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The mechanism of entrepreneurial innovation system in institutions of higher education

■ **Abstract.** The relevance of the research is determined by the fact that the development of modern society requires the acceleration of all economic processes. Therefore, in forming a scientific and educational space, paying more attention to the involvement of business structures and state authorities is essential. The research aimed to generalise the theoretical foundations of developing higher education institutions' entrepreneurial innovation system mechanism. General scientific and specific research methods were used in the article, in particular: comparative – to study the theoretical foundations of the development of the field of education and science and the formation of a categorical research apparatus; analysis and synthesis – in the process of identifying development trends in the field of education and science. It analysed research in the field of higher education and the formation of the main trends in the development of the educational and scientific spheres, which makes it possible to predict the primary vector of the development of the educational sector. The presented study considered the main features of the educational sphere from the point of view of the combination of three main components: education, business, and the state. With such a combination, the main features of the development of scientific and educational activities, as one of the main components of entrepreneurship development, have been determined. The conducted studies proved that, first of all, it is necessary to intensify efforts to improve and develop the regulatory and legal framework on a wide range of scientific and innovative activity issues to form a scientific and innovative activity infrastructure. The main elements and tools of entrepreneurial innovation systems that allow commercialising scientific projects and research are presented. The practical significance is that the proposed model of interaction between business, the state, and universities is an effective mechanism for solving the issue of forming a system of entrepreneurial innovation initiatives

■ **Keywords:** entrepreneurship; project activity; innovative projects; educational activity; commercialisation of projects

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■ INTRODUCTION

The transition of the Ukrainian economy to an innovative path of development in the conditions of an increase in the number of new independent participants in economic activity that use non-state forms of ownership should, first of

all, provide state support for their participation in scientific and innovative processes I.N. Krasovskiy *et al.* (2020) noted that in several developed countries, the primary vector of economic development has become the initiative of the

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corporate sector. The typical features of such countries are that their state apparatus actively performs the functions of forming and regulating the infrastructure of innovative activity, supporting optimal mechanisms for creating, distributing, and using innovations (products, processes), i.e., their effective commercialisation.

M. Muhammedov *et al.* (2023), in his studies, said that the activation of innovative activity is possible under the condition of combining the efforts of enterprises and institutions of higher education with the simultaneous distribution of responsibilities and risks between the participants of the integration process and the state to ensure the exit of complex organisational and technical systems to a competitive level, as well as the construction of a systemic state innovation policy in scientific-technological field. Closer contact of higher education institutions with production can stimulate innovation in the economy. N. Makhynia *et al.* (2021) proved that contract research for companies, informal consultations for businesses, and many other forms of cooperation could occur without undermining the institution's independence of higher education, mainly if cooperation occurs in an atmosphere of mutual understanding and respect.

O.B. Danchenko *et al.* (2018) demonstrated that since Ukraine has embarked on the path of socio-economic and political reform, the directions, forms, and methods of implementing the state policy of supporting the scientific activity of students must be adequate to the new conditions of society. First of all, this should manifest itself in establishing a system of partnership in relations between the state and the private sector, in which cooperation takes place based on taking into account the interests of both parties.

O.I. Zaklekta & O.P. Shimanska (2013), in their work, researched that the interests of the state lie in the comprehensive development of intellectual, spiritual, and economic potential through the development of a system of support for higher professional education and research and innovation activities. The state sees this as the most critical condition for its security and stability, economic, scientific, and technological progress, worthy of cooperation with the world community.

That is why the purpose of the current study was to study the basis for forming the mechanism of the entrepreneurial innovation system in higher education institutions. Such a study clearly illustrates the need to implement the trinity of cooperation between the state, business, science, and education.

A combination of general scientific and specialised research methods was utilised, including comparative analysis for examining the theoretical underpinnings of the development of education and science for creating a research framework, as well as analysis and synthesis for identifying trends in the development of education and science.

■ REVIEW OF LITERARY SOURCES ON THE TOPIC

The formation of the mechanism of the entrepreneurial innovation system in institutions of higher education becomes relevant and essential for the development of the modern economic system.

Due to the historical development of the management theory, innovative activity is assigned to a separate direc-

tion of the idea of innovation. To date, many works are devoted to the theoretical study of the concepts of "innovation" and "innovative activity", based on what became classic for this direction in the studies of M. Kondratiev, J. Schumpeter (Hryshchenko, 2015) and were developed in the studies of V. Heyets (2006).

At the same time, little attention is paid to the definition of the innovative activity of the institution of higher education and its specificities. V. Roshylo (2023) defined it as innovative educational programs, which is explained by the reasons, including the separation of education from science in institutions of higher education founded in the Soviet period, as well as the relative novelty of the task of carrying out innovative activities in institutions of higher education. Some authors, S. Ilyashenko (2010) and O.B. Danchenko *et al.* (2018), still consider it in the context of scientific research. The latter is reduced to defining it as scientific and innovative, which on the one hand, includes elements of tautology since the innovative activity consists of scientific activity. However, such a definition is fair given the specifics of such activity in educational organisations and the predominant position of the first group of scientists.

A new paradigm of higher education is also presented in the work of A. Krysovaty (2015), where the involvement of entrepreneurial capital in the development of the educational and scientific sphere is indicated.

M. Uddin *et al.* (2022) explored entrepreneurial initiative from a subordinate moderation perspective involving educators and academics in collaborative engagement with business structures.

