

THE RANKING EVALUATION OF KHARKIV HIGHER EDUCATIONAL ESTABLISHMENTS

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Korepanov O. S., Lazebnyk I. O., Ponomarova T. V., Chala T. G. The Ranking Evaluation of Kharkiv Higher Educational Establishments

The aim of the article is to provide methodological support for the monitoring of higher educational establishments in view of the ranking of higher educational establishments. The application of the proposed methodology is demonstrated by the example of higher educational establishments of the city of Kharkiv region. The article considers the evaluation methodology for the ranking of higher educational establishments of the city of Kharkiv by the level of education quality. It is suggested to use the ranking methodology based on the expert evaluation of the chosen criteria. It is proposed to form the ranking of Kharkiv higher educational establishments on the basis of 4 criteria complying with the modern international approaches. The formation of information and analytical support of the research was performed, in particular, a system of statistical indicators according to the objectives of the study was formed and their information filling was carried out on the basis of the selected sources of statistical information. The ranking scores and places of higher educational establishments of the III-IV accreditation level of the city of Kharkiv in the general ranking were determined.

Keywords: ranking evaluation, higher educational establishment, ranking, method of expert evaluations.

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Рейтингове оцінювання вищих навчальних закладів м. Харкова

Мета статті полягає в розробленні методичного забезпечення моніторингу вищої освіти щодо рейтингового оцінювання вищих навчальних закладів. Застосування запропонованої методології продемонстровано на прикладі вищих навчальних закладів Харківської області. Розглядається застосування методики рейтингового оцінювання для ранжування вищих навчальних закладів м. Харкова за рівнем якості освіти. Запропоновано використання методології рейтингового оцінювання, що заснована на використанні експертних оцінок щодо обраних критеріїв. Рейтинги вузів м. Харкова запропоновано сформувати на основі чотирьох критеріїв, які відповідають сучасним міжнародним підходам. Здійснено формування інформаційно-аналітичного забезпечення дослідження, зокрема, сформовано систему статистичних показників відповідно до цілей дослідження, та проведено їх інформаційне наповнення на основі визначених джерел статистичної інформації. Визначено рейтингові оцінки й місце вищих навчальних закладів III-IV рівня акредитації м. Харкова у загальному рейтингу.

Ключові слова: рейтингове оцінювання, вищий навчальний заклад, ранжування, метод експертних оцінок.

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Рейтинговое оценивание высших учебных заведений г. Харькова

Цель статьи состоит в разработке методического обеспечения мониторинга высшего образования относительно рейтингового оценивания высших учебных заведений. Применение предложенной методологии продемонстрировано на примере высших учебных заведений Харьковской области. Рассматривается применение методики рейтингового оценивания для ранжирования высших учебных заведений г. Харькова по уровню качества образования. Предложено использование методологии рейтингового оценивания, которая основана на использовании экспертных оценок относительно избранных критериев. Рейтинги вузов г. Харькова предложено сформировать на основе четырёх критериев, отвечающим современным международным подходам. Сформировано информационно-аналитическое обеспечение исследования, в частности, система статистических показателей согласно целям исследования, и проведено их информационное наполнение на основе выделенных источников статистической информации. Определены рейтинговые оценки и место высших учебных заведений III-IV уровня аккредитации г. Харькова в общем рейтинге.

Ключевые слова: рейтинговое оценивание, высшее учебное заведение, ранжирование, метод экспертных оценок.

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Educational establishments have no right to hide the indicators of education quality and its compliance with educational standards. The state control of the educational process abroad is complemented by an integral system of social control. In particular, per fifty states in the US there are six regional associations, which supervise schools and colleges.

There can be distinguished three directions of external control of education quality abroad: government institutions of management of educational establishments; accreditation agencies and professional associations; ranking agencies.

The methodology of rankings is usually transparent and known to those who choose a place of learning. The leading student countries – the US, Britain and Germany – have dozens of national rankings. The most authoritative of them are: TOP 50 national universities of the USA by the methodology of U. S. News, Maclean ranking of Canadian universities, the Times newspaper ranking of Great Britain universities. There are about 10 ranking agencies in Germany, the most famous of which is the FIBAA community (www.fibaa.de).

In the modern globalized world evaluation of university education is carried out by internationally recognized rankings, including the most influential ones – Times Higher Education World University Rankings. Also QS QuacquarelliSymonds World University Rankings and so called Shanghai ranking (ARWU) are popular [7, 8].

Evaluations of World University Rankings are considered the most universal for they comprise higher educational establishments of all profiles. It is for the first time in the history of World University Rankings according Times Higher Education rankings that two Ukrainian universities: Taras Shevchenko National University of Kyiv and V. N. Karazin Kharkiv National University were included in the rankings for 2015/16. Both universities are in the category of positions from 601 to 800 [8].

