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**CLUSTER ENTERPRISES AS INTERACTIVE
FORM FOR IMPLEMENTATION OF BUSINESS
IDEAS WITH SOCIALLY IMPORTANT
POPULATION REPRESENTATIONS**

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Introduction. The article clarifies that the problem of creating conditions for the entrepreneurial activity of socially vulnerable sections of the population is now becoming particularly relevant. Possibilities to reach a certain level of entrepreneurship development on the basis of a cluster organization show that the internal contradictions of the entrepreneurial process and the increased risk for its participants – socially vulnerable segments of the population are twice reflected in the behavior and activity of the latter. Therefore, the development of a new approach to activating and obtaining entrepreneurial skills allows us to formulate this new way of raising our standard of living.

The hypothesis of scientific research is to determine the attractiveness of cluster entrepreneurship for socially vulnerable populations. The use of this form of entrepreneurship allows us to derive undeniable advantages of entrepreneurial activity, to define one of the most appropriate models of cluster business realization: "pushing", "pulling" or mixing. **The purpose** of the study is to substantiate the most appropriate model of cluster entrepreneurship for socially vulnerable groups of the population and to determine the specifics of its application.

The theoretical and methodical basis - the position and conclusions of modern economic theory, methodological and methodological developments of domestic and foreign scientists on cluster entrepreneurship issues, legislative acts and institutional principles of entrepreneurial activity. Methods of economic statistics, logical analysis – to determine the factors of influence on the dynamics of entrepreneurial activity, cluster and regression analysis – to determine the most optimal models of cluster business of socially vulnerable segments of the population.

Results. The scientific-methodical approach of determination of the most optimal models of entrepreneurship development on the basis of cluster organization of socially vulnerable groups of population is proposed.

Conclusions. The research of the conceptual aspects of cluster entrepreneurship has made it possible to find out the theoretical understanding of the features of this toolkit and to identify the possibilities of its use for activating the entrepreneurial activity of socially vulnerable groups of the population.

Keywords: cluster entrepreneurship; socially vulnerable strata of the population; business ideas.

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КЛАСТЕРНЕ ПІДПРИЄМНИЦТВО ЯК ІНТЕРАКТИВНА ФОРМА РЕАЛІЗАЦІЇ БІЗНЕС-ІДЕЙ СОЦІАЛЬНО ВРАЗЛИВИМИ ВЕРСТВАМИ НАСЕЛЕННЯ

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Вступ. В статті з'ясовано, що проблема створення умов для здійснення підприємницької діяльності соціально вразливих верств населення стає в даний час особливо актуальною. Можливості досягнення певного рівня розвитку підприємництва на засадах кластерної організації показують, що внутрішня суперечливість підприємницького процесу й підвищений ризик для його учасників – соціально вразливих верств населення подвійно відбиваються на поведінці й активності останніх. Тому розробка нового підходу активізації та отримання підприємницьких навичок дозволяє сформувати у цих новий спосіб підвищення рівня свого життя.

Гіпотеза наукового дослідження полягає у визначенні привабливості кластерного підприємництва для соціально вразливих верств населення. Використання такої форми підприємництва дозволяє отримати незаперечні переваги підприємницької діяльності, визначити одну із найбільш доцільних моделей реалізації кластерного підприємництва: «вштовхуючу», «втягуючу» або змішану.

Мета дослідження – обґрунтувати найбільш доцільну модель кластерного підприємництва для соціально вразливих верств населення і визначити специфіку її застосування.

Теоретична та методична основа – положення і висновки сучасної економічної теорії, методологічні і методичні розробки вітчизняних та зарубіжних вчених з проблем кластерного підприємства, законодавчі акти та інституціональні засади забезпечення підприємницької діяльності. Використано **методи** економічної статистики, логічного аналізу – для визначення факторів впливу на динаміку підприємницької діяльності, кластерний та регресійний аналізи – для визначення найбільш оптимальних моделей кластерного підприємництва соціально вразливих верств населення.

Результати. Запропоновано науково-методичний підхід визначення найбільш оптимальних моделей розвитку підприємництва на засадах кластерної організації соціально вразливих верств населення.

