ANALYSIS OF SCIENTIFIC APPROACHES TO DEFINING THE ESSENCE OF AN ENTREPRENEURIAL UNIVERSITY

Summary. The article is devoted to the generalization of scientific approaches to defining the essence of an entrepreneurial university. The following methods were used in the research process: comparative analysis, generalization, monographic. A review of references on the research showed the pluralism of interpretations of the essence of the entrepreneurial university. The evolution of views on the essence of the entrepreneurial university, which includes the stages from the creation of new enterprises to the introduction of innovations and to the institution, which is one of the imperatives of regional development, is studied. It is pointed out that the complexity of social processes leads to the popularization of the concept of entrepreneurial universities as institutions not only for the production of new knowledge, but also important elements of the socio-economic system of the country. The article analyzes two models of entrepreneurial universities, identifies typical characteristics of each of them. Prospects for further research are the role of entrepreneurial universities in the formation of Industry 4.2.

Keywords: entrepreneurial university, knowledge, globalization, regional development, educational institutions.

Formulation of the problem. The beginning of the third millennium is characterized by the dominance of two different vector trends: globalization and regionalization. Globalization creates the preconditions for the unification of many socio-economic processes in different countries. In addition, globalization contributes to the liberalization of the movement of factors of production between countries and the dissemination of research results around the world. Instead, the processes of regionalization are characterized by the growing role of technologically advanced countries in creating new knowledge.

In this context, the European Commission [1] noted in its report that the world is becoming more knowledge-intensive, open and interdependent, and that the financial crisis has only temporarily halted this evolution. Educational institutions, first of all, universities, play an important role in the production of new knowledge. Modern universities have long ceased to be institutions for the elimination of ignorance, they have become universal...
institutions that not only produce new knowledge, but also capitalize on them.

**Analysis of recent research and publications.** The article [2] notes that the processes of globalization and internationalization have changed the roles of the main agents of social and economic change. The functioning of universities has become more actively influenced by factors related to the reduction of public funding, the dynamism of the educational market. The authors note that in this situation the activity of universities acquires signs of entrepreneurship as a result of commercialization of research, the establishment of business structures. Analyzing the factors influencing the creation of entrepreneurial universities, the authors [2] formulate conceptual principles, the implementation of which will stimulate the contribution of entrepreneurial universities to the development of the knowledge economy.

The analysis of compliance of a particular educational institution with the criteria and principles of the University of Entrepreneurship is conducted in detail, in the article [3]. The team of authors points out that the university's implementation of the business model creates the preconditions for its active participation in the development of modern society, in which knowledge becomes the main driving force. The authors [3] analyze the activities of the University of Osijek for compliance with the model of the entrepreneurial university. The results of the analysis showed that only some elements of this model are present at the University of Osijek.

The article [4] examines the concept of the entrepreneurial university by studying the role of its structural units. The authors studied in detail the typology of entrepreneurial activity of structural units of the university, identified 5 areas of influence on regional development. It is noted that both structural units provide services to business representatives, often using financial resources from the European Structural Funds and other sources of funding. The analysis algorithm used by the authors of the article [4], subject to adaptation, can be used to study the impact of other educational institutions on regional development.

The authors [5] point to the lack of research on the role of universities in regional development. Therefore, they study the concept of the "entrepreneurial university" and its impact on regional development in Brazil. The authors of the university substantiate the implementation of social initiatives and innovations aimed at solving regional problems, an "engaged" university.

In the article, N. M. Buniak [6] summarizes different approaches to defining the essence of the entrepreneurial university. The directions of entrepreneurial activity of educational institutions are analyzed. The author notes that often the entrepreneurial function of the university is associated only with the commercialization of research results. The author [6] identifies the main obstacles in the process of forming entrepreneurial universities.

The basic concepts related to the University of Entrepreneurship are covered in detail in the article by O. Romanovsky [7].

Kurmaiev P. & Pyzhianova N. [8] note that the problematic aspects of the higher education system functioning in Ukraine are associated with low efficiency of state regulation and the current funding mechanism, the lack of a strategy for the development of this area. According to the study, the authors justify the need for new approaches to state regulation of higher education based on the search for optimal sources of funding in accordance with national priorities, increasing the quality of educational services. The article [8] notes that the implementation of proposals should create preconditions for the formation of human capital in the information society, increase the role of educational institutions in social development.

**Formulation of the article's goals.** The aim of the article is to generalize scientific approaches to defining the essence of the entrepreneurial university.

The following methods were used in the study: comparative analysis – when comparing statistical information on the financing of the R&D sector in the US and EU countries; generalization – in determining the main characteristics of the entrepreneurial university; monographic – in the identification of causal relationships.

**Presentation of the main research material.** Modern civilization development is impossible without a constant process of producing new knowledge. Moreover, the creation of modern knowledge requires appropriate funding, as the cost of new research is growing.

