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## **UNIVERSITY RANKING IMPROVING TOOLS IN MODERN INFORMATION EDUCATIONAL ENVIRONMENT**

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*Ranking criteria of national and international levels are the instruments of university ranking increasing. Ratings provide a balanced measure of quality in higher educational institutions. Determining the level of university research influences the position of the university in various rankings. We can separate the main aggregates that are considered when ranking international higher education institutions.*

*The results of university ranking allows the identification of its strengths and weaknesses in order to develop strategies for success and excellence based on the achievements of other universities at the regional, national and international levels. In article, we can see strengths, weaknesses, opportunities, and threats of Kherson State University (SWOT-analysis).*

*The main goals of Kherson State University are self-promotion in the media space, raising the prestige of KSU and integration with the world science community, development of an effective technological corridor: «School - University – Labor» market, increasing the number of students, improving the ranking of academic staff in scientometric databases, and gaining international recognition.*

**Keywords:** *criteria, ranking, benchmarking, scientometric databases, Webometrics, Scopus, Top-200, SWOT-analysis.*

**Introduction.** The rapid development of science and technology in all fields of human activity contributes to the acceleration of a country's economic development. Therefore, the universities play a key role in this context.

The most pressing issue is the modernization of higher education in Ukraine in order to increase competitiveness, and to facilitate its integration into a single global educational community.

**Ranking in Higher Education.** One of the methods to determine the status of the world's elite universities is the ranking of higher education institutions, aimed at analyzing and evaluating the qualitative and quantitative indicators of the potential and effectiveness of the activities of higher education institutions.

Each rating is focused on specific goals and has its own criteria, methodologies and techniques for ranking. Ratings provide a balanced measure of quality in higher educational institutions. [1]

The most complete and comprehensive international university ratings are:

- Times Higher Education World University Rankings [2];
- Quacquarelli Symonds World University Rankings [3];
- Academic Ranking of World Universities [4].

*International university ratings*

Criteria	QS World University Rankings		Times Higher Education World University Rankings		Academic Ranking of World Universities	
	Ratio of lecturers and students	10%	Educational activities	30%	Quality of education	10%
	Academic reputation	40%	Research and Reputation	30%	Quality of academic staff	40%
	Citation	20%	Citation	32.5%	Results of scientific activities	40%
	Reputation in employers	20%	Innovation activities	2.5%	Quality of the academic part of the university (on one teacher)	10%
	Foreign students	5%	Foreign students and employees	5%		
	Foreign lecturers	5%				

After analyzing the given tables (see Table 1), we can separate the main aggregates that are considered when ranking higher education institutions:

- Educational activity (quantity/ratio of teachers and students; quantity of graduates who have doctoral degrees; quantity of graduates who were awarded Nobel Prizes or are Fields Medalists; reputation of employers);
- Scientific activity (number of publications by academic staff of higher educational establishments in scientific journals, including Science Nature; number of publications by academic staff of higher educational establishments included in the database indexes of citations in the sphere of natural and social sciences (ScienceCitationIndex-expanded and SocialScienceCitationIndex); articles citing academic staff of higher educational establishments);
- Academic staff (quantity of teachers who received Nobel Prizes or are Fields Medalists; quantity of teachers who are members of the 200-most- cited academic staff in the world; quantity of foreign teachers);
- Financing of higher educational establishments (university's profits; research funding).

The ranking results of these universities are based on three factors (see Figure 1) which complement each other [1]:

- High concentration of academic talent (lecturers and students);
- Abundance of resources to create favorable conditions for research;
- University governance structure that promotes a strategic vision, innovation and flexibility, allowing the university to implement the transparent and effective management of underlying assets (human, financial, tangible and intangible, relationships management, ICT resources).