The national ranking system is part of the monitoring of higher education. It is positioned in the management system as a tool intended for establishing an effective social partnership and social responsibility of target groups for assuring a quality higher education.

The information obtained by a university according to the ranking results makes it possible to identify weaknesses and strengths of its own activity on the basis of certain criteria and work out strategies of prospective development of the higher educational establishment in terms of assuring a quality higher education.

The main features of the university prestige are effective activities of the higher educational establishment aimed at achieving success, excellence and competitiveness in the education market and labor market as well as innovation activity and ability to focus efforts on the implementation and achievement of tactical and strategic objectives. The key point is the effectiveness of the university performance, which is defined by quality of its graduates and their employment in the labor market, professional competence and skill level, competitiveness, mobility and security in the labor market.

In this context, the ranking as a tool for managing processes aimed at the successful functioning of higher educational establishments provides them information services on their positioning at the institutional, sectoral, regional and national levels to form strategies of success considering achievements of their partners and the system in whole upon conditions of reliable, objective and accurate information provided by ranking objects.

In recent years a significant number of systems for ranking higher educational establishments has been used. It should be emphasized that all the rankings deserve attention to a certain extent. After all, each ranking focuses on specific goals, target groups of users, has its own content component, methodology and ranking technique.

The authors of the article suggest using for ranking higher educational establishments a methodology based on the expert evaluations of selected evaluation criteria.

The conducted study was aimed at developing the ranking of Kharkiv higher educational establishments of III–IV accreditation level, which train bachelors, specialists or masters in the following areas of specialization:

- ✦ business/economic specialities;
- ✦ legal science;
- ✦ engineering/technical professions;
- ✦ information technologies (IT);
- ✦ architecture/construction.

Before conducting the study there was made a list of higher educational establishments that meet the following criteria:

- ✦ the higher educational establishment has III–IV level of accreditation;
- ✦ the higher educational establishment is not a branch or division of another educational institution;
- ✦ the higher educational establishment trains bachelors, specialists or masters in five abovementioned areas of specialization (has full-time students).

As a result of the selection there was made a list that contains 21 higher educational establishments of Kharkiv, which ranking is presented in *Table 1*. The list was limited by this very number due to the lack of necessary information from other higher educational establishments.

The study was conducted in January–April 2016 using the methods of personal and telephone interviews, questionnaires via e-mail and online survey. This research methodology was chosen in view to cover as many graduates of different higher educational establishments and respondents, which are difficult to access (employers, experts), as possible.

In accordance with the purpose of the research, the methodology envisaged studying the following target groups: representatives of employing companies; experts; graduates, which took part in the ranking.

It is proposed to form the ranking of Karkiv higher educational establishments on the basis of an especially developed methodology comprising 4 criteria:

- 1) quality of scientific and pedagogical potential (SPP);
- 2) quality of education;
- 3) level of international recognition;
- 4) quality of training for practical work from the standpoint of employers.

Table 1

The quality of the scientific and pedagogical potential of Kharkiv higher educational establishments

№	Kharkiv higher educational establishments of III-IV accreditation level	The number of lecturers per 100 students	The number of Ph.Ds. per 100 students	The number of Professors and Doctors of Sciences per 100 students
1	V. N. Karazin Kharkiv National University (KhNU)	14.29	7.14	1.43
2	The National Technical University "Kharkiv Polytechnic Institute" (NTU "KhPI")	7.73	3.64	0.91
3	Yaroslav Mudryi National Law University (Yaroslav Mudryi NLU)	3.63	1.88	0.39
4	Kharkiv National University of Radioelectronics (KhNURE)	6.11	2.77	1.18
5	National University of Pharmacy (NUPh)	4.54	2.35	0.49
6	National Aerospace University "N. E. Zhukovskii Kharkiv Aviation Institute" (KhAI)	6.26	3.07	0.65
7	Kharkiv National Medical University (KhNMU)	7.18	4.83	1.20
8	Simon Kuznets Kharkiv National University of Economics (Simon Kuznets KhNUE)	4.52	2.40	0.57
9	Kharkiv Petro Vasylenko National Technical University of Agriculture (KhNTUA)	4.60	2.36	0.70
10	Kharkiv National Automobile and Highway University (KhNADU)	3.85	1.98	0.47
11	Ukrainian Engineering Pedagogics Academy (UEPA)	3.70	1.72	0.42
12	Kharkiv National University of Construction and Architecture (KhNUCA)	6.53	3.76	0.87
13	Ukrainian State University of Railway Transport (USURT)	4.17	2.08	0.31
14	H. S. Skovoroda Kharkiv National Pedagogical University (KhNPU)	8.75	3.74	0.86
15	Kharkiv National Academy of Municipal Economy (KhNAME)	2.13	1.39	0.35
16	V. V. Dokuchayev Kharkiv National Agrarian University (KhNAU)	10.33	4.75	1.19
17	Kharkiv State University of Food Technology and Trade (KhSUFTT)	5.07	1.99	0.54
18	Kharkiv State Academy of Physical Culture (KhSAPhC)	7.26	2.62	0.37
19	Kharkiv I. Kotlyarevsky National University of Arts (KhNUA)	15.47	4.77	0.49
20	National University of Civil Protection of Ukraine (NUCPU)	6.55	3.81	0.61
21	Kharkiv State Academy of Design and Fine Arts (KhSADA)	9.68	3.38	0.88

The source: calculated by the authors.