It is also possible to note that not only scientists raise questions about the development of cooperation according to the trinity of education and science – business – the state, but also state authorities. Many Erasmus projects have appeared in the European space involving scientific and educational institutions, public organisations, and business structures (Official website of Erasmus+, n.d.). Also, the Ministry of Education and Science of Ukraine (Official website of the Ministry..., 2021) will oversee grant and conceptual projects within the framework of such tripartite cooperation.

It is necessary to pay attention to the fact that despite the great interest in building an entrepreneurial innovation system among scientists and economists, there are still many unsolved questions regarding the attraction of business investments in terms of business interest and state support. Also in the centre of constant attention is the aspect of the motivation of scientists and educators in the same combination of the trinity for the development of educational and scientific projects.

The mechanism of coordination of interests in creating an entrepreneurial innovation alliance with the participation of a higher education institution should consider the peculiarities of regulation in higher education. T. Shtal *et al.* (2018) found that the main limiting subject concerning the institution of higher education is the founder, whose requirements are both formal and informal. That is why consideration in the presented study of the trinity of the state, business, education, and science acquires particular importance in ensuring entrepreneurial initiative. Thus, opening startup centres based on higher education institutions is a part of constructing an entrepreneurial innovation system.

■ ENTREPRENEURIAL INNOVATION SYSTEM

To achieve the global vector of reforming the scientific and educational sphere from the point of view of entrepreneurial initiatives at the state level, it is necessary to solve the following tasks presented in the works (Kopchenko, 2004; Geets, 2006; Hryshchenko, 2015): increasing the role of the scientific and innovative component in the system of priorities for the development of the higher education institution; formation of corporate culture in accordance with traditions and the accepted system of values, which ensure effective work of the labour team of the institution of higher education; expanding the range and development of fundamental and applied scientific research; accelerated formation of scientific work from the priority directions of scientific research of the institution of higher education, using the achievements of the institution of higher education in certain scientific areas; strengthening of existing and formation of new scientific schools and increasing their effectiveness; strengthening the influence of the higher education institution on the market of scientific and technical developments and innovations demanded by state customers, business structures and non-commercial organisations (this involves establishing and strengthening business contacts between departments and businesses); commercialisation of the results of research activities in the national economy and the educational process (this is not only the creation of small innovative enterprises, but also the development of consulting activities); accelerated implementation of the results of the Scientific research work in the educational process of the institution of higher education (this applies not only to the Scientific research work performed by the scientific and pedagogical staff during the main working hours of the departments, but also financed from the own funds of the higher education institution and Scientific research work financed on a competitive basis at the expense of the state funds budget); increasing the interest of scientific and pedagogical personnel in the growth and realisation of their scientific potential in the

institution of higher education; active use of the potential of graduate students and students for the implementation of scientific and innovative projects.

Considering the current characteristics of the crisis conditions of the economy, instability, and the ever-increasing level of competition, an active policy is a primary condition for ensuring the regular activity of business entities and a high level of competitiveness and innovation and successful use of technology transfer.

Scientific achievements within the innovative activities of companies are no longer localised exclusively in the national economy of a single country but, with the help of technology, transfer mechanisms, go beyond its borders and dominate the international world market.

However, in Ukraine, the process of creating an innovative system is still at an initial stage, characterised by the need for more successful technology transfer mechanisms, and is an essential obstacle on the way to active interaction and entering the world market technological innovations.

However, this situation has a highly negative impact on the development of Ukrainian entrepreneurship and urgently needs a solution in terms of rationalisation and development of the scientific and methodological support system. The optimal direction for improving this direction is implementing foreign experience in the field of methodological recommendations for developing signs and indicators for measuring the efficiency of technology transfer to establish a set of measures and tools for their national implementation companies.

Considering the above, a necessary condition for developing Ukrainian higher education institutions is understanding the need to create an entrepreneurial innovation ecosystem. Therefore, to identify the latest trends and understand the situation in the scientific and educational environment, it is necessary to monitor the development of the entrepreneurial innovation ecosystem in higher education institutions of Ukraine.

A schematic representation of the entrepreneurial innovation system is presented in Figure 1.

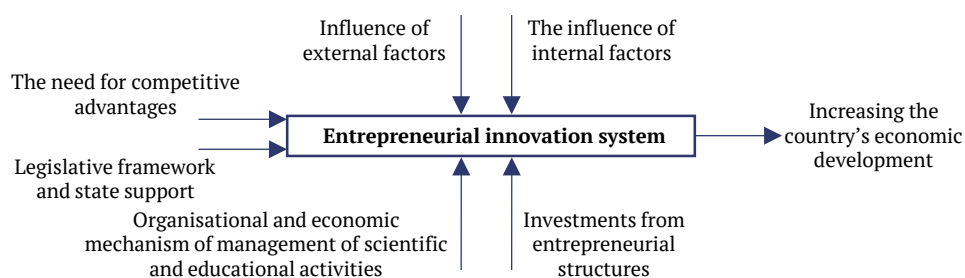


Figure 1. Schematic representation of the entrepreneurial innovation system

Source: authors' development

The state policy of Ukraine regarding the formation and development of scientific and innovative activities of higher education institutions is based on the following principles (Cunningham & Menter, 2021; Gupta, 2021):

- state support is provided by creating an environment for sustainable financing of higher education institutions at the expense of budget funds;
- an essential part of the state policy in the field of higher professional education is state support for the

training of specialists in priority areas of fundamental and applied scientific research conducted in higher education institutions;

- the system of higher educational institutions in higher education institutions, in addition to enriching the content of the educational process, improving the quality of training specialists, and providing financial support to students, plays a vital role in the formation of future scientific-pedagogical and research personnel for higher

education institutions and other institutions, which is especially important in this period;

- the more attention paid by the management of higher education institutions to the creation of the infrastructure of scientific creativity, increasing the prestige of scientific activity, including the payment of special scholarships and grants, the higher the succession of generations of scientific and pedagogical personnel.