R&D expenditures as a percentage of GDP over 2013-2018 in the EU as a whole increased by 0.22 percentage points and amounted to 0.68% of GDP at the end of the period. The statistics on individual countries are quite interesting. In 2018, the top performers were Denmark and Sweden, spending 0.98% and 0.84% of GDP on R&D in the higher education sector [9, p. 16]. Norway, at 0.71%, scored 3rd place. Ireland is in 16th place at 0.44% when using GNI as the denominator, between the EU28 and the OECD average. The UK spent 0.41% of their GDP on R&D, slightly higher than the Irish level of GNP HERD intensity at 0.34% of GNP, while the USA spent 0.36% [9, p. 16].

Analysis of statistical information on the development of the R&D sector in the US and EU countries [10; 11] shows the following trends.

First of all, the growth of absolute expenditures. Thus, in the United States during 2013-2019, their volume increased by 16.5 billion dollars or 24.5%.

Total research and development spending in US academic institutions reached 83.7 billion dollars in fiscal year 2019, up 4.5 billion dollars (5.7%) from fiscal year 2018 [11].

Secondly, there has been a change in the structure of R&D funding. In [12] state that cooperation between entrepreneurship and universities is given increased attention in the practice of research management. The results of the study [13] showed the existence of significant differences in funding sources across the EU. In particular, the authors [13] found that in 13 EU countries (BG, EE, HR, CY, LV, LT, HU, MT, PL, RO, SI, CZ, SK) government expenditure is dominant, while for the other 15 EU countries the business sector plays an important role.

In 2019, compared to 2013, the share of financial resources of the US federal government decreased by 5.6%. At the same time, there was an increase in
funding from other sources, including institutional funds – by 2.9%, non-profit organizations – by 1% and business – by 0.8% (Figure 1).

Thirdly, there is a growing role of universities, including entrepreneurial ones.

The transformations of the R&D sector described above indicate an increase in the level of interaction between research structures, including entrepreneurial universities, with a wide range of business entities, the civil sector, and government.

Given the prevalence of the paradigm of transformation of a traditional university into an entrepreneurial one, it is expedient to explore its essence.

The evolution of the entrepreneurial university concept dates back to the 1970s, becoming more fully relevant in the 1990s. Thus, despite the presence of a significant number of studies, in particular those cited in the references, there is no single approach to understanding the essence of the entrepreneurial university.

The Table 1 shows different interpretations, which, in our opinion, most fully reflect the process of evolution of the concept of the entrepreneurial university.

Interpretations given in Table 1 illustrate the evolution of views on the essence of the entrepreneurial university, which includes the stages from the creation of new enterprises to the introduction of innovations and to the institution, which is one of the imperatives of regional development.

In our opinion, that means, there was a complication of understanding the essence of the entrepreneurial university.

Nowadays, there are two models of the entrepreneurial university [23]: entrepreneurial as a result of activities – stakeholders create innovative companies; entrepreneurial by type of action of the management team.

The first model provides the creation of favorable conditions for students, teachers and gradu-

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<th>Approaches to the interpretation of entrepreneurial universities</th>
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<td>Etzkowitz (1983) [14]</td>
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<td>Chrisman, J., Hynes, T., and Fraser, S. (1995) [15]</td>
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<td>Kirby (2006) [18]</td>
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<td>Fernández-Nogueira, Arruti, Markueriaga, &amp; Suenz (2018) [20]</td>
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Source: summarized by the author based on [18; 21]
ates for the formation of high-tech start-up companies. The second model involves the creation of a powerful research center that produces and markets new scientific and technical products, thereby attracting financial resources and increasing its independence from financial resources of the state [6, p. 146].

The second concept is quite fully disclosed in [6, p. 146]. According to her, the characteristic features of the entrepreneurial university are [6, p. 145]:

- diversification of funding sources;
- reduction of institutional dependence on state institutions;
- training of competitive specialists with creative entrepreneurial thinking, capable of implementing innovative projects in various fields;
- production of new knowledge and their capitalization;
- flexible organizational structure, able to quickly adapt to changing requirements of society and the market;
- encouraging the creation of new enterprises by teachers and students in order to commercialize the results of research;
- implementation of a full cycle of reproduction of new knowledge (from the generation of ideas to the creation of prototypes of innovations);
- the center of development of the innovative territorial cluster [6, p. 145].

According to [7], the presence of a significant number of different models of entrepreneurial educational institutions confirms the effectiveness of their activities, significant progress in strengthening their financial condition and material and technical base. Almost all research entrepreneurial educational institutions are distinguished by their independence from sources of funding, they affect local economic growth, and some of them influence the economic and scientific and technological achievements of nations [7].

**Conclusions from this study and prospects.** The results of the study showed that the processes of globalization of knowledge are changing the role of universities. The complication of social processes leads to the popularization of the concept of entrepreneurial universities as institutions not only for the production of new knowledge, but also important elements of the socio-economic system of the country. Entrepreneurial universities will, in fact, become multifunctional institutions. Modern pluralism of views on the concept of the entrepreneurial university is due to the influence of country-specific factors. These factors determine the peculiarities of the implementation of the concept of the entrepreneurial university in a particular country.

Prospects for further research are the role of entrepreneurial universities in the formation of Industry 4.2.

**References:**


Список літератури:


