation should also take into account the interaction of business entities and the state, including in the framework of public-private partnership projects.

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