The state implements the policy of supporting scientific activity at the state, regional, and local levels,

promoting the development of various ways, forms, and methods of its implementation (Kopchenko, 2004; Abhilaash, 2021).

DEVELOPMENT OF SCIENTIFIC ACTIVITY

In the conditions of economic reform (Geets, 2006; Alinsson & Javorika, 2019; Cao, 2022), the process of development of the scientific activity of higher education institutions should include Figure 2.

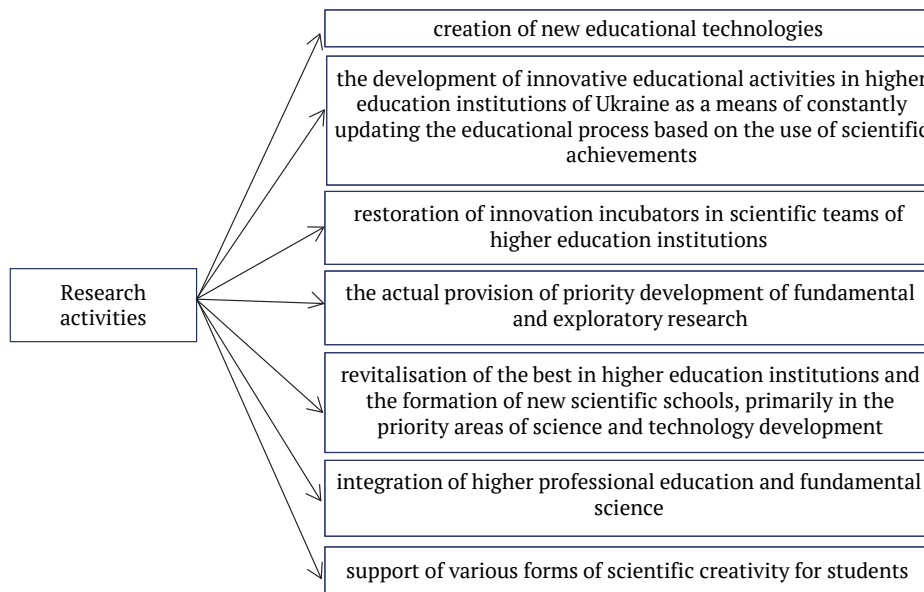


Figure 2. Components of the development of scientific activity

Source: developed by the authors based on T. Ambler (2004), P. Kotler *et al.* (2016), T.V. Shtal *et al.* (2018)

The selection of elements and forms of their interaction within the framework of the entrepreneurial innovation system in higher education institutions should comply with several principles: the innovative potential of the participants of the entrepreneurial innovation system of the higher education institution must meet the set goals and objectives; participants must be ready for entrepreneurial innovation risk, its redistribution between them, joint responsibility for the results of entrepreneurial innovation activity; information about completed projects should be available and open to all participants of the business innovation ecosystem; system participants must be entrepreneurial and innovative; legal conditions for entrepreneurial and innovative activities, observance of the interests of ecosystem participants and concentration of entrepreneurial and innovative potential in the most significant directions must be ensured.

These principles form the legal field of the entrepreneurial innovation system of the institution of higher education, within which specific structures are specified depending on the complexity and complexity of the tasks to be solved.

One of the effective forms of work organisation within the entrepreneurial innovation system is a strategic alliance in joint research and development. A strategic alliance is considered a soft organisational form of partnership based on a temporary agreement between the participants,

which allows immediate termination if it becomes unprofitable (Kichuk *et al.*, 2021).

The following indicators can serve as a criterion for the effectiveness of coordination of interactions (Chaika *et al.*, 2019; Miller *et al.*, 2023; Bogatyreva *et al.*, 2022): for the enterprise – funds (resources, profit, development funds) remaining after settlement with the founders; for a higher education institution, it is, first of all, the improvement of performance indicators requested by the founder, and ultimately profit.

It should be noted that the construction of an innovative system should be started with the following elements:

1. It is advisable to start building partnership relations with those enterprises for which the institution of higher education prepares specialists (provides training and retraining of personnel on an ongoing basis).

2. Negotiations must be conducted between the heads of the higher education institution and the enterprise responsible for strategic development, including scientific activity, and have a real substantive nature.

The result of the development of the entrepreneurial innovation system within the framework of the strategic alliance may be a new structure that will be endowed with complete financial and legal independence necessary for the organisation of activities, including the selection, hiring, and firing of personnel, and the conclusion of contracts.

It is worth paying attention to the fact that only some of the roles in the construction of an entrepreneurial innovation system are played by the brand of the educational institution itself.