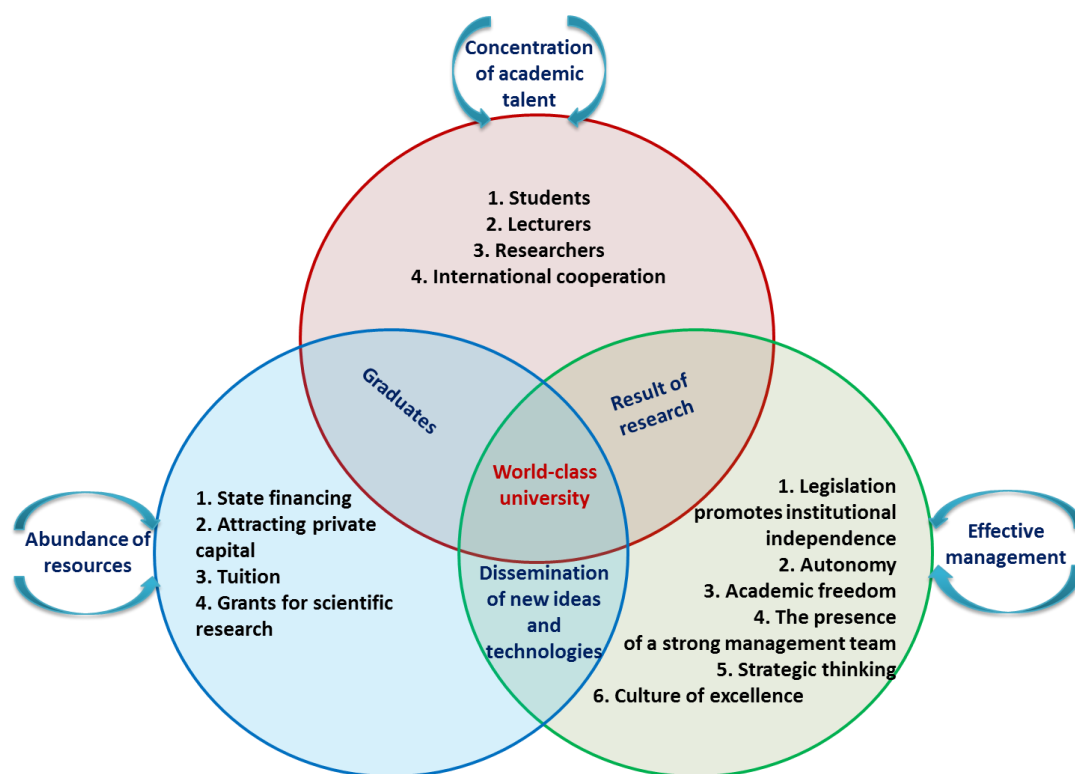


Fig.1. Features of world-class university: a combination of key factors

**Benchmarking of national level universities.** Nowadays, the most popular ratings in Ukraine is "Top 200 Ukraine" (UNESCO Chair "Higher Technical Education, Applied System Analysis and Informatics" / newspaper "Dzerkalo Tyzhnia") - evaluation of university activity following academic performance [7]. In addition, it is interesting to see the position of Kherson State University in 2015):

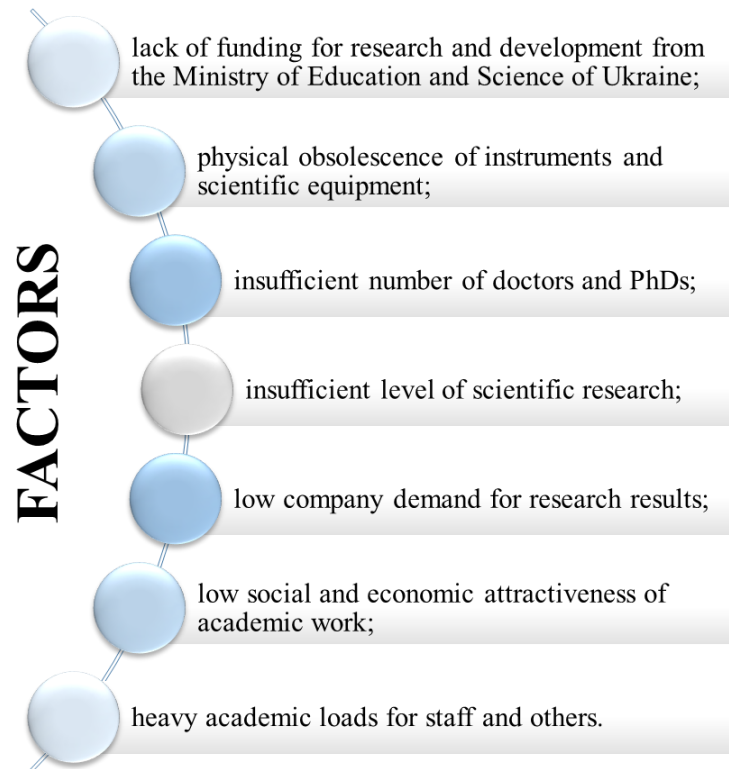
Table 2.

