INTELLECTUAL PROVISION OF ENTREPRENEURSHIP INNOVATIVE DEVELOPMENT IN THE KNOWLEDGE-BASED ECONOMY CONDITIONS

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Abstract
Knowledge-based economy radically changes the traditional principles and competitive business model. Knowledge-based economy development pattern – entrepreneurship intellectualization, which was reflected with the increasing significance of intangible resources, especially intellectual have been revealed; the transition from producing tangible product to create intellectual values – knowledge, information, etc; changing the type of entrepreneurship – from employment to business smart. It is proved that successful transition to a knowledge-based economy involves creating certain conditions through long-term investment into science, education, development of innovative systems, constant modernization of information infrastructure and creation of a favorable environment for market innovation. The regularities of modern innovative development, the role of education and science in its provision are highlighted. A critical analysis of the results of the development of innovative entrepreneurship is carried out, the key negative factors and tendencies that impede the deployment of innovative activity of domestic business structures are identified. The intellectualization of entrepreneurship and its manifestations, structural and qualitative transformations of the entrepreneurial environment are revealed. It has been proven that in modern environment, entrepreneurship requires a holistic approach based on organizational synapses created by experience or learning opportunities. The problems of Ukraine intellectual resources use are researched, the conclusion is made due to the high potential and inefficient use of intellectual resources, which negatively affects the entrepreneurship innovative development. The results of the conceptual modeling are presented, within which the concept of "entrepreneurship innovative activity intellectual support" is offered, which allowed to formulate an algorithm of innovative activity intellectual support system functioning in order to ensure efficient transfer of knowledge from the education system to the enterprise. The structural aspects of entrepreneurship innovative activity intellectual support system are defined. The conceptual model of entrepreneurship innovative activity intellectual support is formed in two plans: at the macro- and micro-levels, that reveals the subjective composition of its participants and the mechanisms of their interaction. The expediency of intellectual support infrastructure formation due to new forms of innovative entrepreneurship organization – networks and training and production clusters, contributing to the innovation of the economy is substantiated. Methodological principles have been developed to ensure the effective functioning and regulation (purposeful self-organization) of entrepreneurship intellectual innovative activity support system from the standpoint of a synergistic management concept. The proposed conceptual approaches, models and mechanisms of entrepreneurship innovative activity intellectual support systems development reveal new standards of entrepreneurship and universities interaction in the regions of the country, as well as the development of intellectual resources and capital.

Keywords: knowledge-based economy; entrepreneurship innovative activity intellectual support; entrepreneurship intellectualization; innovative development; synergistic management.

INTRODUCTION

In the age of the knowledge-based economy, traditional principles, approaches and development models of competitive entrepreneurship change dramatically. Because of this, modern enterprises are focused on innovative models of development, which, accordingly, require the intellectual products creation processes establishment, and their commercialization is able to provide the value, which scientists and practitioners consider as the foundation to strengthen the competitive position. As L. Edwinsson rightly points out, "the knowledge-based economy obliges organizations to recreate themselves, but in the posture of intellectual enterprises already" [2, p. 135].

RESEARCH RESULTS AND DISCUSSION

In the context of global trends in socio-economic development, it becomes apparent that the formation of economic relations based on the dominants of mental and intellectual work, the knowledge and information factor role in economic and social processes natural growth, the transformation of institutions such as science and education in the context of their market orientation, the intellectual property developed market formation, the intellectualization of the economy in the field of high-tech services the emergence of a new vector and the emergence of knowledge-based economy phenomenon – intellectual entrepreneurship. These are the processes of intellectual and entrepreneurial activity synthesis, which means the formation and development of such "rules of the game", according to which the interaction of intellectual resources of economy, and society and subjects of entrepreneurship subjects continuous reproduction takes place [8, p. 83].

However, these processes transformations in such conditions, is hindered with the mind inertia an, the idea of entrepreneurship in general formed during the period of industrial development. In this paradigm, domestic business continues to be and most often uses the logic of managing enterprise performance, and industrial entrepreneurship (according to Bartlett and Ghoshal) exists at the level of operational management, at which competition is the main engine. Hence, the main problem of modern entrepreneurship is the lack of new innovative and creative mind, new concepts, theories, methods, mechanisms in the context of enterprise knowledge capitalization, the potential entrepreneurship institutional system modernization, etc. In this context, it is interesting and very relevant in theoretical and practical terms to state that, in an era of knowledge-based economy development, only those entities will succeed, that will truly be able to transform from industrial enterprises into enterprises capable of becoming collective entrepreneurs-intellectuals. This is due not only to the presence of innovative components (materials, energy and resource-saving technologies, management), the competitiveness of manufactured products (goods, technologies and services), but also the formation of harmonious society special structure based on the theory of "value created by knowledge" principles.

