THE INTERNATIONAL AND NATIONAL UNIVERSITY RANKINGS
AS A CONSTITUENT OF UNIVERSITY’S COMPETITIVENESS

The main historical, social and economic reasons and prerequisites for university rankings are defined; the essence of the university and research centre as the object of university rankings research is reviewed; the classification of international and national ratings depending on different classifications are developed and improved in this article. Characteristics of these evaluation criteria rankings are compared in this work. Based on the survey the possibility of participation in international University rankings of educational services is explored and the main benefits for participating in universities rankings are formulated.

Keywords: World University Rankings, university rankings classification, higher education institution ranking, university ranking, QS ranking, THES ranking.

Setting task in general form. Higher education in the modern world ceased to be the necessary minimum of effective development of the country. Public awareness of the importance and necessity of education led to the rapid development of globalization and competition even in these specific markets like education. But the problem is that assess the quality of education is not so simple. There is too much quality, not quantity items. If we are talking about universities in different countries, the assessment of quality is further complicated.

To solve this problem in recent years various ratings have been adopted. These rating according to their authors should show the quality of education in any university. Thereby, in many countries there is a lot of work associated with drawing up the global rankings of universities. They are designed to inform the public, at least, about the best universities in the world.

Analysis of the latest publications. The study of international rankings as instruments for assessing the quality of education are actively engaged in national and foreign authors’ works: E.V. Balatskyi, N.A. Akimov [1], Aguillo I.F., Bar-Ilan J., Levene M., Ortega J.L. [8]. The impact of international and national ratings on changes in the functioning of the education system are considered by U. Teichler [14-17], Salmi J., Saroyan A., Altbah F. [2; 11; 12]. Expediency and benefits of participation in university education rankings are described in works of D.D. Guttenplan [9] and others.

The aim of the article is to define the importance of participation in World or National universities rankings for higher university institutions as an effective tool in development and improvement of higher education system in total. According to the established object, the following tasks are defined: to identify the main historical, social and economic reasons...
and prerequisites for University rankings; to consider the nature of the university and research centre as object of research university rankings; to develop and bring improved classification of international and national rankings depending on different classifications and conduct comparative description of evaluation criteria rankings; to explore the survey based on the importance of the universities participation in international rankings (by consumers of educational services) and to develop the main benefits from universities participating in University rankings.

**Main material.** A few decades ago, the competition between universities didn’t go beyond country. There was a great competition between leading Universities-monopolies, which are usually located in the capital and major cities. That is why small local institutions should use effective marketing strategies to find their consumers.

A signing of the “Sorbonne Declaration” in 1998 by the ministers of the four countries (France, Germany, Britain and Italy) was the beginning of the unification of European higher education. The purpose of the declaration is to establish common provisions to standardize the European Higher Education Area, which should encourage mobility for students, alumnus and staff. In addition, it must ensure compliance with the current requirements of qualifications in the labor market. Sorbonne Declaration Goals were confirmed in 1999, signing the Bologna Declaration, in which 29 countries have expressed their willingness to improve the competitiveness of European higher education. They stressed the needs to preserve the independence and autonomy of higher education institutions.

All provisions of the Bologna Declaration have been established as voluntary measures approval process, and not as strict legal obligations [18].

The emergence and development of “European higher education area” contributes to increased demand for educational services, convergence of nations, states and harmonization of education systems. In modern society, one of the main features of the industrial countries is highly effective education market. Today the educational market actively interact Universities – enterprises that provide educational services, and consumers, students who choose university and receive services.

It should also be taken into account that the educational services, with a special set of properties, which also influence the competition between universities [6], has changed over the last few years.

The main feature is the intangibility of educational services. Education is intangible and therefore difficult to assess its quality until purchased. Educational services require engineering experience of beneficiaries: university should make a clear image of what perception of reality and knowledge it wants to form for customer. It is important to develop together operational and contextual reinforcements of this impression.

