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**USING THE HACKATHON ECOSYSTEM AS AN EFFECTIVE TOOL FOR MANAGING THE COMPETITIVENESS OF AN INSTITUTION OF HIGHER EDUCATION**

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**BACKGROUND AND OBJECTIVES.**

Management of competitiveness of higher educational institution as a science is a system of ordered knowledge in the form of concepts, theories, principles, ways and forms of management. We present scientific-methodological bases of competitiveness management in university as a system of ordered knowledge, concepts, theories including basic statements of modern competition theories, self-organization theory, system and integrative approaches of new management paradigms, which universality will contribute to the best interpretation of the process of development of appropriate principles and ways of competitiveness management in higher educational institution. These principles can be implemented with the help of the Hackathon Ecosystem, the main task of which will be to manage the competitiveness of the institution of higher education.

**METHODS.** In the study to determine the level of competitiveness of the institution of higher education achieved with the help of the Hackathon ecosystem, the integr al indicator of competitiveness of the university as a set of quality potentials of education, competitiveness of educational

services provided, efficiency of marketing activities, efficiency of investment management activities were used.

**FINDINGS.** Management of university competitiveness as a process is a set of managerial actions, providing the achievement of objectives by transformation of resources at "input" into products at "output". We consider the university competitiveness management as a set of tools and methods for maintaining and increasing competitiveness. The main tool in this case is the quality of educational services. The factors of modern paradigm of university service quality management are revealed and the specific directions of quality assurance of university educational services are offered.

**CONCLUSION.** The creation of an educational cluster as a group of geographically adjacent interrelated educational institutions of a certain profile (general, primary vocational, secondary vocational and higher vocational education) and related employers headed by branch ministries, state and municipal governments with a coordinating center, will increase the competitiveness of the basic university.

**KEYWORDS:** inclusive education; higher professional education; people with disabilities.

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## ВИКОРИСТАННЯ ХАКАТОН-ЕКОСИСТЕМИ ЯК ЕФЕКТИВНОГО ІНСТРУМЕНТАРІЮ УПРАВЛЕННЯ КОНКУРЕНТОСПРОМОЖ- НІСТЮ ЗАКЛАДУ ВИЩОЇ ОСВІТИ

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### ПОСТАНОВКА ПРОБЛЕМИ ТА ЗАВДАННЯ.

Управління конкурентоспроможністю закладу вищої освіти як наука – система упорядкованих знань у вигляді концепцій, теорій, принципів, способів і форм управління. Науково-методологічні основи управління конкурентоспроможністю в закладі вищої освіти представлені у вигляді системи упорядкованих знань, концепцій, теорій, включаючи основні положення сучасних теорій конкуренції, теорії самоорганізації, системного та інтегративного підходів нових парадигм управління, універсальність яких буде сприяти найкращій інтерпретації процесу вироблення відповідних принципів і способів управління конкурентоспроможністю закладів вищої освіти. Ці принципи можуть бути реалізовані за допомогою Хакатон-екосистеми, основним завданням якого буде управління конкурентоспроможністю закладу вищої освіти.

**МЕТОДИ.** У дослідженні для визначення досягнутого за допомогою Хакатон-екосистеми рівня конкурентоспроможності закладу вищої освіти були використані інтегральний показник конкурентоспроможності закладу вищої освіти як сукупності потенціалів якості освіти, конкурентоспроможності освітніх послуг, ефективності маркетингової діяльності,

ефективності управління інвестиційною діяльністю.

**РЕЗУЛЬТАТИ.** Управління конкурентоспроможністю закладу вищої освіти як процес – сукупність управлінських дій, що забезпечують досягнення цілей перетворенням ресурсів на «вході» в продукцію на «виході». Управління конкурентоспроможністю закладу вищої освіти розглядається як сукупність інструментів і методів підтримки і зростання конкурентостійкості. Головним інструментом при цьому виступає якість освітніх послуг. Виявлено чинники сучасної парадигми управління якістю послуг вузу і запропоновані конкретні напрями забезпечення якості освітніх послуг закладу вищої освіти.

**ВИСНОВКИ.** Створення освітнього кластера як групи географічно сусідніх взаємопов'язаних навчальних закладів певного профілю (загальної, початкової професійної, середньої професійної та вищої професійної освіти) та пов'язаних з ними роботодавців на чолі з галузевими міністерствами, органами державного і муніципального управління, що має координуючий центр, підвищить конкурентоспроможність базового закладу вищої освіти.