In 2014, the reform of general education started in Ukraine. On July 1, 2014, the Verkhovna Rada adopted the Law of Ukraine “On Higher Education” No. 1556-VII, which entered into force on September 6, 2014 (Law of Ukraine..., 2014). This law covered all elements of higher education – management, scientific and pedagogical personnel training, content, financing, and structure. This law creates the legal, organisational, and financial basis for the functioning of higher education and conditions for strengthening the interaction of state bodies with business and higher education institutions based on the autonomy of higher education. It combines education with science and production to create competitive human capital for the development of high and innovative technologies of the country, preparation for self-realisation of the individual, meeting the needs of society, the labour market, and the country in qualified specialists (Law of Ukraine..., 2006, Law of Ukraine..., 2011; Law of Ukraine..., 2015). The reform in education has chosen a strategic direction that can create a fundamentally new system of higher education that will allow everyone to save and update their knowledge during active work.

■ ASSORTMENT-PRICE APPROACH TO THE FORMATION OF HIGHER EDUCATION

Therefore, considering the above, it is advisable to apply the assortment-price approach to the formation of higher

education institution activity strategies when promoting the market of educational services. The essence of this approach is that to manage the range of educational services effectively, it is necessary to take into account (Krasovskiy *et al.*, 2020; Lehmann *et al.*, 2020; Costa *et al.*, 2022):

1) types of educational organisations – state, private institutions of higher education, centres for advanced training, retraining of personnel, etc., which make up a particular share of the total range of educational services that enjoy the same demand; the cost of training one skilled worker;

2) groups of factors formed under the influence of market conditions – characterised by the average price for training and the maximum order volume, the “demand” of the specialty – characterised by high prices for training and the minimum order volume; state order – characterised by relatively low prices and an average volume of orders, regulating the volume of educational services;

3) level of income and consumption of educational services by households – high and medium levels of revenue and consumption.

The process of applying benchmarking in a higher education institution is based on a comparative assessment of the 4P subsystems of benchmarking management of the best universities: 1) personnel management (People); 2) partnership relations (Partnership); 3) process management (Processes); 4) (Products).

Thus, analysing the data presented above (Roshlyo, 2023; Bogatyreva *et al.*, 2022; Cao, 2022), it is possible to propose summarised indicators in Table 1 for the main processes and indicators in the institution of higher education during the benchmarking project.

Table 1. Key processes and indicators in a higher education institution during a benchmarking project

| The process | The indicator |
|-------------------------------------------|------------------------------------------------------------------|
| Student admission management | Adherence to the student admission management plan |
| Development of a scientific plan | Affirmation |
| Teaching | Evaluation of teachers and level of teaching by students |
| International cooperation | Number of students studying abroad |
| Research work | Number of publications |
| Communication with the regional community | Number of complaints |
| Informatisation | Number of computers per student |
| long-term planning | Percentage of achieved goals |
| Hiring, personnel development | The percentage of people employed after the first application |
| Financing | The ratio of the volumes of requested finances to those received |

Source: authors’ development

The object of the benchmarking study is located in one of these four areas of activity of the institution of higher education. If several problem areas are identified due to the self-examination, their priority (order of problem-solving) can be determined using a rating. Thus, Table 2 presents the form of the general view of the rating table for the calculation of the benchmarking project.

The criteria for assessing the correctness of the selection of the issues of the benchmarking project were used in Table 2. The table is filled in by all working group members involved in developing the benchmarking project.

Each group member individually assigns to each criterion the appropriate, in their opinion, weight so that the sum of all weights gives 1.0 (one). The total weight for each criterion is obtained by summing up the weights assigned by all working group members. It would be possible to use the concept of “arithmetic mean” for each criterion, obtained as the sum of the weight of the given criterion for all group members concerning the number of group members. However, it is optional in this case since all comparative values will be divided by the same number of working group members.

Table 2. Key processes and indicators of a higher education institution when implementing a benchmarking project

| The criteria | 1 – Importance for the internal university audience (students, teachers, employees) | 2 – Importance to the external university audience (parents, employers) | 3 – What we want to achieve as a result, part of the strategic plan | 4 – Probability of success | Total score |
|-----------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------|-------------------------|
| Weights assigned: 1 2 3 4 ... | | | | | 1 1 1 1 ... |
| Total Weights | _____ | _____ | _____ | _____ | |
| Improvement area | _____ | _____ | _____ | _____ | |
| 1. Educational activities (optimisation) | Assigned rank: | | | | |
| 2. Quality management system (implementation) | Assigned rank: | | | | |
| 3. Self-government system | Assigned rank: | | | | |

Source: compiled based on T. Ambler (2004), S. Stender (2023), M. Uddin *et al.* (2022)

As a result of the collective discussion of each problem, a point (rank) is assigned: the fundamental problem receives as many points as the topics for discussion (in this case – 3), and the least important – 1. The assigned rank is multiplied by the total weight for each criterion, after which terms add up the results calculations of each column. Thus, each problem considered receives a total score depending on its importance to the working group members, after which it becomes clear in which sequence work should be started to improve the existing situation.

DEVELOPMENT OF BRANDS OF HIGHER EDUCATION INSTITUTIONS

One of the critical elements in developing the entrepreneurial innovation system is the brand of the higher educational institution itself. The determination of the stages of the analysis is presented in Figure 3.

In this way, a conditional object is determined, which is best assigned from the point of view of the analysed indicators and the purpose of the study, the value of the standardised data parameters.

After building the standard, at the sixth stage of calculating the taxonomic coefficient indicator, it is necessary to determine the distances between individual points characterising the objects of analysis and the standard point. The so-called Euclidean distance. The seventh stage consists in determining the values of taxonomic indicators of the condition of brands of higher education institutions. Thus, the value of taxonomic coefficients can take on values from 0 to 1 (one). It should be noted that the closer the value of the development coefficient is to 1, the higher the level of development of the object of research, in this case, the brand of a higher education institution.