Educational services also feature inseparability of the service provider. The process of educational services providing and consumption are almost always simultaneous. Recently, universities have resorted to innovative solutions, including free on-line courses (Prometeus, Coursera, etc.) to draw attention and make education more accessible. Another feature – the variability of quality: quality of similar services varies quite widely, depending on who provides them, when and where. In education sphere a leading role is given to the teacher.

The latter property is impossibility to save. As mentioned before, universities are working hard to make the recorded lectures on interesting topics available to the average Internet user.

There were many evaluation studies to determine the achievements and failures of the reforms after signing the Bologna Declaration. The researchers concluded that the cycle of passing educational programs and receiving diplomas was dominated, but there wasn’t
the only model of higher education building in more than 40 countries which joined the declaration during this time. All of these countries in reforming education systems pursued both shared and specific national goals; thus, on the one hand, the number of common elements of European higher education have increased, on the other hand – the differences between these countries on other parameters have increased [10; 11].

However, long before that university functioned in the educational market as a closed structure, research centres. Quite a long time university functioned as a closed structure, which aimed to fundamental and applied research and commercialization of their results.

Scientists define these characteristic features of modern university – as research centres [5]:

1) diversification of funding sources, such as tuition fee or charges for reimbursement of accommodation and meals (Sweden, Norway, Denmark); attract long-term financial donations from alumni and corporate donors (Harvard, Princeton and others); public funds (Fig. 1);

![Financing of USA universities](image)

2) responsibilities, clear separation of academic (teaching and research quality) and administrative (search and resource allocation) functions of the university, are divided between departments;

3) preparation of highly qualified specialists: American and European universities prefer master's and post-graduate programs for teaching the most talented young people and teaching environment available in a high percentage of foreign students that promote international cooperation;

4) the high qualification level of the teaching staff, selection of teachers is based on competition, the university invites leading experts and specialists in various fields of science to temporary collaboration;

5) changing production models of scientific knowledge: further application of research
results becomes more important than academic interests; 
6) research competitive of universities, which is achieved through grants and successful international projects, patents and innovation; 
7) research and invention of universities are becoming applied, through close cooperation with the industry, for example, Aalen University of Applied Sciences (Aalen, Germany) works with hundreds of companies, including the world-famous (Carl Zeiss AG, MAPAL KG, Daimler AG, BSH Bosch and Siemens Hausgeräte GmbH, Gigatronic Stuttgart GmbH, BASF AG, Deutsche Bahn, etc.). What is more, students are obligatory involved in a number of University projects; 
8) entrepreneurship: modern research universities are active participants in economic relations, they offer post-graduate educational services to provide employees of local companies, local authorities etc.; 
9) integration in regional development, i.e. preparation of highly skilled workers, basic research and attempts to implement innovative technologies in order to develop certain region. 

After the Bologna Process the borders between the educational services markets of various countries had disappeared, education started to become international. These changes led to the emergence of new terminology, such as “global universities” or “world class universities” [11]. J. Salmi and P. Altbach [2] stress the slight excess resources to create favorable conditions for study and research. Q. Weng, Y. Chang and N. Cai Liu [19] talk about the importance of internationalization and productive cooperation with other prestigious universities through the creation of joint training and research programs.

The necessity of advertisement and promotion of educational services is a direct encouragement of potential student to action by informing him about possible multiple benefits received after choosing high school and acquiring educational services. Hiring students in conditions of competition and worsening of demographic situation is important task for any university now.

The top task of any university today is not only hiring national students, but search for international students also. That is where international ratings help. The world’s first university ranking was published in 1983 by US News & World Report which revealed the globalization processes of higher education. Its most important task was to orientate in the big variety of educational options. At the beginning of XXI century special research centres begin to create their own ratings. Shanghai Jiao Tong University firstly published academic ranking in 2003. 500 universities were included in it. The first ranking of the Times – THEQS was listed in 2004 (THEQS QS is an abbreviation from annex name Times Higher Education Supplement and Quacquarelli Symonds partner-company). The project Webometrics (the ranking of 400 universities) was started in the same year.