Висновки. Проведене дослідження концептуальних аспектів кластерного підприємництва дозволило з'ясувати теоретичне розуміння особливостей цього інструментарію та виявити можливості його використання для активізації підприємницької активності соціально вразливих верств населення.

Ключові слова: кластерне підприємство, соціально вразливі верстви населення, бізнес-ідеї.

Formulation of the problem. Each country has a certain socio-economic structure of the economy and society, the ratio of its components which characterizes the trends of social and economic development, and allows you to find out the socio-economic situation, identify the most likely ways of its transformation.

Entrepreneurship of socially vulnerable segments of the population as a socio-economic and organizational phenomenon in recent years increasingly attracts the attention of scientists, business and government. Under social entrepreneurship refers to the type of economic activity, aimed at solving problems of certain groups of people who have limited access to vital goods. Social entrepreneurship is difficult to call a new phenomenon, but in recent years it has experienced an unprecedented rise all over the world, including in Ukraine, with both the practice of social entrepreneurship and its scientific conceptualization developing.

One of the ways of implementing such a scenario is the formation of an appropriate infrastructure of entrepreneurship of socially vulnerable segments of the population on the basis of cluster interaction [10], the synergistic effect of which is the expansion of the capabilities of the functioning of individual business structures through the efficient combination of new knowledge with new business technologies.

In the world, the cluster concept of economic growth and increasing the competitiveness of economic systems has long been known and intensified by the growing processes of globalization, the development of means of communication, the active formation and development of network transnational structures. For the conditions of our country, a cluster association of business entities should be implemented in the form of a network organization of complementary, territorially and technologically interconnected cooperation between enterprises. Cluster Entrepreneurship is a technological chain of specialization, co-operation and technological combination of enterprises united around a certain scientific and educational center. The presence of a research and organizational-institutional core allows us to obtain a fundamentally new result – the interaction of all the participants in the cluster education.

Analysis of recent research and unresolved part of the problem. The founders of the theory of entrepreneurship and their foreign and domestic followers are J. Galbraith [1], M. Gerber [2], A. Marshall [5], V. Zbarsky [4], M. Kaninsky [4], and others. Innovations in production and entrepreneurial activity were investigated in well-known foreign and domestic schools: P. Drucker [3], B. Santo [6], R. Fathutdinova [7], J. Schumpeter [8], and others.

Analysis of literature has shown that in most cases, researchers are exploring either the issue of entrepreneurial activity separately, while there is a lack of holistic integrated approach to the search for a fundamentally new

scenario of the development of cluster interaction of business entities, especially for socially vulnerable segments of the population.

The purpose of the article is theoretical substantiation of the provisions and definition of methodological approaches to the formation of infrastructure support for cluster business of socially vulnerable groups of the population.

Research results. To determine the most effective directions for the development of cluster business of socially vulnerable populations, the existing state of entrepreneurial activity in the Kharkiv region was analyzed. In this region, during the period 2014–2018, the proportion of displaced people as a result of the military conflict with Russia is one of the largest, accounting for up to 80% of all socially vulnerable segments of the population.

According to statistics at the end of 2018, there are about 13,000 business entities in the Kharkiv region, of which 52.8% are large, 27.6% are medium-sized, and 19.6% are small enterprises. According to the organizational, economic and legal form of ownership of the private enterprise, the majority (72.4%), state and municipal – 13.4%, mixed – 14.2%. During the period under study, the dynamics of entrepreneurial activity indicators of the Kharkiv region is shown in the Table 1.

Table 1

**Entrepreneurship activity of the Kharkiv region
for the period from 2014 to 2018**

Indicators	Year					The pace of change 2018 to 2014, %
	2014	2015	2016	2017	2018	
Number of enterprises by types of entrepreneurship, total	12633	12529	13117	12554	13008	102,9
of them:						
- industrial entrepreneurship, including construction, agriculture	4722	4522	4414	4393	4292	90,9
- trade entrepreneurship	6623	6741	6456	6276	6771	102,2
- credit business, including banking, consumer lending	1011	1222	1633	1786	1888	186,7
- intellectual enterprise, including research and development	47	55	51	47	55	117,0
Industrial production index, %	117,7	113,1	109,1	85,2	112,3	-
Index of physical volume of retail trade turnover, %	78,1	111,0	123,5	132,4	142,0	-
Share of unprofitable enterprises, %						
- production	38,4	24,7	37,8	33,9	27,2	-
- trading	19,6	17,8	22,0	21,5	23,8	-
- credit	33,5	27,9	28,5	31,7	32,8	-
- research and development	11,2	9,7	13,3	14,2	12,8	-
Share of enterprises engaged in innovation activity, %	13,6	14,6	15,4	17,1	18,7	-

It is based on [9; 10].