Approbation of the stages of conducting a comparative analysis of the level of development of brands of higher education institutions in terms of dominance in the employment market is presented in Figure 4, illustrated by calculations in Table 3, where the activities of

leading universities of Ukraine are analysed. Thus, it can be concluded that the use of such an evaluation method as the method of taxonomic indicators for the comparative analysis of the brand of a higher education institution with competing brands allows to carry out a critical objective assessment of the level of development of the brand of a higher education institution, to compare the level of brand development of a particular institution with the level development of a competitor’s higher education institution, to highlight higher education institutions that are leaders in the educational services market, to study and apply the positive experience of brand management as a system-forming factor of the entrepreneurial paradigm of higher education (Wei, 2022). Based on the established dependence between such indicators as the level of brand development and the power of brand dominance in the employment market, predict the strength of the authority of the institution’s brand higher than a certain level of its development.

That is why it is possible to consider that the brand of a higher education institution is a guarantor of ensuring competitive advantages and an attractive investment for business structures.

Universities are central to creating knowledge in the post-industrial economies of the world’s developed countries. The new role of universities is to find an increase in the relationship between education, science, business, and power in dynamic, innovative development. It is based on the awareness of the role of universities as multifactorial innovation networks. The business environment and governments see the university as an ideal springboard for finding common points of interaction because the activities of universities are impartial and are guided by the priority of innovative development and long-term perspectives rather than commercial interests and short-term goals. The critical functions of the university today are conducting scientific research and training future scientists and specialists, managers, and innovators (Fig. 4).

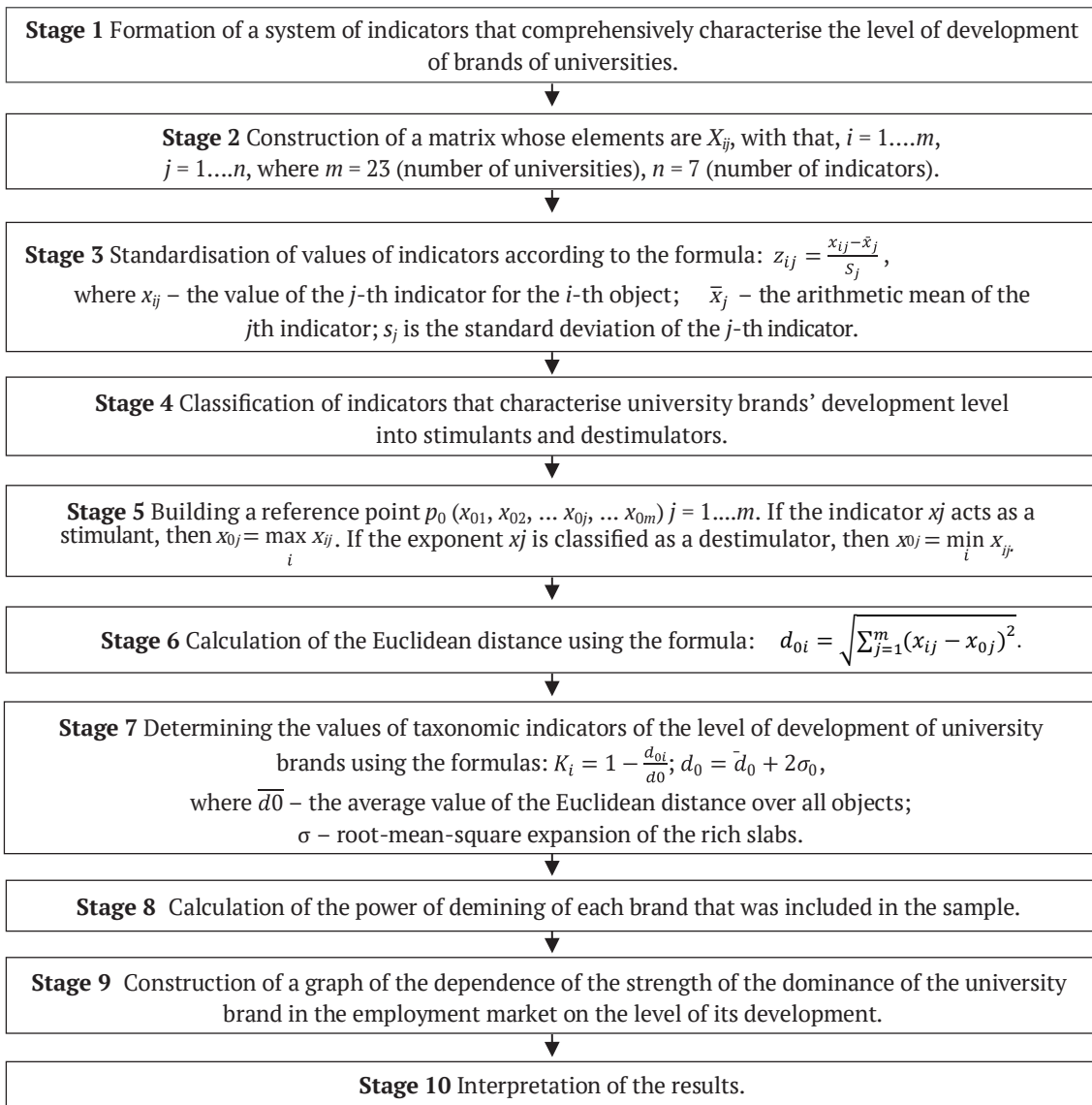


Figure 3. Stages of conducting a comparative analysis of the level of development of brands of higher education institutions in terms of the power of dominance in the employment market