Active dissemination and development of international and national university rankings is caused by large number of economic, social and historical factors (developed by the authors on the basis of [1]):
1) with the grows of level of people’s education in different countries a curiosity to the difference between salary, status, authority given by received education grows as well. Previously only diploma itself valued, but today different factors are taken into account: prestige of the university, good language skills, etc.;
2) the humanity understood in the period of appearance and development of informational society and knowledge economy that the future depends on high accuracy researches and level of education in the best universities;
3) big increase of openness of all activities of educational institutes for the society.
Academic community has been deciding on the context of educational programs, the plan of their realization and other;

4) development of international cooperation and academic mobility broke the band between universities around the world and accelerated the globalization (signing Bologna Declaration as well). The student has an opportunity to learn in different universities during receiving certain degree;

5) the competitiveness in the service market is rising rapidly. Mechanisms of its stimulations are ratings. The key role of mechanisms work played concept of benchmarking-method of outer systematically comparison of own activities with the work of the best companies (or departments of own company), identification of competitor business effectiveness, organization and improving own indicators;

6) in order to evaluate universities work the proof of effectiveness measured with various performance indicators is required. The responsibility grows. We consider the World community only has the right to give higher education institutions the status of global. Previously, prestige of the institution backed by a long history was enough (Oxford, Cambridge, Ivy League universities), but now there are clear criterias for the evaluation of universities that are accumulated in the world rankings;

7) the mass-media pay more and more attention to the process of evaluation and facilitate visualization of competitiveness. What’s more, some magazines and newspapers start off rankings (rankings are published and commented in numerous leading national and international mass-media: BBC News, The Guardian, The Sunday Times, US News & World Report, Al Jazeera, Sina.com, The Times of India, Chosun libo, etc.);

8) the grows of interest and involvement of new people: students itself, parents, employers and business.

Global university’s rankings become a competitive business – not just for universities, but for companies that explore and publish them also. Universities’ ratings were innovations that occurred 15 years ago, but now are standard requirements of countries with developed higher education systems. However, Ukrainian universities were involved in this phenomenon only few years ago.

International ratings become indicters of prestige oftener. Relying on the results and conclusions entrants in Europe and America make important decisions on the place of study. For Ukrainian students rating is nor a key factor now. During poll (226 respondents aged 15-40 years, with different educational levels) was figured out that 57,1% take prestige of the university into the account, 51,3% – the possibility of further employment and 50% – university geographical location.

Position of universities in national and international rankings is important for 22,1%, 22,4% is interested in program of academic mobility, opportunity to learn main subjects in English bother 8,4%. 17,7% is interested in the amount of payment for studying, and 14,6% – placement of students from other cities. Among respondents 46% know the names of international and national ratings. 18% of them mention QS, Top 200 Ukraine, THE WUR, 13% are aware of the Webometrics ranking of universities Consolidated and Ukraine, 10% note Scopus (Figure 2).

The most authoritative international University rankings are ARWU, QS World University Ranking and Times Higher Education. Ukrainian Universities should focus on them in planning its foreign marketing policy.

Each ones is based on specified parameters, a significant proportion of which has the reputation of the institution, citation index of scientific works and others.
We can analyse the most authoritative and popular today rankings of higher education institutions according to criteria that are investigated and their percentage in the overall assessment, in comparison with one of the Ukrainian University ranking (see Table 1).

Today there are more than 20 international rankings, classifications universities and educational systems of different countries.

Figure 2 – The survey results generalisation (developed by the authors)
Table 1 – Comparative characteristics of evaluation criteria and their specific weight in international educational rankings (developed by the authors on the basis of [3])