According to the data of the table 1 number of enterprises in the Kharkiv region, which carried out innovative activity is growing at a rather high rate (by 37.5% for the period under investigation). One of the main reasons for this is the availability of a network of developed innovative research, organizational and advisory and informational and analytical mediation infrastructure for the transfer of knowledge between research institutions and production structures (techno-polises, technology parks, business incubators, information-analytical centers, etc.), the development of which testifies to the gradual "germination" of existing industrial and post-industrial structures of the elements of the sixth technological structure (knowledge economy).

The presence of these processes is evidenced by the following: 56% of the main means of scientific and technical activity, 15% of all research institutes of Ukraine, 20% of design organizations, and more than 16% of scientific employees are concentrated in the Kharkiv region. By the number of scientific organizations, the Kharkiv region ranks second in the country after Kyiv and the first among the regions of Ukraine. There are 55 business centers and business incubators, 294 investment and innovation funds and companies, 183 audit firms, and 60 exchanges in the region. Work is underway to create new infrastructure objects for entrepreneurship support (business centers) in Chuguev, Lozova, Pechenizk, Kupyansk and Kharkiv districts. Listed in Table 2–3 data clearly demonstrate the effectiveness of this process.

Table 2

Innovative activity of industrial enterprises of Kharkiv region

Innovative activity of industrial enterprises								
	share of enterprises engaged in innovations	total cost	Including directions					
			research and development	of them		acquisition of new technologies	the acquisition of machines and equipment is associated with the introduction of innovations	other expenses
				internal R & D	external R & D			
	%	thousand UAH						
2014	18.4	805957	93737	84678	9059	12250	669874	30095
2015	22.1	738232	99568	90332	9236	5571	590336	42755
2016	23.2	642287	125265	105337	19928	22618	471944	22458
2017	22.4	711133	146160	119853	26306	18974	509517	36482
2018	28.6	667008	191779	177535	14244	20249	449469	5509

It is based on [9; 10].