Source: authors' development

Table 3. Calculation results

| Enterprises | Indicator value | Rating position |
|-------------------------------------------------------------|-----------------|-----------------|
| Taras Shevchenko National University of Kyiv | 0.80427 | 1 |
| Igor Sikorsky Kyiv Polytechnic Institute | 0.710958 | 2 |
| V. N. Karazin Kharkiv National University | 0.706958 | 3 |
| West Ukrainian National University (WUNU) | 0.666747 | 4 |
| Kyiv National Economic University, named after Vadym Hetman | 0.662135 | 5 |
| Kyiv National University of Technologies and Design | 0.652134 | 6 |
| Sumy State University (SumDU) | 0.620164 | 7 |
| Sumy National Agrarian University | 0.598721 | 8 |
| Kharkiv Polytechnic Institute | 0.581004 | 9 |
| Simon Kuznets Kharkiv National University of Economics | 0.55937 | 10 |

Source: authors' development

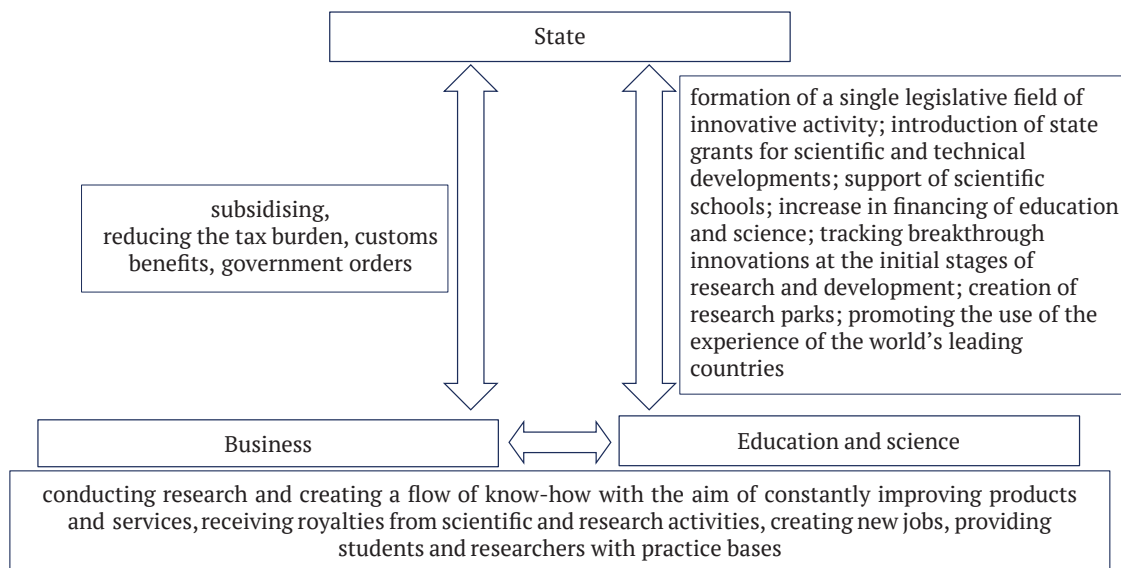


Figure 4. A generalised representation of the mechanism of the entrepreneurial innovation system in higher education institutions

Source: author's development

The entrepreneurial innovation system of a higher education institution acts as one of the tools for forming a continuous chain of production of innovative goods and services. As one of the parties-organisers of interaction and a key participant in the entrepreneurial innovation process, the institution of higher education needs to develop provisions to form its entrepreneurial innovation system. As a result of using the mentioned provisions in the management practice of the institution of higher education, stable institutional forms of elements of the entrepreneurial innovation system should arise, which will significantly increase the effectiveness of its scientific and innovative activities.

CONCLUSIONS

To increase the effectiveness of a higher education institution's entrepreneurial scientific, and innovative activity, it is necessary to change all aspects of its activity, including organisational and management structure, scientific and innovative activity, educational process, marketing, and personnel. Today, higher education institutions can use various funding sources for their scientific research activities: state and non-state, their own and external organisations, domestic and foreign, etc.

External opportunities for attracting additional sources of funding for higher education institutions are: expanding cooperation with industrial enterprises, commercialisation of the results of scientific research, attracting funds from graduates and patrons, and use of scientific funds.

In the presented research, it was established that technical progress directly depends on the educational and professional level of specialists in integrating higher education with science and production. In the world's industrialised countries, new forms of such cooperation are constantly being improved and created, which leads to an increase in the practical significance of university scientific research, and creates conditions for the higher school

to obtain financial independence for conducting scientific research. Forms of direct stimulation of innovative activity during the state's implementation of special financial projects and programs can be significantly expanded. The development of university science and innovative activity is influenced at the state level and by industrial monopolies.

Thus, to create strategic alliances with the most significant foreign market operators both from the side of science and entrepreneurship, it is necessary to integrate Ukrainian market participants into the relevant European structures, which will make it possible to gain access to databases, stock exchanges, venture capital funds and to other informational and financial resources, will provide significant advantages for the registration of license contracts and international patents, to concentrate funds on the production of innovative products of the sixth technological order on the territory of Ukraine. Considering world experience, it is possible to expand the range of state instruments for stimulating innovations and mechanisms for their transfer. It was established that to improve the situation in, for example, the high-tech sphere of Ukraine, it is necessary to use the experience of developed countries to stimulate the development of the high-tech industry, innovative activity, and the implementation of its results in domestic production.

