

DIGITAL TECHNOLOGIES AND RANKINGS AS TOOLS OF THE COMPETITIVENESS IN THE EDUCATIONAL SERVICES MARKET

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Summary

Globalization of higher education deepens the competition in the global educational services market. Competition between higher education institutions is based on the use of a wide range of activities and tools that are constantly evolving and becoming more complex. Digitalization significantly transforms the approaches to competition between universities in educational, research and marketing activities. Digital technologies are becoming an integral part of this competition. In addition, in the current conditions of globalization of the scientific and educational space, numerous rankings of universities have become an important tool of the competition; the most significant rankings of universities are as follows: Academic Ranking of World Universities (China), Times Higher Education Rankings of Universities (Great Britain), Webometrics (Spain). In the article, the key principles of the formation of world rankings of universities are analyzed, the main sources of information resources for their compilation are determined. The authors have concluded that the improvement of the position of educational institutions in the world rankings of universities should be implemented within the framework of the state educational policy. The key positive effects of universities due to increasing the competitiveness level of the national higher education system are specified.

Key words:

national higher education system; university; competitiveness; educational services market; ranking of world universities; globalization; digitalization; digital technologies; competitive advantages.

1. Introduction

One of the key current trends in the higher education development is the intensification of the competition, which contributes to the acceleration of internationalization and globalization in the global educational services market. The competition between higher education institutions is based on the use of a wide

range of activities and tools that are constantly evolving and becoming more complex (Fig. 1):

- administration of the cost of education at universities – according to the classical law of demand, the magnitude of demand for educational services is directly dependent on price. There is a real opportunity to form a competitive advantage of the national higher educational system in terms of the cost of educational services. In this context, it should be noted that the development of online-education and implementation of digital technologies in the educational process could reduce the universities' cost;

- intensification the career guidance activity of universities – in the conditions of the competition intensification in the educational services market, and active dissemination of cross-border and distance education, the issues of retention and replenishment of the student contingent become especially relevant. In addition to traditional forms, the career guidance activity of universities are carried out by holding out youth festivals, competitions, contests, sports competitions, various cultural and educational events at the higher education institution, etc. – all these new forms and events attract attention to and involve potential students. The use of innovative digital technologies will add elements of gamification to career guidance activities of universities;

- promoting the employment of students and graduates – in the context of the problem of the youth unemployment inherent in most countries of the world, promoting the employment of graduates is one of the main tasks of the educational institution; accordingly, the university's guarantee of the employment promotion after graduation will become its undisputed competitive advantage. Useful tool of this purpose is the digital platforms, which contain various labor propositions and vacancies;