**Ключові слова:** Хакатон-екосистема; конкурентоспроможність; установа вищої освіти.

## **INTRODUCTION.**

Changes in the organizational and economic conditions of Ukrainian universities, increasing demands of society for the quality of education, entering the Bologna process and the associated updating of technologies and training standards have largely contributed to the aggravation of competition in the market of educational services (Golovchanskaya, 2011). The competitiveness of vocational education is crucial for the successful development of Ukraine (Gorin, 2014). Introduction of technologies based on high level of intellectual resources and globalization trends become the most important factors determining not only the economy but also the politics of the XXI century (Zharska et al., 2014). In this regard, increasing the level of intellectual potential of citizens becomes a key condition for successful socio-economic development of the country, and two factors become crucial: the transformation of higher education into the most important component of the socio-economic and moral and spiritual basis of social progress (Karpyuk, 2014); wide use of information technology in improving the educational process (Kobzeva, 2021). New needs of social development dictate the most radical revision of the strategy, forms, methods of education, and, consequently, management of higher education in general and universities in particular (Obolenska, 2002). In a concentrated, programmatic form the new tasks are formulated in the "World Declaration on Higher Education for the XXI Century: UNESCO Approaches and Practical Measures", adopted in 1998 in Paris at the World Conference on Higher Education (Dmitrenko, 2012). Domestic higher education institutions, preserving and strengthening the basic values of Ukrainian higher education, training highly qualified personnel, should become available for lifelong learning for citizens who want to acquire new knowledge and competencies, provide students with the optimal range of educational choices, give flexibility to higher education through the use of courses and curricula constantly adapted to the current and future needs of society (Pashchenko, 2018). The management of vocational education needs its further development in connection with the transition to a knowledge economy, where professions with a predominance of intellectual labor account for the main increase in employment. It is necessary to take into account a number of general economic trends and peculiarities of their manifestation in the sphere of educational services: the trend of globalization - integration of national economy into the world economic system; the trend of regionalization due to the effect of factors of economic separatism of individual regions with their significant consolidation; the trend of corporatization, which involves the use of advantages of coordinated management of integrated forms of economic activity. The main directions of integration development are seen on the lines of vertical and horizontal interactions, with the creation of integrated structures of mixed type. Under these conditions the status of higher

education institution should inevitably change, since the university becomes a subject of market relations and acts as a producer of educational services. The new status of higher education institution results in a change in its management methods as a business enterprise with the abandonment of existing models of non-economic behavior in favor of mastering modern management concepts. Prospects and tendencies of development of higher education require development of new, system concept of management of competitiveness of higher education institution in dynamic competitive environment, aimed at ensuring its competitive sustainability (Grishchenko et al., 2015). The statement of the research is based on the fact that the theoretical apparatus formed by now and the available practical experience of work in market conditions do not provide the management of higher education institutions with the necessary scientific and methodological basis. Insufficiently developed theoretical and methodological aspects of higher education institutions' development from the position of increasing their competitiveness bring to the fore the need for scientific-methodological and methodological developments allowing to strengthen the contribution of higher education institutions to socio-economic development of regions and to increase their competitiveness, which determines the relevance of the present study. The aim of the article is to develop theoretical and methodological and conceptual provisions for the formation of competitiveness management system of higher education institution, to develop practical and organizational and economic recommendations for the use of Hackathon ecosystem as an effective tool of competitiveness management of higher education institution. The research was conducted on the basis of Kyiv National University of Technologies and Design (KNUTD) in 2021.

#### **MATERIALS AND METHODS.**

Competitiveness of higher educational institution is determined by quality of education, competitiveness of rendered educational services, efficiency of marketing activity, efficiency of management of investment activity and aggregate potential. Therefore, overall efficiency of management of competitiveness of higher educational institution is an integral assessment of efficiency of management of the above-mentioned potentials.

The economic efficiency of competitiveness management of a higher educational institution can be represented by equation (1):

$$E_k = (E_o + E_{mark} + E_{pot} + E_{inv} + E_{kach.obr}) \times 100\%, \quad (1)$$

where  $E_k$  is efficiency of management of competitiveness of higher educational institution;

$E_o$  – efficiency of management of competitiveness of educational service;

$E_{marck}$  – efficiency of management of marketing activity of higher educational institution;

$E_{pot}$  – efficiency of management of aggregate potential of higher educational institution;

$E_{inv}$  – efficiency of management of investment activity of higher educational institution;