Ratings "Top 200 Ukraine"

Place in the ranking	Universities	Assessment of academic staff	Assessment of quality of education	Assessment of international recognition	Total assessment
1/2	Taras Shevchenko National University of Kyiv	37,47270967	20,72479079	23,19425549	81,39175595
1/2	National Technical University of Ukraine "Kyiv Polytechnic Institute"	34,01586015	23,27596244	24,09906801	81,3908906
3	V.N. Karazin Kharkiv National University	19,45588722	14,61406213	15,58274062	49,65268998
...	...	...	...	...	...
85	Kherson State University	5,951252396	7,587535992	9,354577386	22,89336577
...	...	...	...	...	...

**Integration into world science through the scientometric databases.** The productivity of a university depends on the quality of its graduates and their employment in the labor market, their professional competence, their marketability in both the education and labor marketplaces, and their mobility. Determining the level of university research influences the position of the university in various rankings [10].

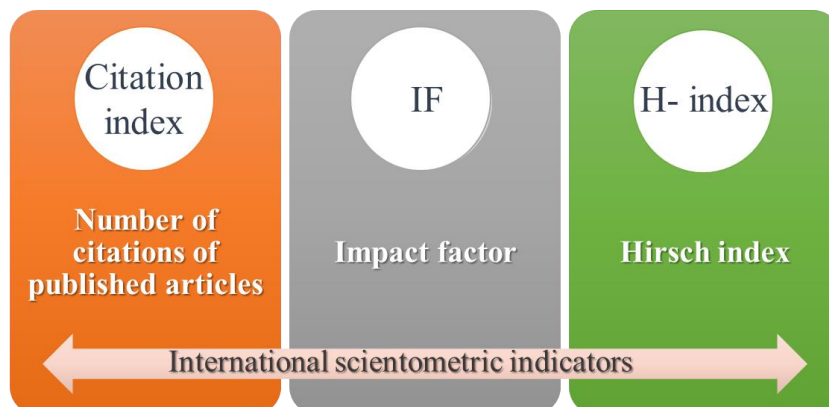
The low level of scientific activity in some universities of Ukraine is caused by one or more of the following factors (see Figure 2).



*Fig. 2. Factors of the low level of scientific activity*

The main product of academic activity is a publication (journal article, presentation at a conference, monograph, textbook etc.).

An objective method for the external evaluation of scientific performance is major international scientometric indicators (see Figure 3).



*Fig. 3. International scientometric indicators*

Citation index is a quantitative indicator of the reference number to the author's works or contribution indicator of a researcher in the development of its discipline. IF is a numerical index of the scientific journal's importance that shows how many times, on average, each published article in a journal is cited during the two years following its release. H-index is quantitative characteristic of academic productivity for the entire period of its scientific activity, representing the total number of references to the work of the scientist.

Scientometric databases can be divided into disciplinary (RePEc - Economics, MathSciNet - Mathematics; Chemical Abstracts - Chemistry; PsycINFO - Psychology; SPIRES - Physics etc.), regional (CSCD, CSTPC, CSSCI - China; THCI - Taiwan; CDJP - Japan; RYNTS - Russia), universal (Web of Science, Scopus, Google Scholar, Index Copernicus).

The main purposes of scientometric databases are:

- A search of the latest information on any research topical area of various scientific sources;
- Review of core journal publications;
- Obtaining competitive information and information about potential partners that enables scholars to keep abreast of the latest scientific developments and to make strategic decisions;
- Opening new areas of work in an interesting topical area;
- Quantitative and qualitative assessment of authors' scientific achievements, organizations and publications.

A tool to track citations of scientific papers published by an institution or its employees in scientific publications are the results of ranking higher education institutions based on indexes of Scopus database [5].

Table 3.

*Ratings "Scopus" (March, 2015)*

Place in the ranking	Universities	Publications in Scopus	Citations in Scopus	H-index
1	Taras Shevchenko National University of Kyiv	12224	47646	71
2	V.N. Karazin Kharkiv National University	7033	30055	53
3	Ivan Franko National University of L'viv	4929	21067	44
...	...	...	...	...
90	Kherson State University	83	76	5
...	...	...	...	...

**IT usage trends for university management** . Organizers of Webometrics Ranking of World's Universities note that the purpose of its ratings is to promote the web presence of educational institutions and students. If the web activity of an institution is less than an academic success, it is recommended to review its own policy and focus on increasing the volume and quality of electronic publications.

Webometrics' rating of developers takes into account the number of university website pages indexed by the search engines, external links to it, resource citations and the number of uploaded files to the website; in other words, the content and information constituent of the university website is valued [6].