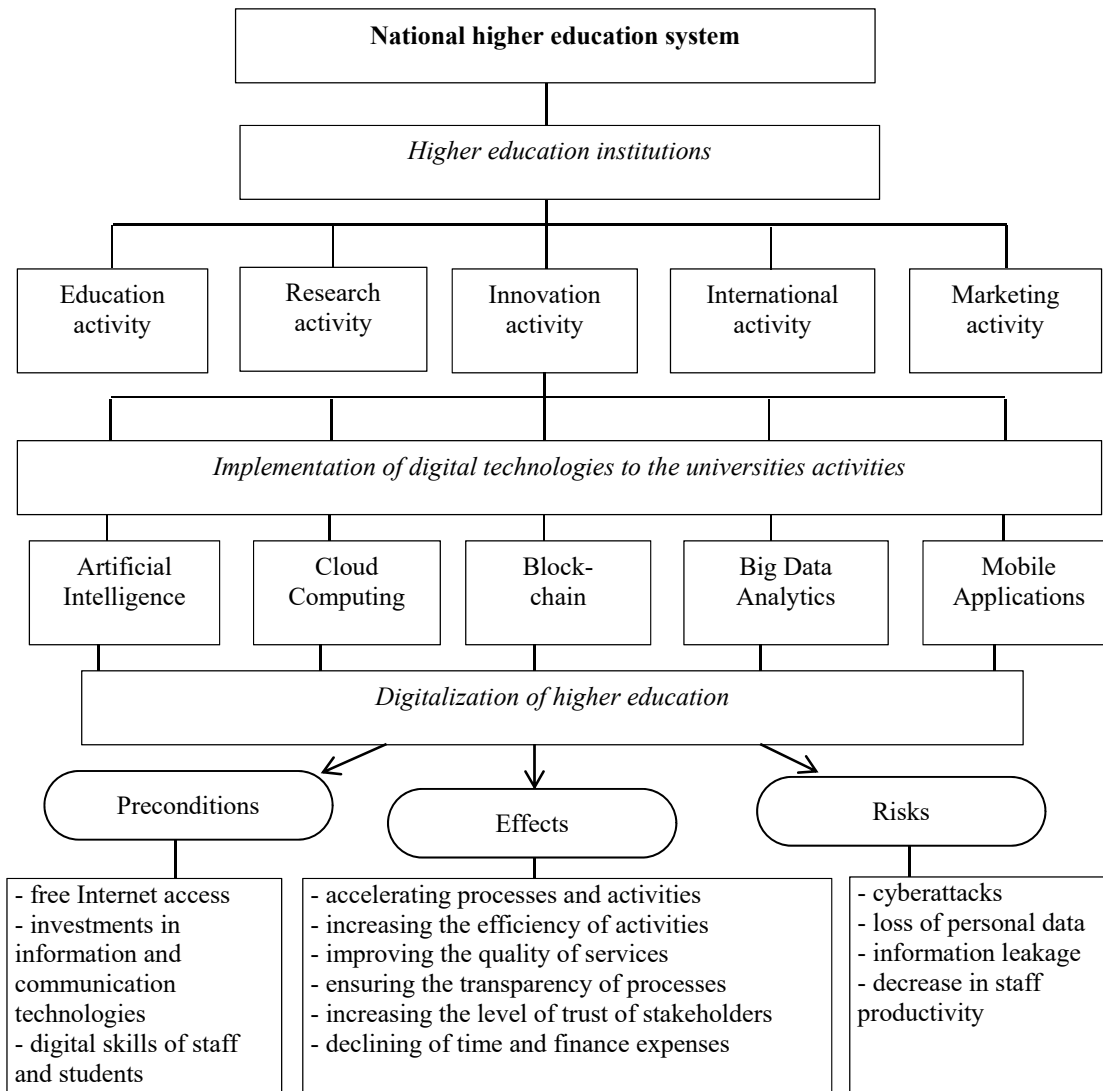


Fig. 1. Preconditions and effects of the implementation of digital technologies in the activities of higher educational institutions

Source: compiled by the authors

- providing students with proper living conditions
- the inability of the university to provide non-resident students with places in the dormitory is a factor in the applicant’s refusal to study at a particular institution;
- development of favorable conditions for the study of foreign students – it means the introduction of courses teaching in foreign languages, implementation of special programs for socialization of foreign students in the country of studying; introduction of flexible systems and forms of education; support in filling of documents

necessary for entry and stay in the country of studying; creation of proper living conditions and organization of cultural and educational events among foreign students. Today, some of the described services are digitalized and open to all stakeholders;

- providing students with financial support
- expanding the practice of conferment of social scholarships, and providing rector’s scholarships to the best students, winners of contests, active participants of educational, scientific, sports and other events; assistance in obtaining educational loans. Globalization and digitalization open up wider opportunities for students to

seek grants funding from both national and international organizations and foundations;

- establishment of universities branches in the country or region of residence of a significant number of students – it could attract additional students due to their tendency to choose municipal (local) universities. At the same time, it is important to maintain common values and promote the development of the university brand, which can be implemented through the use of modern digital technologies (ensuring constant communication of regional branches with central universities' administration unit; organization of online-meetings with rector from the central university; conducting online lectures by professors of the central university for students of branches, etc.);

- popularization of higher education institutions in the media – almost all students now own smartphones and spend a large period of time during the day on social networks. Accordingly, when positioning the university on social media, it is necessary to focus on the use of modern gadgets and technical capacities;

- intensification of marketing activities of universities - is implemented at the stages of market research, search for competitive advantages, market introduction, positioning and promotion of new educational products in the market. Modern information technologies (Big Data, Artificial Intelligence, Cloud Computing, etc.) simplify and accelerate processes of market research of the educational services market;