At the same time let's recognize that according to the World Bank knowledge-based economy index assessment, Ukraine occupies the 56th position in the world due to inefficient institutional regime and economic incentives promote the development of the "knowledge" economy, low level of innovation and information

and communication technologies [1]. Thus the highest rating was received by the system of education of Ukraine (8,15 compared to 9.78 mm for the first ten countries), that allows to consider this area as the most stable element of national economy, which ensures the reproduction of the intellectual resources even in conditions of unfavourable environment and creates economic and political influence of the country in the international arena. At the same time a kind of a brake for restraining the progress of the country in the international knowledge-based economy development index, remain low in the indexes of the institutional environment. It is primarily the low efficiency of public administration innovation development, a lack of venture entrepreneurship development, high administrative barriers for innovative companies. In this context, we note that for the effective use of existing capacity in conditions of the new economy formation requires the development of institutional frameworks and rapid knowledge-based economy material-technical base growth [10, p. 115].

The positions of Ukraine in the global rankings for 2018 are presented in Table 1.

Table 1. Ukraine's position in international rankings

Rating name	Organization or source	Position***
Human Development Index, HDI	United Nations Development Program	88 (189)
Social Development Index, SDI	The imperative of social progress	64 (146)
The Global Innovation Index, GII	World Intellectual Property Organization	43 (127)
Global Competitiveness Index, GCI	World Economic Forum	81 (137)
Networked Readiness Index	World Economic Forum	71 (143)
Technological Readiness Index, TRI	World Economic Forum	81 (137)
The International Property Right Index, IPRI	International Property Rights Alliance	110 (125)
*** The parentheses show the total number of countries represented in the rating.		

Source: [11]

According to the Table 1 the most significant is the Global Innovation Index (GII), which in 2018 covered 127 economies of the world. To calculate it, the indicators were combined into 7 blocks: institutes; human capital and research; infrastructure; development of the internal market; development of technology and knowledge-based economy; results of creative activity; business development. The above data show that Ukraine is not among the leaders in innovation development. One of the major reasons is the change in the innovation system model, in which the intellectual and personnel component of innovation activity is dominant, where Ukraine loses its positions, which were quite high in previous periods [4, p. 89].

In this context, it should be noted that at the present stage there is a general tendency to move to higher advanced countries innovative development models, which will inevitably involve countries with economies in transition and developing

countries. This tendency is related to the significant strengthening of education and science role in the state's innovation system further development in the context of the transition to post-industrial society.

It should be noted that the strategic priorities of Ukraine at the present stage are the formation of an innovative model of development, the integration of the economy into the European economic space. At the same time, quality of human resources and intellectual support of the innovation process play an important role in ensuring dynamic innovation development. As in the first half of the twentieth century innovations could be created at the basis of experience, so further improvement of available technologies, study of human needs, then in the conditions of technological processes high level achievement require high level of education and significant scientific development. However, the considerable technological backwardness of the economy, the low level of innovation activity of domestic business indicates that in Ukraine there is no effective innovation system formation. There are many obstacles to its formation, among which the problem of the development of science, education and the production of intellectual resources for an innovative economy is quite acute.

At the same time, let us acknowledge the disappointing trends in the development of Ukrainian science: the chronic under-funding of R&D (research and development) over the last 20 years; a significant reduction in the researchers number; degradation of the applied sector of science, largely destroyed in the 90's of the twentieth century, reducing the performance of state scientific centers; extremely low (with a few exceptions) scientific activity of domestic universities; is still quite powerful, although the capacity of science in state academies is weakened and

In the final report on the results of independent monitoring of the modern world main trends coverage, leading experts from the US National research Council (National Intelligence Council), “Global Trends 2025 – a Changed World” (“Global Trends 2025 – a Transformed World”) focus on education, noting that "...with increasing cross-border nature of today's business and labour market, education became “the leading determinant of economic potential of the world community” [3]. When developing the priority directions of improving the quality of education, consider the following: its objectives determined by needs of enterprises in highly educated professionals; the quality of education is determined by its suitability to the needs of individuals, society and the economy. As the research shows, the productivity dependence on education, with a ten percent increase in the level of education – the productivity increases by 8.6 %. At the same increase in the stock company capital productivity increases by 3-4 % [9, p. 385].

According to the authors, in order to develop the intellectual component in Ukraine, it is first of all necessary to elaborate clear priorities of the long-term state economic and industrial policy based on a thorough foresight of the STP (Scientific and technological progress) and a strategy for the development of the education and science system in accordance with state policy. In doing so, the education system should become a key integrator of economic entities intellectual and innovative provision.

Many studies have now identified a strong link between the performance of the country's intellectual sphere and the development of innovative entrepreneurship.