*Webometrics Ranking of World's Universities (January, 2015)*

Place in the ranking (Ukraine)	Place in the ranking (World)	Universities	Presence Rank*	Impact Rank*	Openness Rank*	Excellence Rank*
1	937	Taras Shevchenko National University of Kyiv	370	2206	239	1532
2	1265	V.N. Karazin Kharkiv National University	119	2407	282	2891
3	1388	National Technical University of Ukraine "Kyiv Polytechnic Institute"	810	1923	129	3500
...	...	...	...	...	...	...
103	8682	Kherson State University	4527	15298	1738	5414
...	...	...	...	...	...	...

**SWOT-analysis of Kherson State University.** The results of university ranking allows the identification of its strengths and weaknesses in order to develop strategies for success and excellence based on the achievements of other universities at the regional, national and international levels [9]. Ranking criteria of national and international levels are the instruments of university ranking increasing (see Figure 4).

*Fig.4. Instruments of university ranking increasing*

Consider the interaction between Kherson State University and the environment, which helps us to understand SWOT-analysis of Kherson State University (see Figure 5). This is the author's assessment of the strengths, weaknesses, opportunities, and threats facing Kherson State University.

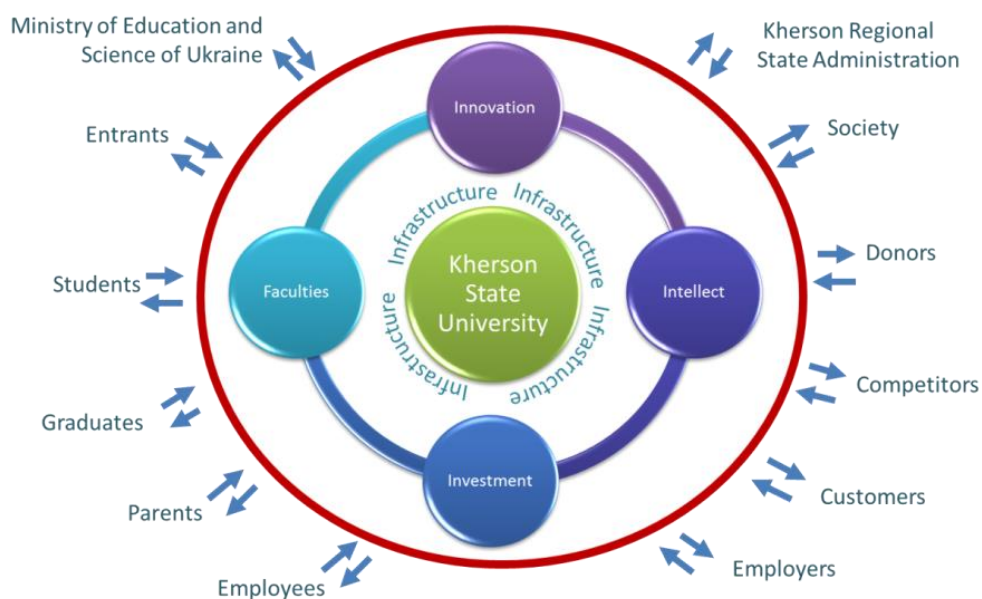


Fig. 5. The interaction between Kherson State University and the environment

#### Strengths:

- A wide range of directions and specialties.
- Advances university potential for self-sufficiency in the training of academic personnel in all areas and the training of highly-qualified specialists.
- Long experience of international cooperation.
- Usage of different strategies for integrating educational, industrial and academic processes (knowledge transfer).
- A variety of academic services to ensure a high level of educational, industrial and academic processes, wide use of information technology.
- A qualified and competent staff.
- Positive image of KSU in the city, region, country.
- Experience in the education market - 96 years.

#### Weaknesses:

- Fragmentation of departments, services, faculties, chairs.
- Budget imbalance (income, outlays).
- Inequality between the average cost financed by the state and contract students.
- Lack of funding-source diversification.
- Low level of commercialization.
- Lack of a university integrated monitoring system.
- A gap in communications (foreign languages, ICT competence).
- High university-maintenance costs.

#### Possibilities:

- Enhancing the quality of scientific publications in professional journals of KSU and scientometric databases.
- Introducing specialties that meet the structural changes in the economy.
- Additional attraction of extrabudgetary resources through the implementation of system development of additional education services.
- Close cooperation with the labor market.
- Enhancing co-operation with educational institutions in Ukraine and abroad.