- development of international activities of university in order to simplify the procedure of the nostrification of diplomas, which is relevant in the context of increasing openness not only of the global educational services market, but also the global labor market. Digitalization allows making the process of the diploma recognition simpler and more transparent (this can be done through the introduction of the blockchain technology);

- ensuring students' mobility – the availability of academic mobility is often among the key determining factors in choosing the higher education institution. The task of the international department of the university is to create all opportunities to inform students about the possibilities for internships and study abroad. Modern digital technologies can simplify the process of informing and students' registration to participate in programs of academic mobility;

- increasing the efficiency of research and innovation activities of students – the development of skills for research and innovation activities during the period of study at the university directly affects the competitiveness of the graduate in the labor market. Today, digital technologies open up additional opportunities for joint research by students from different universities in different countries in real time (for example, based on technologies of Cloud computing);

- organization of meaningful leisure of students – creation of the conditions for self-realization, development of cultural and sports qualities, teaching of respectful attitude to alma mater. Given the current realities and trends, the most interesting ways for young people to spend their leisure time are virtual reality, digital platforms, etc. – therefore it is recommended to use gamification at the organization of students' leisure time;

- improving the quality of study courses by constantly updating their content, introduction of information and communication technologies, inviting keynote speakers, attracting successful businessmen and specialists of relevant professions, expanding the introduction of distance education using modern digital technologies;

- improving the position in the rankings of universities – high rank of higher education in national or world rankings contribute to a significant increase in its competitiveness in the domestic and international educational services markets. Nowadays are becoming more popular the global rankings, which take into account parameters of university's activeness in social networks, in the Internet, the pace of updating the content of its official website, the dynamics of the number of website visitors, etc.

2. Literature Review

Issues of the competitiveness of higher education institutions and ranking of universities are studied by a number of scientists, including Abbey C. (2007), Aguillo I.F. et al. (2008), Federkeil G. (2008), Sadlak J. et al. (2008), Kholiavko N. et al. (2021) and others. In the article of Abbey C. (2007) are analyzed in detail the main indicators that characterize the performance of higher education institutions and that can be used as the basis for the transparent rankings of universities. A number of research papers are devoted to the analysis of the methodology and trends of the some world ranking – for example, in the article by Aguillo et al. (2008) are presented the results of analysis of the Webometric Ranking of World Universities.

The universities aimed at achieving the high positions in world rankings constantly improve the quality of their educational services, effectiveness of research, intensification of international cooperation, expanding the scope of cooperation with business. The interrelation between rankings and quality assurance in higher education is discussed in the article by Federkeil G. (2008). A similar research and analysis was conducted by Sadlak J. et al. (2008).

In addition to the above, our study is also based on the results of research by a group of scientists, including Zhavoronok A., Shaposhnykov K., Shaposhnykova I.,

Krylov D., Bazhenkov I. (2020-2021). In the scientific publications, these scientists suggest ways to adapt the higher education system to the challenges of digital economy (Zavoronok et al., 2020), and they place special emphasis on the importance of modern digital technologies in accelerating the processes of such adaptation (Kholiavko et al., 2021). The conclusions and proposals formulated in the course of our research are consistent with fundamental principles of the integrated model of the competitive higher education presented in the article by Kholiavko et al. (2020).

Despite a significant number of theoretical and applied developments of scientists, in modern science, issues of the competitiveness of the education system and the role of digital technologies and global rankings in the formation of competitive advantages of universities remain insufficiently studied. This determines the choice of the topic and the purpose of the article. The main tasks of the article are: analysis of methodological approaches to ensuring the competitiveness of the national higher education system; studying the basic principles of transparent rankings of world universities; outlining the prospects for the integration of measures of development of universities' competitive advantages into the state educational policy; identification of positive synergetic effects from the implementation of this policy.