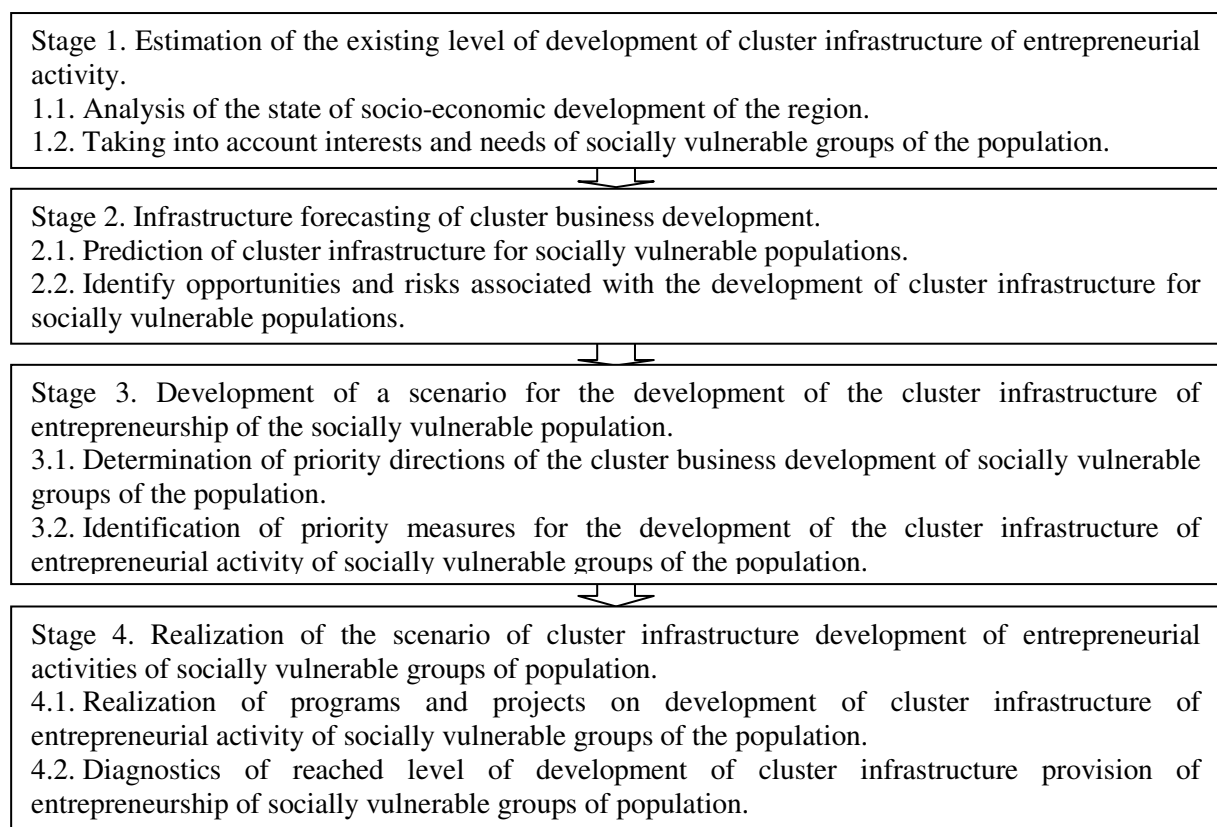
Table 3

Implementation of innovations at the industrial enterprises of the Kharkiv region

Implementation of innovations at industrial enterprises						
Years	Specific gravity of enterprises that implemented innovations, %	Introduced new technological processes and processes	incl. low-waste, resource-saving	Mastered the innovative types of products, names	Of these, new types of technology	Share of realized innovative products in volume of industrial %
2014	17,5	708	45	169	83	2,4
2015	20,8	943	70	276	115	4,8
2016	21,4	375	62	246	89	4,8
2017	21,0	273	70	394	112	3,8
2018	23,7	212	85	208	74	5,1

It is based on [9; 10].

Based on the analysis of the state of the socio-economic state of the Kharkiv region, the following scenario is proposed for the development of cluster support of entrepreneurial activities of socially vulnerable populations (Figure 1).



Offered by authors.

Figure 1. Scenario for the development of cluster support of entrepreneurial activity of socially vulnerable groups of the population

An analysis of the current state of entrepreneurial activity of enterprises of the Kharkiv region made it possible to identify certain trends and suggest possible scenarios for the development of cluster infrastructure support. These scenarios can be implemented using the developed models of possible directions for the development of cluster entities, the practical use of which will increase the demand for specific categories of innovative products, build the optimal structure of the cluster business formation with the distribution of their roles regarding the level of specialization, cooperation and a combination of elements and components of the technological chain. Depending on the degree of entrepreneurial activity in the Kharkiv region, it became clear that there are three clusters of enterprises according to the intensity of the implementation of the results of the NTP (Table 4, Figure 3).