In the future, it is necessary to create an effective system of partnership relations regarding exchanging information and creating a single data bank to accelerate management and marketing decisions. Another form of cooperation between universities and industry is joint projects, in which the university's and industrial firms' scientific units participate. As a rule, such cooperation is based on long-term relations.

Further studies are planned to identify the main problems of the development of an innovative entrepreneurial system in the field of education and to determine which tools of the management and marketing unit can be used to overcome these obstacles; a promising direction is to

determine the main characteristics of the products of such a system, which are formed at each of the research stages, and in the presence of unsatisfactory characteristics, operative intervention in the process of creating and researching an innovative product is possible.

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None.

■ CONFLICT OF INTEREST

The authors declare no conflict of interest.

■ REFERENCES

- [1] Abhilash, R. (2021). *Inculcating innovation and entrepreneurial culture in educational institutions*. Retrieved from <https://www.highereducationdigest.com/inculcating-innovation-and-entrepreneurial-culture-in-educational-institutions>.
- [2] Allinson, R., & Jávorka, Z. (2019). *HEInnovate – A tool for improving the entrepreneurial and innovative potential of higher education institutions*. Retrieved from <https://www.technopolis-group.com/heinnovate-a-tool-for-improving-the-entrepreneurial-and-innovative-potential-of-higher-education-institutions>.
- [3] Ambler, T. (2004). *Marketing and the bottom line: The marketing metrics to pump up cash flow*. Upper Saddle River: Ft Press.
- [4] Bogatyreva, K., Laskovaia, A., & Osiyevskyy, O. (2022). Entrepreneurial activity, intrapreneurship, and conducive institutions: Is there a connection? *Journal of Business Research*, 146, 45-56. doi: 10.1016/j.jbusres.2022.03.062.
- [5] Cao, Y. (2022). A study of the influencing factors of higher vocational college students' entrepreneurial intention. *Procedia Computer Science*, 214, 212-220. doi: 10.1016/j.procs.2022.11.168.
- [6] Chaika, D.Y., Prudka, O.V., & Dvyhun, O.V. (2019). *Development of academic entrepreneurship in institutions of higher education and scientific institutions of Ukraine*. Kyiv: Ministry of Education and Science of Ukraine.
- [7] Costa, N., Neto, J.S., Oliveira, C., & Martins, E. (2022). Student's entrepreneurial intention in higher education at ISLA – Instituto Politécnico de Gestão e Tecnologia. *Procedia Computer Science*, 204, 825-835. doi: 10.1016/j.procs.2022.08.100.
- [8] Cunningham, J.A., & Menter, M. (2021). Transformative change in higher education: Entrepreneurial universities and high-technology entrepreneurship. *Industry and Innovation*, 28, 343-364. doi: 10.1080/13662716.2020.1763263.
- [9] Danchenko, O.B., Bedrii, D.I., & Semko, I.B. (2018). A conceptual model of the formation of a highly effective scientific project team. *Bulletin of the National Technical University "KhPI". Series: Strategic Management, Portfolio, Program and Project Management*, 1(1277), 51-56. doi: 10.20998/2413-3000.2018.1277.8.
- [10] Gupta, S. (2021). *Integrating entrepreneurship & innovation in higher education*. Retrieved from <https://www.outlookmoney.com/career/integrating-entrepreneurship-innovation-in-higher-education-8233>.
- [11] Heyets, V.M. (2006). *Innovative prospects of Ukraine*. Kharkiv: Constanta.
- [12] Hryshchenko, I.M. (Ed.). (2015). *Theoretical and methodological substantiation of effective financial and economic models of higher education development*. Kyiv: National Academy of Pedagogical Sciences of Ukraine.
- [13] Ilyashenko, S.M. (2010). *Marketing. Management. Innovations*. Sumy: LLC "TD 'Papirus'".
- [14] Kopchenko, I.M. (2004). State assistance in the development of infrastructure supporting small business in Ukraine. *Actual Problems of the Economy*, 4, 34-37.
- [15] Kotler, P., Kartajaya, H., & Setiawan, I. (2016). *Marketing 4.0: Moving from traditional to digital*. Somerset: Wiley.
- [16] Krasovskiy, I.N., Pilyavski, V.P., Shendrikova, S.P., & Nazrieva, M.V. (2020). Mechanism of the innovation development in the university. *Advances in Economics, Business and Management Research*, 128, 2132-2140. doi: 10.2991/aebmr.k.200312.296.
- [17] Krysovaty, A. (2015). *The main paradigms of education and their essential characteristics*. *Psychology and Society*, 1, 114-121.
- [18] Law of Ukraine 848-VIII "On Scientific and Scientific-Technical Activities". (2015, November). Retrieved from <https://zakon.rada.gov.ua/laws/show/848-19#Text>.
- [19] Law of Ukraine No. 143-V "On State Regulation of Activities in the Field of Technology Transfer". (2006, September). Retrieved from <https://zakon.rada.gov.ua/laws/show/143-16#Text>.
- [20] Law of Ukraine No. 1556-VII "On Higher Education". (2014, July). Retrieved from <https://zakon.rada.gov.ua/laws/show/1556-18#Text>.
- [21] Law of Ukraine No. 3715-VI "On Priority Areas of Innovative Activity in Ukraine". (2011, September). Retrieved from <https://zakon.rada.gov.ua/laws/show/3715-17#Text>.
- [22] Lehmann, E.E., Meoli, M., Paleari, S., & Stockinger, S.A.E. (2020). The role of higher education for the development of entrepreneurial ecosystems. *European Journal of Higher Education*, 10(1), 1-9. doi: 10.1080/21568235.2020.1718924.
- [23] Muhammedov, M., Nizamov, A., Mustafoev, G., Babakulov, B., & Yuldashev, Sh. (2023). The role of agriculture in shaping the prospects of socio-economic development of Uzbekistan. *Scientific Horizons*, 26(11), 155-165. doi: 10.48077/scihor11.2023.155.
- [24] Miller, A., Atakhanov, A., Guliyev, M., Azizov, T., & Huseynova, Kh. (2023). The economic effect of the measures provided for by the Kyoto Protocol by region (as of the 2020s). *Scientific Horizons*, 26(4), 136-145. doi: 10.48077/scihor4.2023.136.
- [25] Official website of Erasmus+. (n.d.). Retrieved from <https://erasmusplus.org.ua/>.
- [26] Official website of the Ministry of Education and Science of Ukraine. "Entrepreneurial University" – A new year of development of innovations and startup projects in higher education institutions. (2021). <https://mon.gov.ua/ua/news/pidpriyemnickij-universitet-novij-rik-rozvitku-innovacij-ta-startap-proyektiv-u-zakladah-vishoyi-osviti>.
- [27] Roshylo, V. (2023). Specific features of the financial system of Ukraine in the conditions of war. *Scientific Bulletin of Mukachevo State University. Series "Economics"*, 10(2), 31-41. doi: 10.52566/msu-econ2.2023.31.