<table>
<thead>
<tr>
<th>General information</th>
<th>Evaluation criteria</th>
<th>Specific weight, %</th>
</tr>
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<tbody>
<tr>
<td>The Academic Ranking of World Universities – Academic ranking of world universities, developed in 2003 to assess the effectiveness of governmental programs to stimulate scientific work in Chinese universities. Commission chose 500 of 1,200 universities</td>
<td>the number of alumnus who are winners of the Nobel Prize or Field’s Medals</td>
<td>10</td>
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<tr>
<td></td>
<td>the number of staff who are winners of the Nobel Prize or Field’s Medals</td>
<td>20</td>
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<td></td>
<td>the number of the most cited researchers among teachers</td>
<td>20</td>
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<tr>
<td></td>
<td>the number of articles published by university professors in journals Science and Nature in the last 5 years</td>
<td>20</td>
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<tr>
<td></td>
<td>the number of articles published by university professors in the previous year, passed through the Thomson Reuters Citation Index in the natural or social sciences besides</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>weighted indexes of all previous criteria, divided by the number of staff of the university</td>
<td>10</td>
</tr>
<tr>
<td>The QS World University Rankings is an annual publication of university rankings by Quacquarelli Symonds (QS), QS World University Rankings now comprises the global overall and subject rankings, alongside three independent regional tables (Asia, Latin America, and BRICS) with different methodologies. While it is viewed as one of the most widely read university ranking</td>
<td>a survey of academic community (local and foreign)</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>a survey of employers (local and foreign)</td>
<td>10</td>
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<td></td>
<td>the ratio of students to the number of teachers</td>
<td>20</td>
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<td></td>
<td>the citation level in Scopus, per one teacher</td>
<td>20</td>
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<tr>
<td></td>
<td>the share of foreign students and teachers</td>
<td>10</td>
</tr>
<tr>
<td>Times Higher Education are the only global performance tables that judge research-intensive universities across all their core missions: teaching, research, knowledge transfer and international outlook</td>
<td>teaching (learning environment)</td>
<td>30</td>
</tr>
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<td></td>
<td>research (volume, income and reputation)</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>citation (research influence)</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>an international review (teachers, students, research)</td>
<td>7,5</td>
</tr>
<tr>
<td></td>
<td>an industrial revenue (transfer of knowledge)</td>
<td>2,5</td>
</tr>
<tr>
<td>Top-200 Ukraine is the HEI ranking, it was made by Center of international projects “Euroosvita”</td>
<td>assessment of quality of scientific and pedagogical potential</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>assessment of quality of education</td>
<td>30</td>
</tr>
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<td></td>
<td>assessment of international recognition</td>
<td>20</td>
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The powerful trio of the above ratings: THE (Times Higher Education World University Ranking), QS (QS World University Ranking), ARWU (Academic Ranking of World Universities) stands out as a separate group. Modern ratings can be classified as follows (developed by the authors on the basis of [7]):

a) by type:
   - accrual of a single final score – used for University ranking in general. For this...
purpose, a set of indicators, each of which has its own weight percentage, which is calculated taking into account the final score for the university (U.S. News and World Report (US), ranking of the magazine “Perspektywy” (Poland), “Top 200 Ukraine” (Ukraine) was formed;

- specialized – University rankings on specific subjects, training programs or individual subjects, there is no University ranking in general, but selected programs, specialties, etc.:
  1) law (The Law School Ranking Game, Cooley’s Ranking Law School, Judging the Law School);
  2) business-school (“Business week”, “Financial times” (Great Britain), “Stern” (Germany) and others;
  3) research Universities (Top 50 Research Universities (Canada)).
- multifactorial – when University ranking is made without association indicators in one point: (CWTS Leiden Ranking (Netherlands), Seimago Institution Ranking);
- scientometrical – ratings based on statistics of such information and analytical systems as Web of Science, Scopus, Google Scholar (CWTS Leiden Ranking (Netherlands), Scimago Institutions Ranking, URAP – University Ranking by Academic Performance (Turkey), NTU Ranking – National Taiwan University Ranking (Taiwan);
- rankings of the ratings (IREG – Observatory on Academic Ranking and Excellence (Belgium, Poland));
- with combined methods – use special rankings/tables methods that cannot be combined into one type.