Table 4

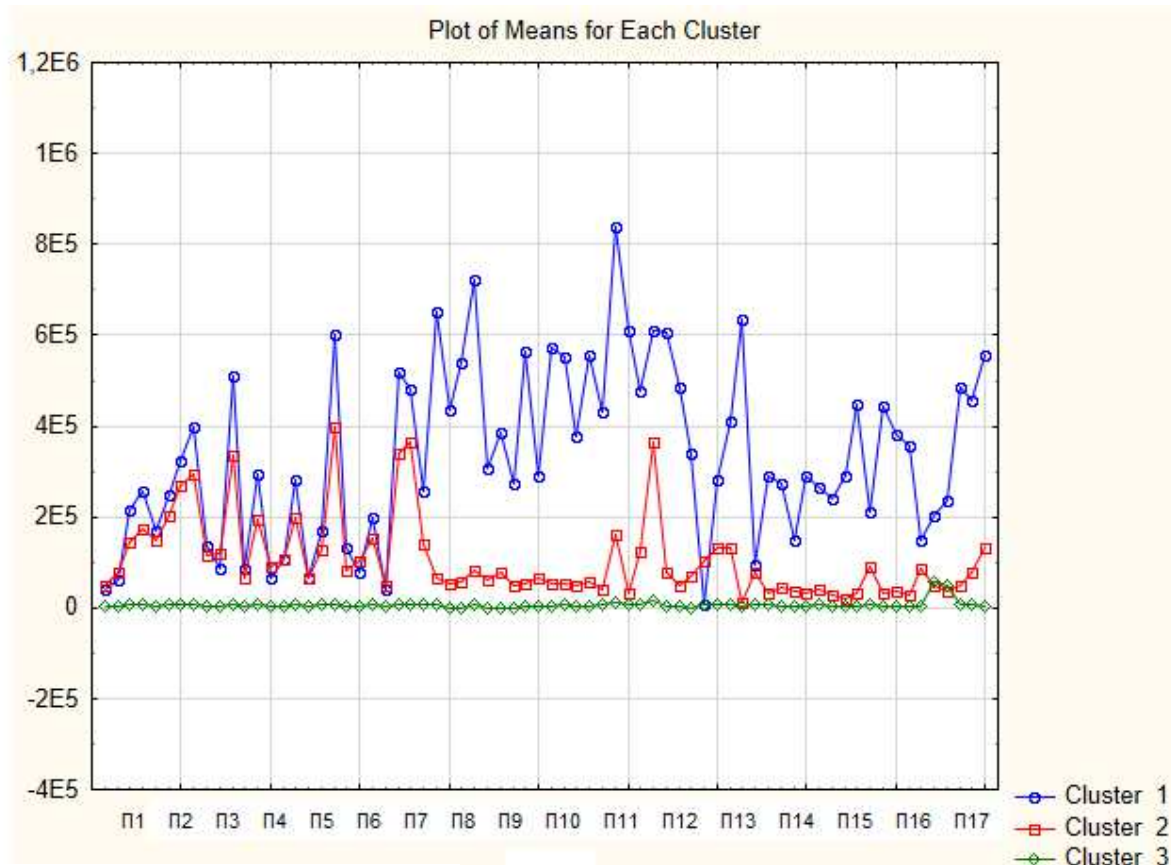
The intensity of business activity in clusters

Indexes	Conditional marks	Cluster		
		1	2	3
Acquiring new technologies	Π1	79,5	56,8	77,2
Preparation of production for introduction of innovations	Π2	72,4	67,2	59,0
Research and development costs	Π3	57,1	49,9	51,0
Acquisition of machinery and equipment related to the introduction of innovations	Π4	57,0	48,1	62,4
Mastered production of the principle of new products	Π5	47,0	73,8	49,5
Conduct internal GDR	Π6	49,0	52,9	61,7
Expenditures on external GDR	Π7	52,7	53,3	68,3
Mastered the innovative types of products	Π8	72,7	58,7	69,0
Introduced new technological processes and processes	Π9	71,7	67,7	58,7
incl. low-waste, resource-saving	Π10	32,0	27,7	23,3
Of these, new types of technology	Π11	13,0	19,9	15,9
Implemented innovation products in the total volume of sales	Π12	33,9	22,2	31,4
Use of innovative types of advertising	Π13	13,9	14,3	16,0
Innovative forms of personnel training are introduced	Π14	27,9	21,3	26,0
Introduced innovative forms of management information management	Π15	17,6	19,8	14,7
Invited consultants on business process reengineering	Π16	16,8	18,4	18,5
New forms of specialization, co-operation and a combination of business activity and technological cluster interaction have been mastered	Π17	20,4	26,6	31,3

Calculated according to data [9; 10].

The results of entrepreneurial activity presented in Table 4 in the average of each of the clusters show that the general directions of action coincide and are directed in most cases to improve the quality of products, the level of customer service (consumers), and the containment of costs. This is evidenced by the data

in Table 4, which compares the intensity of high-tech and high-tech in terms of received clusters.