- [28] Shtal, T.V., Lytovchenko, I., & Poliakova, H.A. (2018). Development of professional competency of managerial staff on the basis of acmeological approach. *Journal of Advanced Research in Law and Economics*, 9(4), 1481-1488. doi: [10.14505/jarle.v9.4\(34\).35](https://doi.org/10.14505/jarle.v9.4(34).35).
- [29] Stender, S. (2023). Improvement of accounting and tax accounting of receivables. *Scientific Bulletin of Mukachevo State University. Series "Economics"*, 10(2), 42-53. doi: [10.52566/msu-econ2.2023.42](https://doi.org/10.52566/msu-econ2.2023.42).
- [30] Uddin, M., Chowdhury, R.A., Hoque, N., Ahmad, A., Mamun, A., & Uddin, M.N. (2022). Developing entrepreneurial intentions among business graduates of higher educational institutions through entrepreneurship education and entrepreneurial passion: A moderated mediation model. *The International Journal of Management Education*, 20(2), article number 100647. doi: [10.1016/j.ijme.2022.100647](https://doi.org/10.1016/j.ijme.2022.100647).
- [31] Wei, Y. (2022). Regional governments and opportunity entrepreneurship in underdeveloped institutional environments: An entrepreneurial ecosystem perspective. *Research Policy*, 51(1), article number 104380. doi: [10.1016/j.respol.2021.104380](https://doi.org/10.1016/j.respol.2021.104380).
- [32] Zaklekta, O.I., & Shimanska, O.P. (2013). [Peculiarities of the methodological tools of modern institutional theory and its prospects](#). *Innovative Economy*, 3, 51-55.

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Механізм підприємницької інноваційної системи у закладах вищої освіти

■ **Анотація.** Актуальність дослідження зумовлена тим, що розвиток сучасного суспільства вимагає прискорення всіх господарських процесів. Тому для формування наукового та освітнього простору необхідно приділяти більшу увагу залученню підприємницьких структур та органів державної влади до цього процесу. Мета дослідження – узагальнити теоретичні основи розробки механізму підприємницької інноваційної системи для закладів вищої освіти. У статті було використано загальнонаукові та специфічні методи дослідження, зокрема: порівняльний – для вивчення теоретичних засад розвитку галузі освіти та науки та формування категоріального апарату дослідження; аналіз і синтез – у процесі виявлення тенденцій розвитку у сфері освіти та науки. Були проаналізовані дослідження у сфері вищої освіти та сформульовані основні тенденції розвитку освітньої та наукової сфер, що дає змогу спрогнозувати основний вектор розвитку освітньої галузі. У представленому дослідженні було розглянуто основні особливості освітньої сфери з точки зору поєднання трьох основних складових: освіти, бізнесу та держави. При такому поєднанні визначено основні особливості розвитку науково-освітницької діяльності, як однієї з основних складових розвитку підприємництва. Проведені дослідження довели, що, перш за все, для формування інфраструктури науково-інноваційної діяльності необхідно активізувати зусилля на вдосконаленні та розробці нормативно-правової основи по широкому спектру питань науково-інноваційної діяльності. Представлено основні елементи та інструментарій підприємницької інноваційної системи, що дозволяють комерціалізувати наукові проекти та дослідження. Практичне значення полягає в тому, що запропонована модель взаємодії бізнесу, держави та університетів є дієвим механізмом вирішення питання щодо формування системи підприємницької інноваційної ініціативи

■ **Ключові слова:** підприємництво; проектна діяльність; інноваційні проекти; освітня діяльність; комерціалізація проектів