b) depending on the structure:
- ordinal, where universities get each its own number and it is listed under this number (the World University Rankings (Great Britain), DDAD (Germany));
- clustered (grouping of universities), universities belong to one of the groups (such as “best, average and worst” (Stern (Germany)));
- combined, where each university has its own assessment, but organisation publishes only a limited number of best ones (Recruit (Japan)).

c) according to the source:
- data-provided – submitted report by universities (Maclean’s University Guide (Canada));
- data-collected including survey of students, faculty, alumni, etc. (SR Monthly Undergraduate College Rankings (USA));
- web-rankings, analyse and evaluate university sites, and not the universities. These ratings can be called truly global, include the biggest part of universities of globalized world (Webometrics (Spain));
- secondary, using as a basis for the other ratings (Professional ranking of World Universities (France));
- and others.

d) depending on the subject, which conducts and publishes rating:
- print media or on-line media (Magazine “Perspektywy” (Poland), “Business week”, “Financial times” (Great Britain), America’s Best Colleges (USA), University guide Guardian (USA));
- independent centres (CHE Hochschulranking (Germany), DFG Funding Ranking (Germany));
- customized, when the user can get a personal rating, which is suitable for him, choosing education level, branch of science, coefficients (Customized Graduate Program...
Rankings (USA), The Law School Ranking Game (USA), U-MAP, U-Multirank (European Union));
− and others.

e) depending on analysed criteria:
− the number of articles published in magazines such as Scopus etc. by University professors (the World University Rankings (Great Britain));
− the number of teachers who are winners of the Nobel Prize (the World University Rankings (Great Britain));
− the ratio of students to the number of teachers (The QS World University Ranking (China));
− the proportion of foreign students and teachers (The QS World University Ranking (China));
− quality of prospective students (A New Ranking of American Colleges on Laissez-Faire Principles, 1999-2000 (USA);
− relevance and career success of alumni (Professional ranking of World Universities (France));
− and others.

Education is a priority of countries with developing economy. A lot of universities in such countries are looking for partners from more developed countries [4]. The main advantage of being placed in the international or national rating is that all information about university appears in the popular web-site.

The representatives of the university can add or check details to the profile on the rating web-site. The information about university is also given in printed handbook Times Higher Education – QS (if the university got into Top-500) which is also available for different countries. Those have positive impact on awareness about university all over the world. The university can attract foreign students, teachers, and researchers and as a result financial investment in the economy can increase.

Being in the international rating, universities integrate into the world of educational system and meet basic criteria. Therefore, transparency of rating methods encourages universities to adjust their policies to the specified parameters, which can significantly distort their natural strategy. Also there are the disadvantages of rating: the leading position in the ranking is occupied by English-speaking universities. For example, 223 universities in Top-500 ARWU in 2015 (224 in 2014, 228 in 2013, 249 in 2004) are Universities in English-speaking countries. Thus, the leading system of English-speaking countries and universities engaged in teaching in English is already established.

Universities that are mostly concentrated in researches occupy lidding position. In order to improve the rating universities invest on research more and more, that is why rating cannot demonstrate quality of education at the university. Less attention is paid to quality assurance of teaching, learning, social mission, etc.

The most remarkable and outstanding researches are concentrated in some universities that diminish chances of other universities for creating competitive products in certain sphere. It make universities’ hierarchy more developed. Universities-outsiders often blindly follow leaders, disrupting the natural development of the university [15-18].

Conclusion and directions for further researches. With the development of globalization, competition is rapidly increasing in educational market. Universities should pursue its policy of paying attention to changes in educational services properties such as intangibility, inseparability of the service provider, variability and impossibility to save.
Modern universities are trying to attract not only local students but they also are searching for students in an international educational space. They are no longer only “closed” research centres: universities are developing towards the development of the European Higher Education Area, contributing to increase demand for educational services, convergence of nations, states and harmonization of education systems.

Nowadays we observe emergence and spread of new rankings. A prerequisite for their appearance was an attempt to create a European Higher Education Area, the development of international cooperation, universities wishing to define its place on the world map of educational services. What is more, media, students, parents, employers and businesses start to interfere in activity and effectiveness of educational services. The current rankings can be classified by different criteria, including the type, the structure, for the data source, depends on the author who conducts and publishes ranking, the analysed criteria and so on.