3. Methods

In the course of research, a set of general scientific and specific methods of cognition was used. The abstract-logical method was used to generalize theoretical approaches to managing the competitiveness of higher education. The method of systems analysis was applied to study the internal content of competitive advantages of universities. Methods of analysis and synthesis were used to study the methodology of world universities rankings. Based on the method of logical generalization the authors formulated their vision of promising directions of the improvement of the state educational policy, namely in part of strengthening competitive advantages of domestic universities. During the study, we submitted the following *hypotheses*:

H1: state educational policy needs to be modernized according to modern processes of digitalization and globalization of the scientific and educational area;

H2: digital technologies are one of the most powerful tools to increase the competitiveness of higher education institutions;

H3: there is a direct correlation between the parameters of the university's representation in world rankings and the level of its competitiveness in the educational services market.

4. Results and Discussion

The world rankings of universities play the important role both in the competition in the international educational services market, and in the creation of competitive advantages of higher education institutions. The main sources of information for world rankings of universities are mainly the following ones:

- data of official statistics in the field of education and science – fundamentally important are the aspects of completeness, reliability, regularity of information updates, as well as ensuring free access to relevant information sources;

- reporting data of higher education institutions – in modern trends of transparency of universities the access to this information is usually open and presented on their official websites;

- results of the students' survey – this information is generalized within the endogenous assessment of the main activities of the higher education institution by the main consumers of educational services. The digital technologies allow increasing the efficiency of such assessment, accelerating processes of analytical processing of the obtained results;

- results of the graduates' survey – this information is generalized in order to compare students' expectations for studying at the university with the actual results (employment, wages, etc.). Since connection or communication with university's graduates can be problematic, digital technologies are especially useful in this context, because they allow establishing effective feedback with graduates in different countries, regions and at different times;

- results of the employers' survey – this information is generalized in order to assess the compliance of the level of training in higher education institutions to the real demands of the labor market. The use of digital technologies in this survey will make it as convenient and fast for participating entrepreneurs;

- expert assessments – an essential element of systematization, analysis and coordination of information from disparate sources. The use of modern digital technologies creates the real opportunities to attract foreign experts with minimal time and financial expenses.

The practice of ranking universities has become quite widespread both at the national and international levels (Fig. 2). Ranking of educational institutions is carried out according to various criteria that characterize the main directions of their functioning, i.e.: by the number of students; the quality of staff; the level of logistics and provision of the educational process; the intensity in using of modern information and communication technologies and digital platforms; the effectiveness of research, and international activity; the results of students' competitions and contests; the development level of digital

infrastructure; the parameters of academic mobility; indicators of graduates employment, etc.

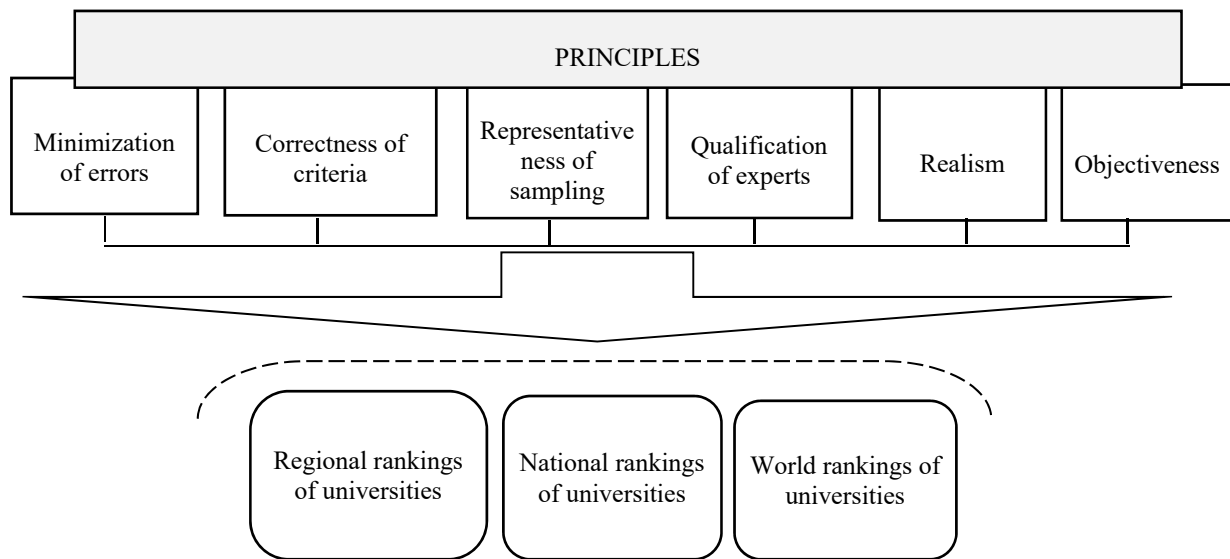


Fig. 2. Principles of the universities' rankings at meso (regional), macro (national) and mega (global) levels