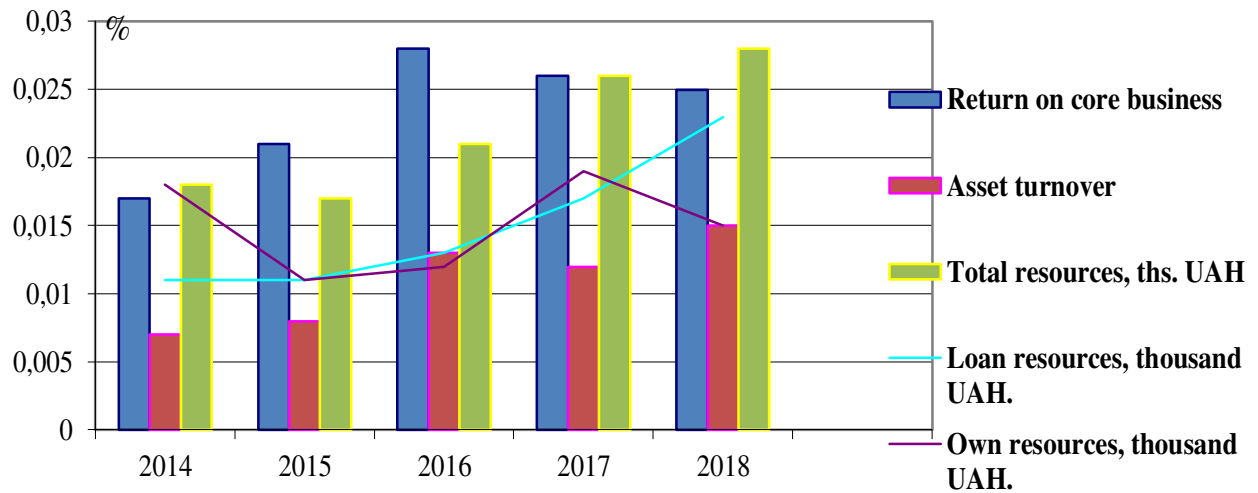
Calculated according to data [9; 10].

Figure 3. Results of clusterization of objects of cluster business in the Kharkiv region

The clustering of business objects showed the existence of 3 models of cluster business infrastructure, representing "pushing" (cluster 1), "retracing" (cluster 2) and mixed systems (cluster 3). This typology of models is based on the results of comparative analysis of the effectiveness of the management system of resource support activities of research objects. The predictive values of innovation development programs for the three revealed clusterization types indicate that there are certain trends in the use of resources for forming cluster entities, financial sustainability of entrepreneurial activity (Figure 4–6).

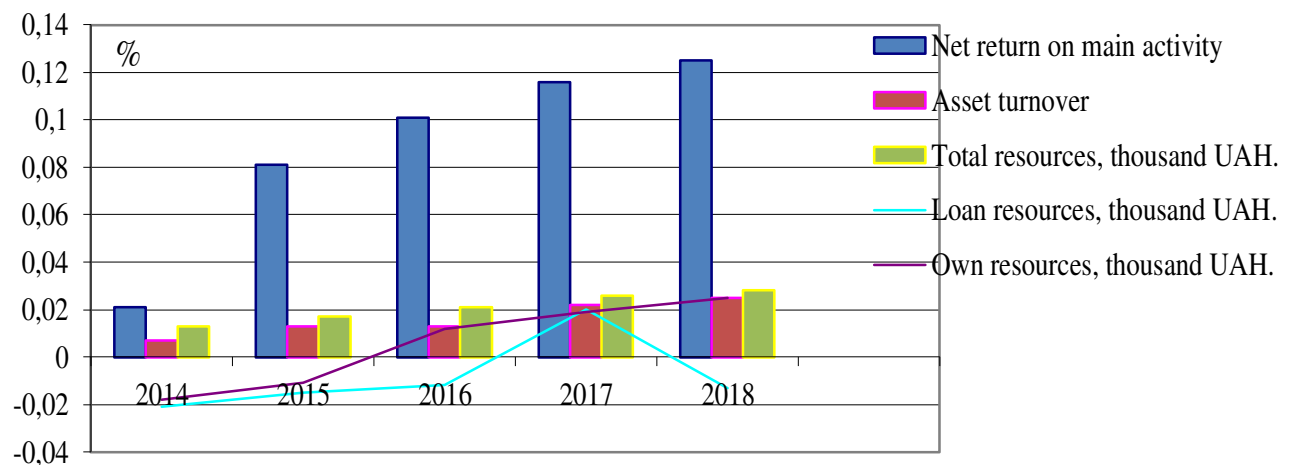
According to Figure 3, cluster 1 surpasses clusters 2 and 3 according to the degree of intensity of product innovations, the level of development of new or changes in the principles of work in traditional markets, as evidenced by the high level of return on the main activities and aggregate expenditures (mainly loans) to "insulting" entrepreneurial activity, that is, the need for certain efforts

(organizational, managerial, financial) to actively stimulate the entrepreneurial activity of members of the cluster.