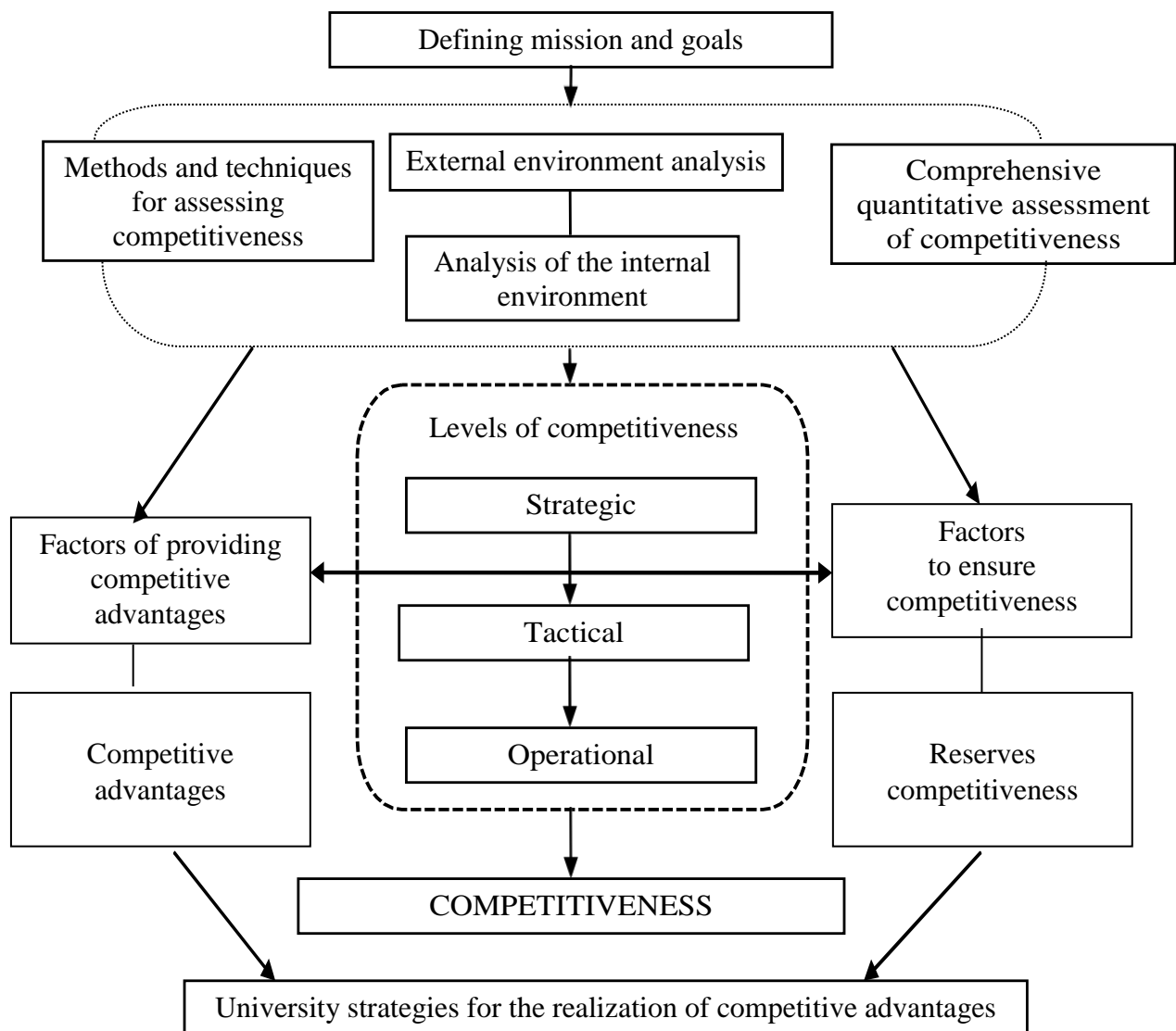
$E_{kach.op}$  – efficiency of management of quality of education in higher educational institution.

## RESULTS AND DISCUSSION.

The main form of strategic partnership, which ensures the increase of university competitiveness, is an educational cluster. Educational cluster is a coordinating center of a group of geographically adjacent interconnected educational institutions (general, primary professional, secondary professional and higher professional education) and related employers headed by branch ministries, state and municipal authorities.