- Adaptation of KSU educational services for foreign students.
- Adequacy of KSU response to changes in the external environment requests.
- Use of own technologies and services.
- Development of communications and electronic documentation workflow.
- Unification and standardization of requirements for the Diploma of the European standard.
- Ring chain: professional work (schools, lyceums, gymnasiums) - education (KSU) - employment (labor market).
- Online promotion of KSU educational services.
- Transition to international languages for teaching, preserving all courses in Ukrainian (optional, including foreign students).
- KSU budget diversification.

Threats:

- Redistribution of the situation between regional and national universities.
- The demographic crisis.
- Reduction of the quality of students' knowledge in the field of natural sciences because of the massive shift of interests towards the humanities and social sciences.
- Lack of comprehensive training levels and levels of learning skills for independent work.
- Competition in the education market.
- The threat of mergers with other universities and acquisition.
- The outflow of skilled workers to private universities and institutions.

**Conclusions.** The world experience shows which key features should the elite university have – a high concentration of talent, an abundance of resources, and a flexible, transparent management of underlying assets (human, financial, tangible and intangible, relationship management, ICT resources) as the basis for competitiveness of the university. Ranking criteria of national and international levels are the instruments of university ranking increasing.

In terms of the advanced education market, the main goals of Kherson State University are self-promotion in the media space, raising the prestige of KSU and integration with the world science community, development of an effective technological corridor: School - University - Labor market, increasing the number of students, improving the ranking of academic staff in scientometric databases, and gaining international recognition.

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### **ІНСТРУМЕНТИ ПІДВИЩЕННЯ РЕЙТИНГУ УНІВЕРСИТЕТУ В УМОВАХ СУЧАСНОГО ІНФОРМАЦІЙНОГО ОСВІТНЬОГО ПРОСТОРУ**

Критерії ранжування національного і міжнародного рівня виступають інструментами підвищення рейтингу університету. Рейтинги забезпечують баланс якості у вищих навчальних закладах. Визначення рівня наукових досліджень університету впливає на позицію вузу в різних рейтингах.

У статі можна виділити основні агреговані показники, що враховуються при ранжуванні у вищій освіті на світовому рівні.

Результати ранжування університетів дають змогу визначити сильні та слабкі сторони діяльності університету для формування стратегій успіху та досконалості з урахуванням досягнень інших вишів на регіональному, національному та міжнародному рівнях.

У статті показано сильні і слабкі сторони, можливості та загрози Херсонського державного університету (SWOT-аналіз).

У новітніх умовах ринку освітніх послуг основними задачами Херсонського державного університету є просування його в інформаційному просторі, підвищення рівня престижності ХДУ та інтеграція з світовою наукою, розвиток ефективного технологічного коридору «школа – університет – ринок праці», збільшення контингенту студентів, підвищення рейтингу науково-педагогічних працівників у наукометричних базах даних, міжнародне визнання.

**Ключові слова:** критерії, рейтинг, бенчмаркінг, наукометричні бази даних, Webometrics, Scopus, Топ-200, SWOT-аналіз.

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### **ІНСТРУМЕНТИ ПОВИЩЕННЯ РЕЙТИНГУ УНІВЕРСИТЕТА В УСЛОВИЯХ СОВРЕМЕННОГО ИНФОРМАЦИОННОГО ОБРАЗОВАТЕЛЬНОГО ПРОСТРАНСТВА**

Критерии ранжирования национального и международного уровня выступают инструментами повышения рейтинга университета. Рейтинги обеспечивают баланс качества в высших учебных заведениях. Определение уровня научных исследований университета влияет на позицию вуза в различных рейтингах.

В статье можно выделить основные агрегированные показатели, учитываемые при ранжировании в высшем образовании на мировом уровне.

Результаты ранжирования университетов позволяют определить сильные и слабые стороны деятельности университета для формирования стратегий успеха и совершенства с учетом достижений других вузов на региональном, национальном и международном уровнях.

В статье показано сильные и слабые стороны, возможности и угрозы Херсонского государственного университета (SWOT-анализ).

В новейших условиях рынка образовательных услуг основными задачами Херсонского государственного университета является продвижение его в информационном пространстве, повышение уровня престижности ХГУ и интеграция с мировой наукой, развитие эффективного технологического коридора «школа - университет - рынок труда», увеличение контингента студентов, повышение рейтинга научно-педагогических работников в наукометрических базах данных, международное признание.

**Ключевые слова:** критерии, рейтинг, бенчмаркинг, наукометрические базы данных, Webometrics, Scopus, Топ-200, SWOT-анализ.