Calculated according to data [9; 10].

Figure 4. Dynamics of returns of spent resources (efficiency of use) cluster 1



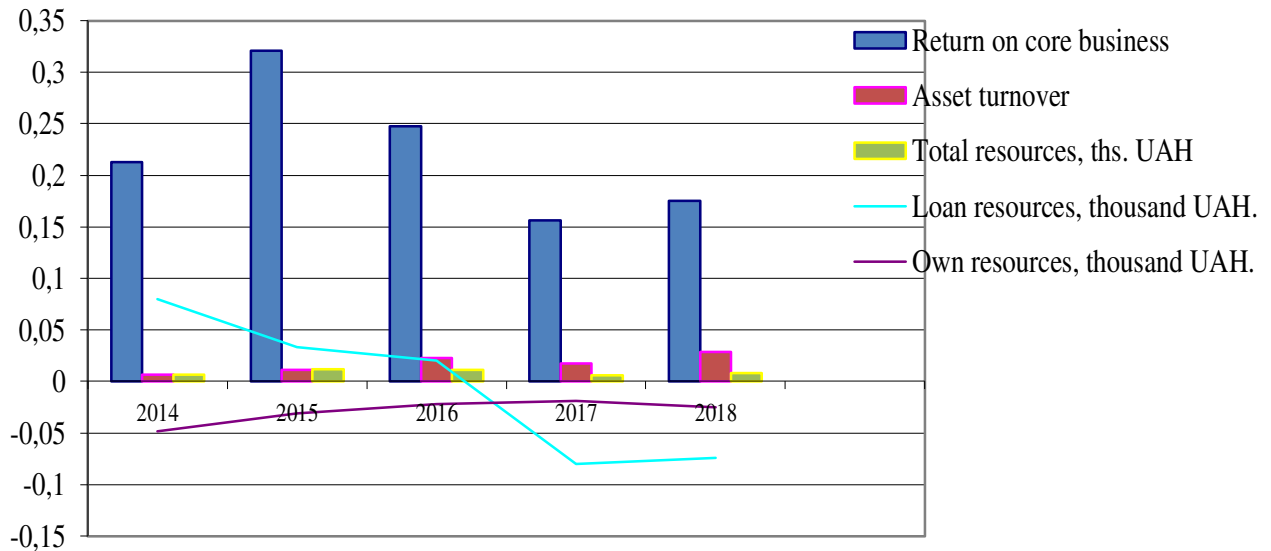
Calculated according to data [9; 10].

Figure 5. Dynamics of returns of own resources (efficiency of use) of investigated cluster enterprises 2

Cluster 2 (Figure 5) also differs significantly from all other clusters by the intensity of business processes – in three quarters of the enterprises of this cluster retraining of employees as one of the pulling (actually passive) methods, which allows to save significantly on spent own resources, took place.

The use of mixed business initiation systems (cluster 3 enterprises) of socially vulnerable populations can significantly reduce borrowing costs due to the emergence of synergistic effects from the combined use of intrusive (active) methods (for example, the launch of new innovative products on the market) and

retractable (passive) methods (raising the level of competence of the personnel, quality of products, etc.).



Calculated according to data [9; 10].

Figure 6. Dynamics of returns of spent resources (efficiency of use) of investigated cluster enterprises 3

In the developed forecast model, the objective function should be to assess the impact of the cluster business entity on the growth of the gross domestic product in the region and the level of competitiveness of products – the location of the cluster, which can be obtained due to the advance development of high-tech, high-tech sector of the economy; its influence by other sectors of the economy at the expense of cooperative chains; the use of the results of the development of high-tech industries in other sectors of the national economy, that is, due to the "diffusion" of advanced technologies and the production culture of high-tech industries (the effect of spin-off); an increase in the multiplier effect in different segments of the real sector of the economy (Table 5).