The author's concept of university competitiveness management focuses attention on understanding the goal, which should be placed above the space of university activity and interpret it as a supra-objective in this form: always sustainably maintain competitiveness, be competitive, flexibly using the emerging conditions and adapting to them, using competitive advantages. Only such interpretation of the goal – as a supra-objective – will allow to widely cover the unpredictable course of events in the space of university activity and to use unexpected changes of the situation for successful functioning and dynamic development. Thus, if the concept of university competitiveness management is translated into the language of management, the classical strategy emphasizes problem solving, the author's view sees the strategy as the use of opportunities. Management of competitiveness of higher education institution is an integral part of the mechanism of management of economy of higher education institution, which means a set of interconnected elements (links), making a single whole, realizing the process of management of economy of higher professional education institution for achievement of set goals of management. The main elements of university economic management mechanism are goals, management principles, management concepts, mission and philosophy of the institution, regularities and methods of management, personnel, structure and management regulations, management technique and technology, management decision. All these elements in aggregate form the mechanism of management of economy of higher education institution. In building a system of university competitiveness management it is legitimate to use principles of integrative management, the essence of which we define as management of university activities at the market of educational services in a

competitive environment, based on the provisions and principles of modern management and focused on the integration of the university in territorial, industry and interdisciplinary market networks. The key task of university competitiveness management process is justification and realization of effective competitive strategy in the market of educational services, which takes into account own competitive advantages and main participants of competitive struggle, market needs in innovative projects and their realization, interests of university service consumers (population, industrial sphere, state, society). The model of Hackathon ecosystem as an effective tool for competitiveness management of higher education institution was proposed within the framework of the research (Fig. 1).



Source: proposed by the author

**Fig. 1. Model of competitiveness formation with the help of the Hackathon ecosystem**

In this model external factors influence competitiveness of HEI both on "input" and on "output" of the system. At the "input" external factors of competitiveness of HEI are incoming resources for realization of educational services and research work which include qualitative indicators of entrants, presence of cooperative relations with production sphere, worthy working and rest conditions of employees and students, material stimulation of the faculty and conditions of career development. The factors of university competitiveness at the "output" of the system include national and international recognition of the university, receipt of prizes and awards of state and world level, external demand for scientific and educational publications of teachers, availability of orders for patent-license developments, satisfaction of service consumers.

The developed model of competitiveness formation with the help of Hackathon ecosystem of university on the market of educational services allows clearly defining that the basic element of the strategy directed on maintenance of competitiveness of university are competitive advantages of university, and competitiveness is a result of realization of competitive advantages. At the same time competitive advantages and competitiveness, as well as possibility of their formation and realization are exposed to the action of different factors, the degree of influence of which determines the probability of achieving the set goals. In general, the formation of areas of competitiveness is determined by the position of the university at the market of educational services, mission, needs of target markets and capabilities of the university. Components of competitiveness management efficiency of higher educational institution at the moment of analysis are estimated as the ratio of change in the integral index for each particular module of competitiveness (management of competitiveness of educational service, management of marketing activity of higher educational institution, management of total potential of higher educational institution, management of investment activity of higher educational institution, management of quality of education in higher educational institution) in each subsequent period compared with the previous one to the value of the integral index in the pre.

### **CONCLUSION.**

Management of university competitiveness as a function is a purposeful information impact on people and economic objects in order to direct their actions and obtain the desired results. The sphere of higher professional education is characterized by constant interaction and mutual influence of producers and consumers of services. The formation of complex loyalty in the sphere of higher professional education allows increasing competitiveness of an institution of higher education. Management of university competitiveness as an apparatus is a set of structures and people, providing use and coordination of all resources of social systems for achievement of their goals. Strategic partnership

of basic state higher education institutions of industrialized region with other higher education institutions, academic science, industry, business and power structures positively influences the state of labor market and socio-economic development of the region. The creation of an educational cluster as a group of geographically adjacent interrelated educational institutions of a certain profile (general, primary vocational, secondary vocational and higher vocational education) and related employers headed by branch ministries, state and municipal authorities with a coordinating center will increase the competitiveness of the basic university. In the conditions of higher education market development, competitiveness as a target-oriented parameter of higher education institution functioning is replaced by competitiveness. Competitiveness of HEI is the ability of HEI to form and use in the long-term perspective the cumulative potential, providing HEI stable market position, realization of its priority goals, partner cooperation and economic advantages in comparison with other HEIs at its chosen market.

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#### **ABBREVIATIONS:**

<i>Eq.</i>	Equation
<i>fig.</i>	Figure
<i>HEI</i>	Higher education institution
<i>HETT</i>	Hackathon Ecosystem of Technology Transfer
<i>KNUTD</i>	Kyiv National University of Technologies and Design

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