Global University rankings are becoming a competitive business – not just for universities, but also for companies that explore and publish them. University rankings, the innovation that emerged 15 years ago, are now a standard requirement in most countries with powerful higher education systems. But Ukrainian universities were involved in this phenomenon just a few years ago. The most authoritative international University rankings are ARWU, QS World University Ranking and Times Higher Education. Ukrainian Universities should focus on them in planning its foreign marketing policy. Each ones is based on specified parameters, a significant proportion of which has the reputation of the institution, citation index of scientific works and others. Modern universities must be prepared for the challenges of our time, when participation in international rankings is a necessary element of the marketing policy.

University rankings play an important role in attracting Ukrainian prospective students. 57,1% of survey participants take into account a prestige (image) while choosing university, 51,3% of respondents take into account possibility of future employment and 50% – university geographical location. The University place in international and national rankings is an important factor for 22,1%. Students and alumni say that the University place in the rankings “rather important” for them, but about 46% know the names of various national and international rankings of universities.

International and national rankings are not absolutely perfect. University of English-speaking countries occupy leading positions, and priority is given to universities that invest just in research. Universities-outsiders often blindly follow leaders, disrupting the natural development of the university.

It is difficult to say whether rankings may be indicators of education’s quality, ratings are more complex, using more sophisticated techniques for ranking. From our point of view, they will become an effective tool for evaluating the quality of education and national education system in general, if it corrects the deficiencies.


svitovoho klasu [The mission and objectives of research universities and universities of world class].


Ю.С. Шипуліна, О.Ф. Грищенко, В.О. Біленко. Міжнародні та національні рейтинги як складові конкурентоспроможності ВНЗ

Роль вищої освіти в сучасному світі зростає, як і необхідність оцінювання її якості. Останнім часом набувають популярності національні та міжнародні рейтинги вищих навчальних закладів (ВНЗ), які повинні продемонструвати рівень якості освіти у ВНЗ по всьому світу. У статті визначено основні історичні, соціальні та економічні причини та передумови появи рейтингів університетів, розглянуто сутність університету-дослідницького центру, як об’єкта дослідження університетських рейтингів, розроблено та вдосконалено класифікацію міжнародних та національних рейтингів за різними класифікаційними ознаками. У роботі

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194 http://mmi.fem.sumdu.edu.ua/
Розділ 4 Проблеми управління інноваційним розвитком

проведено порівняльну характеристику критеріїв оцінювання цих рейтингів. На основі опитування досліджено важливість участі ВНЗ у міжнародних рейтингах з боку споживачів освітніх послуг та сформульовано основні переваги від участі ВНЗ у рейтингах університетів.

Ключові слова: Світові рейтинги університетів, класифікація рейтингів університетів, рейтинги вищих навчальних закладів, рейтинги університетів, рейтинг QS, рейтинг THEES.

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Международные и национальные рейтинги как составляющие конкурентоспособности ВУЗа

Роль высшего образования в современном мире растет, как и необходимость оценки его качества. В последнее время набирают популярность национальные и международные рейтинги высших учебных заведений, которые должны продемонстрировать уровень качества образования в вузах по всему миру. В статье определены основные исторические, социальные и экономические причины и предпосылки появления рейтингов университетов, рассмотрена сущность университета-исследовательского центра как объекта исследования университетских рейтингов, разработана и усовершенствована классификация международных и национальных рейтингов в зависимости от различных классификаций. В работе проведена сравнительная характеристика критеріїв оцінки цих рейтингів. На основі опиту проаналізовано важливість участі університетів в міжнародних рейтингах з боку споживачів освітніх послуг та сформульовано основні переваги від участі університетів у рейтингах університетів.

Ключевые слова: Мировые рейтинги университетов, классификация рейтингов университетов, рейтинги вузов, рейтинги университетов, рейтинг QS, рейтинг THEES.

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