Source: compiled by the authors

The main requirement for universities' rankings is their objectiveness. To ensure the objectiveness the expert groups evaluate the performance of universities based on the official statistics and reports. However, in some cases it is almost impossible to completely solve the problem of subjectivism. It is justified by the specificity of certain activities of educational institutions, the assessment of which requires interviews with students, graduates and employers. Only with the full coverage of key activities of universities by experts it is possible to ensure the realistic ranking.

A special place among the principles of universities' ranking at different levels is occupied by the principle the experts' qualification, and, mainly, highly qualified specialists who organize the survey of respondents, accumulation, analytical processing, and publication of ranking results. In modern conditions, this list of requirements for the analytical team to process the results of expert evaluation should include the request for a high level of their mastery of modern digital technologies.

The principle described above is closely correlated with the principle of representativeness of the survey sampling. It is the level of qualification of experts and organizers that underlines the high-quality approach to the selection of the relevant groups of surveyed entities. In turn, the representativeness of samples (surveyed objects and evaluated parameters) determines the reliability of the obtained data, and, as a consequence, of

the obtained results of rankings.

Ensuring fair competition in the global educational services market requires an objective approach, optimal indicators, and rational combination of criteria for evaluating different activities of higher education institutions. The inclusion of a large number of parameters and indicators in the rankings of universities has certain advantages and disadvantages. On the one hand, increasing the number of input parameters provides complete coverage of the results achieved in various areas of activities of higher education institutions. At the same time, no aggregate indicator is able to comprehensively describe, characterize and evaluate the effectiveness of a modern dynamic higher education institution. Moreover, specific features of different higher education systems and universities require the use of in-depth (rather than universal) approaches to their rankings. Thus, the diversification of the parameters and indicators of methodology of the world universities ranking is quite justified both from theoretical and practical point of view.

On the other hand, it is inappropriate to over-expand the system of indicators used to identify the competitive position of the university. The increase in the number of input parameters is inextricably linked with the emergence of difficulties in accumulating and systematizing necessary information, and in the process of its analytical processing. In other words, the ranking process becomes more cumbersome, burdensome,

complex, and time consuming. Thus, the development of the methodology of universities rankings should be based on the fundamental principles of balance, rationality, optimality, adequacy, scientific and practical validity.

In our opinion, the improvement of the position of educational institutions in the global rankings should be carried out within the framework of the state policy of the development of competitive advantages of the national higher educational system (Fig. 3).