Therefore, for a real transition to an innovative path of development in Ukraine, conditions must be created, which include the development of institutional environment, innovation and knowledge infrastructure, channels of intellectual support of entrepreneurship, while effectively operating new forms of innovative entrepreneurship organization – networks and clusters that contribute to the innovation of the economy [5, p. 306-308].

Noting the overall backwardness of Ukraine in the global economic arena, it should be noted the importance of effective models finding, mechanisms and tools for innovative entrepreneurship development intellectual support. In the conditions of economy development and knowledge becoming as the main economic resource, intellectual support of innovative entrepreneurship development becomes the most important factor of the country competitiveness and its population well-being increase.

This necessitates the intellectualization of entrepreneurship, which is the following: the main economic product of entrepreneurial activity is increasingly the intellectual product (know-how, software, methodology, technology, etc.) and high-tech product (the share of R&D expenditure in the product is more than 3.5 %) [6]. Intellectual product is a kind of innovative and has such specific features as: the inalienability of knowledge in the sales process, the increasing return on the product, the dominance in the product of R&D costs, the presence of network effect, the ability to bring intellectual rent in the form of payments (license payments).

It is known that ideas for creating innovations (product and others) usually arise either as a result of market needs ("market impetus") or within R&D units ("technological impetus"). The ideas about which of the two paths are most effective are often the opposite. The practice of countries with developed market economies shows that 25 – 35 % of all innovations underlying ideas are originated within R&D units. Whatever their exact relationship, it is clear that both R&D and marketing serve as the main sources of ideas whose development is fraught with weak communication and lack of understanding [7, p. 140].

The intellectualization of entrepreneurship creates conditions for the education role growth as a basis for the formation and development of intellectual resources, the creation and transfer of new knowledge to the economy. The education system inevitably becomes closer to entrepreneurship, integrates with it, that contributes to a more efficient exchange of knowledge, the introduction of more advanced scientific methods of entrepreneurship, the growth of education and spirituality of entrepreneurship, which forces it to serve the interests of society, not only for personal gain. One of the ways of integrating the education and science system with the entrepreneurship system is the enterprises organization at universities, which are increasingly considered within the framework of intellectual entrepreneurship [8, p. 86].

An important feature of a knowledge-based economy is the transition of competition, on the one hand, to the super-system (at the global level) and, on the other, to the subsystem – at the level of the individual (nano-level). Competition becomes multilevel, also penetrating into the internal environment of the enterprise, with the enterprise must be competitive at every level of both internal and external

environments (natural-ecological, information-educational, socio-cultural, socio-economic). In the external environment, the role of the subject's interaction with its partners within the networks that become the most important economic agents of the new economy (as opposed to corporations in the industrial economy) is increasing. In the internal environment, an increasingly important influence upon the competitiveness of the enterprise its employees have, as well as mechanisms for the implementation of knowledge sharing between them and making collective decisions. In this way, innovative entrepreneurship promotes the convergence of education, science and business, creating trust and an effective channel of knowledge transfer between them. The above determines the importance of exploring the nature and role of intellectual support for innovative development of entrepreneurship in the current socio-economic conditions of the country (at the macro level), as well as the development at the micro-levels of practice oriented models and mechanisms of this provision in the regions of the country.

Intellectual support for entrepreneurship innovative development of (ISEID) means the process of of economy, society and subjects of intellectual entrepreneurship intellectual resources continuous reproduction for the development of business structures knowledge competitiveness. Intellectual support for the entrepreneurship innovative development involves the organization and self-organization of continuous counter-information and knowledge flows in the system "education – science – business – state", which contributes to the development of all participants competencies innovative development process at all interaction.levels.

System of innovative entrepreneurship development intellectual support is formed on the basis of such key components as intellectual resources, a data base of knowledge and information, knowledge environment (in particular, innovation culture, protection of copyright and intellectual property, economic incentives for creation and innovation) and knowledge infrastructure. In this context, an important role is played with knowledge infrastructure, which is understood as the set of auxiliary facilities, buildings, systems and services for the generation, accumulation and exchange of knowledge, building of capacity for prompt and continuous access to them, ensuring reproduction, development and effective use of intellectual resources of economic actors.

Aspects and plans of the innovative entrepreneurship development intellectual support model are presented in Table 2. Structural aspects of the conceptual model reveal the content of theoretical and methodological support, the institutional and structural composition of the subjects and their functions in the system, as well as technological mechanisms and tools for the implementation of the IEDIS.

The proposed model is the need for the state to create conditions for effective interaction of the education and science system with the entrepreneurship system to activate knowledge-informational flows through: effective regulation of the subjects self-organization interaction system processes; contributing intensification of intellectual entrepreneurship development processes (development of legislative and legal framework); development of knowledge infrastructure.