The obtained model has allowed to establish statistically significant connections between increasing the progressiveness of production with the competitive advantages of cluster entities by means of multiple regression analysis, to find out the overall share of variation in the evaluation of individual manifestations of competitive advantages, determined both by the use of all possible product and process innovations, and by the presence of statistically Significant links between individual scientific and technological innovations in production and competitiveness and to justify the nast stubs of addiction.

Table 5

Results of regression analysis of competitive advantages of cluster enterprises and the level of introduction of high technologies into production

Competitive parameter (general level of the explained variation on R ²)	Significant variables	The level of significance of the variable
Cost level (R ² = 0,073)	Computer processing of management information	0,001
	Improving customer service	0,005
	Invitation of management consultants	0,086
	Reduced cost	0,097
Price level (R ² = 0,043)	Improving customer service	0,024
Effectiveness of the system of discounts (R ² = 0,069)	Improving customer service	0,000
	Retraining staff	0,059
	Cooperation with manufacturers of similar products	0,095
Production quality (R ² = 0,102)	Mastering the principle of new products	0,002
	Improving customer service	0,035
	Mastering new sales channels on traditional markets	0,042
	Improving product quality	0,054
	Staff retraining	0,071
	Staff qualification improvement	0,073
Quality of customer service (R ² = 0,098)	Improving customer service	0,000
	Mastering the principle of new products	0,025
Disclosure trademark (R ² = 0,075)	Mastering new sales channels	0,005
	Mastering the principle of new products	0,063
	Computerization of management information processing	0,090
Settlement of the sales system (R ² = 0,073)	Mastering new sales channels	0,016
	Improving customer service	0,056

Calculated according to data [9; 10].

In the field of business expenses, the most important were not measures to reduce resource and other costs, through the introduction of computerized systems of managerial accounting and valuation of costs for ordinary production and economic activity.

In the area of pricing, implementing measures to optimize the quality / price ratio, and thus helping to reduce the "tangible price" to stimulate demand for products.

In the area of unlocking the trademark – increasing the strength of links between promotional actions (increased costs and / or changes in forms of advertising) and awareness of consumers of the brand.

In the field of the establishment of the sales system – the introduction of innovations in the structure of sales networks and forms of marketing strategies

of enterprises through the development and use of various methods of adequate assessment of the scientific and technological potential of innovation cluster education, its competitive advantages, differentiated by such features as the scope of application, the number of elements, innovative sales potential.

Conclusions and suggestions. The calculations of the possibility of achieving a certain level of entrepreneurship development on the basis of the cluster organization show that the internal contradictions of the entrepreneurial process and the increased risk for its participants – socially vulnerable segments of the population are twice reflected in the behavior and activity of the latter.

An in-depth analysis of the innovative process of cluster entrepreneurship in the Kharkiv region made it possible to identify weak links and problems in the chain of "state fundamental science – applied science – production – consumption", whose chronic preservation constrains entrepreneurial development and reduces its efficiency. At the same time, despite the fact that at each stage there are opportunities and reserves for the activation of entrepreneurial activity of socially vulnerable groups of population, the use of necessary institutions, mechanisms and creation of conditions for the mobilization of subjects of cluster business depends on the system they choose to implement development priorities: "pushing", "pulling" or mixing.

Thus, strategic management from the point of view of the investigated aspects of expanding the competitive advantages of the development of cluster business entities of socially vulnerable segments of the population is the use of the revealed patterns of the formation and multiplication of new interdisciplinary clusters in the implementation of subjective actions in choosing the optimal logistic curve of technology and in implementing the stages of this a full life cycle in order to meet promising economic interests. The meaning of the strategy of focusing on the development of competitive advantages is the timely concentration of efforts on the creation and use of scientific achievements and the provision of resources for the dynamics of advanced technologies in the interests of strategic goals, creating conditions for long-term effectiveness of the activity. This change in developmental mode is of a fundamental nature. It means that virtually the whole GDP growth in the medium term can be achieved only by increasing the competitiveness of internally oriented cluster-organized productions and increasing the level of social protection of the population.

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