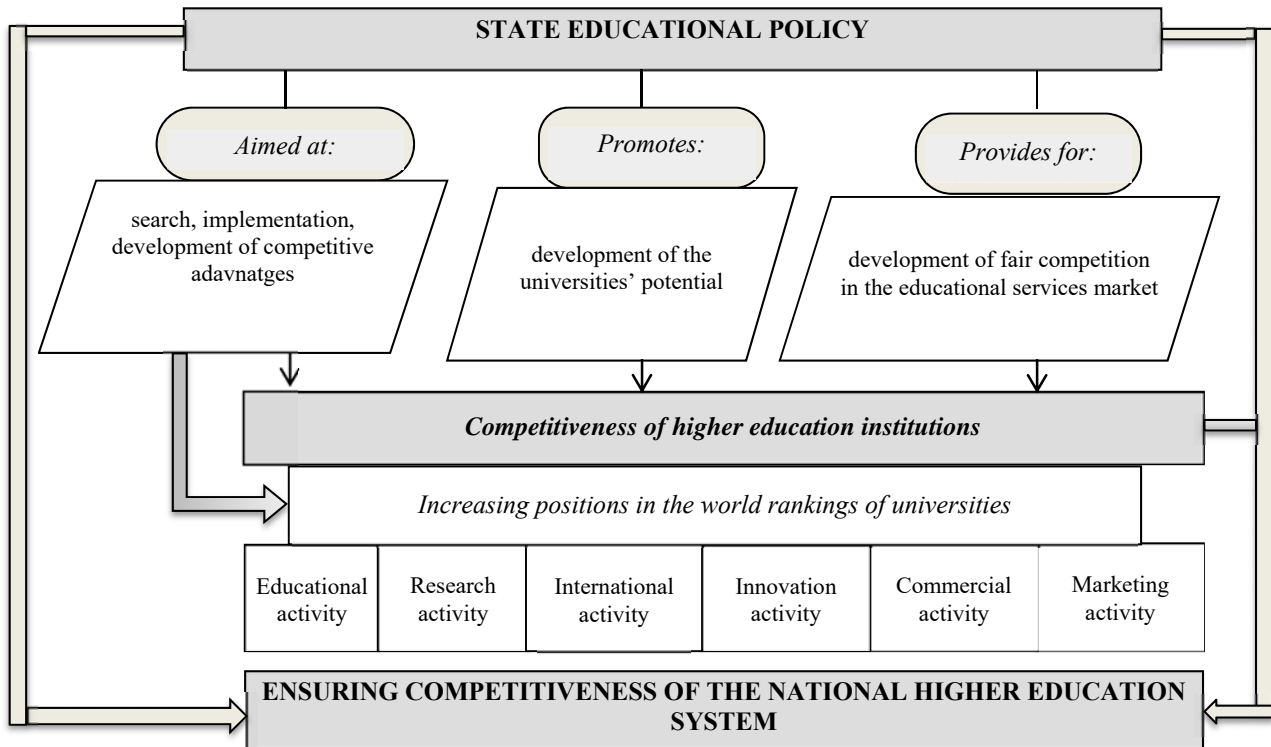


Fig. 3. Conceptual guidelines of the state policy on ensuring the competitiveness of the higher education system

Source: compiled by the authors

Universities, according to the methodology of a number of world rankings, face strict requirements for quantitative and qualitative parameters of their activities, i.e.: the number of students, quality of teaching, efficiency of research, the level of integration into the global educational and scientific community, etc. The significant state support could promote the universities to take the leading positions in the rankings. State support should focus on providing additional funding and creating special conditions for promising higher education institutions.

5. Conclusions

According to the study, in the current conditions of digitalization and globalization of the educational services market, universities' rankings are becoming an effective tool for competition. The representation of a higher education institution in world rankings directly

affects the level of its competitiveness in both the national and international educational services market. This is manifested in:

- increasing the number of students in higher education institutions, including foreign students, due to the increasing level of the students' awareness about high quality of the universities' activities and educational services;
- increasing the revenue part of the budget of the higher education institution – primarily by the increasing of the number of students;
- inviting leading professors, scientists and experts to teach and research at the university;
- expanding the range of international cooperation (unification of educational content, export of educational services, double degree programs, academic mobility, etc.);
- development of research and innovative activity of the university, which ensures the convergence of the higher education system with the real sector of economy;

intensification of the cooperation between universities and the business sector (as a result – increasing the revenue streams of university's budget by conducting research, consultancy, expert evaluation and other services on a commercial basis);

– raising the level of public recognition, reputation and image of higher education institutions – the world's leading universities play an important role not only in innovation, science and technology of the region or the country, but also in social progress, cultural and educational, intellectual development of society as whole; universities are the main subject of the development of digital literacy of population, formation both of digital skills, and of innovative consciousness of the youth.

Ensuring fair competition in the educational services market requires the application of the objective approach, optimal indicators and a rational combination of criteria for evaluating different activities of universities. The vagueness of the criteria, the goals, and the incorrectness of the indicators together create the preconditions for manipulating the rating process and distorting its results. Improving the positions of educational institutions in the world rankings of universities should be implemented within the framework of the state educational policy, in particular in part of development of competitive advantages of the national higher education system. Nowadays ensuring the transparency of state educational policy (particularly, the processes of its development and implementation) can be based on the use of modern digital technologies, namely: Artificial Intelligence, blockchain, Cloud computing, Big Data, etc.

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