The model is organized according to the network principle implies the development of horizontal links between subjects, contribute to the coordination of

their activities through the implementation of joint projects on the development of intellectual resources various kind and level, sharing knowledge and their implementation in the activity of all the IEDIS subjects.

Table 2. Aspects and plans of the innovative entrepreneurship development intellectual support model

The model aspects	**Content analysis and synthesis plans**		
	Macro (meso)	**Micro**	**Nano**
Conceptual	Development of theory and methodology of IEDIS in knowledge-based economy: - identification of knowledge-based economy and business development patterns; - entrepreneurship research; - analysis of intellectual entrepreneurship role in the IEDIS system; - review and analysis of the IEDIS models and mechanisms at the macro level; - development of network and cluster approaches to the organization of the IEDIS; - development of a synergistic approach to the organization and regulation of the IEDIS system.	Development of the intellectual support theory and methodology for the entrepreneurship structures development: - identifying patterns of development of "knowledge" competitiveness of enterprises and their intellectual capital role; - analysis of intellectual support models at the micro level; - adaptation of enterprise interaction information and communication models in the context of knowledge transfer; - the network and cluster approaches to the organization of the IEDIS systems at the micro level (microcluster) methodology development.	Theory and methodology development of personal/employee interaction intellectual support; - development of the entrepreneur-intellectual development models; - adaptation of theoretical and conceptual projecting to the intellectual self-development of the creative personality (for the purposes of study and self-study).)
Institutional and structural	Determination of the system subjects composition and role/functions: - analysis of the VAT (Value added tax) state and information development in the region/country as a whole; - identification of the intellectual/innovative activity subjects and the level of their relationships.	Determination of the company/university IEDIS subjects composition and the role/functions: - analysis of specific models of the IEDIS implemented by enterprises / universities; - substantiation of the role and functions in the construction of the IEDIS systems by enterprises / universities; - synthesis of the focal type microcluster model based on the university.	Determination of the subjects composition and role/functions for the personality/entrepreneur intellectual development; - determining the role and functions of universities in the development of a particular personality intelligence; - determining the role of self-development; - determining the role of the interaction environment in the development of personality / entrepreneur.
Technological	Projecting of mechanisms for the IEDIS implementation: - definition and analysis of the IEDIS models implementation conditions; - development of organizational and economic mechanisms for the IEDIS implementation.	Projecting of the IEDIS implementation at the level of university/enterprise mechanisms: - the mechanism of the microcluster and the university management interaction; - the mechanism of the microcluster subject interaction; - the mechanism of personnel development, etc.	Projecting of the intellectual support implementation for the specific person/employee development mechanisms: - training/self-study; - project training; - mentoring; - the spiritual component of the student/employee, etc.

The mechanism of model implementation involves the creation of various partnerships, non-profit organizations with representation of the IEDIS system stakeholders aimed at development of intellectual resources, knowledge infrastructure and knowledgeable environment, effective knowledge transfer that will contribute to the growth and scope of innovative entrepreneurship, forming of innovative culture on all levels of the system.

In order to effectively operate and regulate the IEDIS system, it is advisable to use a number of methodological principles, namely: purposeful self-organization, resonant influence, use of a network mechanism for coordinating the activities of subjects, the transition from traditional strategic planning of system development to the development of strategic vision of the state of the system in future, proactive and responsive management.

Successful functioning of the IEDIS system provides socio-economic effects, among them, economic: reduction of production material consumption, growth of business, growth of investment attractiveness, reduction of development and introduction of innovations terms, increase of added value and economic added value (on one employee); social: increase of social responsibility of business, development of intellectual resources and capital of enterprises.

CONCLUSION

In view of the above, we can conclude in the context that in the last decade in Ukraine the intellectual support of the scientific and technological sphere has significantly deteriorated. This has a negative impact on the opportunities for innovative development of entrepreneurship. While developed countries in the world are building highly innovative systems, Ukraine is losing its position in technological and economic development, which is only increasing over time. In order to increase the level of the IEDIS in Ukraine, we offer a number of coordinated activities, namely:

– restructuring of the existing innovation infrastructure (scientific sector, education, industrial complexes) and enhancing its integration and efficiency within the national innovation network;

– reorganization of the institutional and legal environment, development of institutions for the use and protection of intellectual property rights, establishing a system of state support for the commercialization of intellectual property results and training for the management of innovative activities;

– ensuring the growth of research and development funding to the EU indicators at the expense of both budgetary and enterprise resources;

– ensuring technology transfer to the real economy sector through close cooperation of scientific institutions, higher education institutions, industry representatives;

– creation of modern state key laboratories system with a high level of technical equipment, which are integrated into world systems, and providing subjects of scientific and business activity with open access to them;

– formation of a new Ukrainian society outlook, development of innovative culture at all levels of government, promotion of tolerance as the new society basis.

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