Evaluation of the quality of scientific and pedagogical potential (criterion 1) was carried out on the basis of the number of students, lecturers, PhDs, Professors and Doctors of Sciences [1, 2].

To calculate the score for this criterion ($r_{i,SPP}$) it is proposed to use the following relative indicators (see Table 1):

- ✦ the number of lecturers per 100 students;
- ✦ the number of PhDs per 100 students;
- ✦ the number of Professors and Doctors of Sciences per 100 students.

For receiving partial ranking scores there was used the following method of calculation [3, 5]:

$$r_{ij} = \frac{x_{ij}}{x_{\max}}. \quad (1)$$

The calculated values are presented in Table 2.

It is proposed to determine ranking scores by the criterion "quality of scientific and pedagogical potential" (evaluation of SPP – $r_{i,SPP}$) by using the following weighting coefficients:

"the number of lecturers per 100 students" – 20%;

“the number of PhDs per 100 students” – 30%;
 “the number of Professors and Doctors of Sciences per 100 students” – 50%.

Thus, the overall score by this criterion will be determined as:

$$r_{i,SPP} = 0,2r_{i1} + 0,3r_{i2} + 0,5r_{i3}.$$

The calculated values are shown in the last column of Table 2.

Rating scores of the education quality $r_{i,ed.qual}$. (criterion 2) and level of international recognition $r_{i,int.recogn}$. (criterion 3) are determined on the basis of data on corresponding indicators of the latest release of the national ranking of Ukrainian universities of III–IV accreditation level “Top 200 Ukraine” in 2015 [4].

Evaluation of quality of training for practical work from the standpoint of employers $r_{i,empl}$. (criterion 4) was conducted by leading employing companies [6]. In respect of each speciality there were proposed a separate list of higher educational establishments, which produce special-

ists. The evaluation of “Temples of Science” was conducted by a ten-point scale, where “0” meant “I would never employ a graduate with the diploma of this higher educational establishment” and the score of 10 points – “I would offer the graduate a higher salary than to other competitors”.

The level of education in domestic higher educational establishments still does not satisfy the employers. They complain at the illiteracy of former students, poor command of foreign languages, lack of practical skills [6].

Rating scores of the quality of education, level of international recognition and quality of training for practical work from the standpoint of employers are determined by the formula (1), the calculation results are presented in Table 3.

Activities of higher educational establishments were evaluated using the total ranking score $r_{i,total}$. This score is an integral one and is determined by four complex criteria:

$$r_{i,total} = \alpha_1 r_{i,SPP} + \alpha_2 r_{i,ed.qual} + \alpha_3 r_{i,int.recogn} + \alpha_4 r_{i,empl}.$$

The weighting coefficients α were determined by a group of highly skilled specialists in the field of science and education (lecturers of Faculty of Economics of V. N. Kara-

Table 2

The ranking scores of scientific and pedagogical potential of higher educational establishments of Kharkiv

№	Kharkiv higher educational establishments of III–IV accreditation level	Ranking scores			
		In terms of the number of lecturers per 100 students	In terms of the number of Ph.Ds. per 100 students	In terms of the number of Professors and Doctors of Sciences per 100 students	In terms of SPP
		r_{i1}	r_{i2}	r_{i3}	$r_{i,SPP}$
1	V. N. Karazin KhNU	0.924	1.000	1.000	0.985
2	NTU “KhPI”	0.500	0.509	0.636	0.571
3	Yaroslav Mudryi NLU	0.234	0.263	0.273	0.262
4	KhNURE	0.395	0.388	0.827	0.609
5	NUPh	0.294	0.329	0.346	0.330
6	KhAI	0.405	0.430	0.454	0.437
7	KhNMU	0.464	0.676	0.840	0.716
8	Simon Kuznets KhNUE	0.292	0.337	0.397	0.358
9	KhNTUA	0.297	0.330	0.490	0.403
10	KhNADU	0.249	0.277	0.328	0.297
11	UEPA	0.239	0.241	0.297	0.269
12	KhNUCA	0.422	0.526	0.607	0.546
13	USURT	0.270	0.291	0.217	0.250
14	KhNPU	0.566	0.524	0.602	0.571
15	KhNAME	0.138	0.194	0.243	0.207
16	KhNAU	0.668	0.665	0.836	0.751
17	KhSUFTT	0.328	0.278	0.380	0.339
18	KhSAPhC	0.470	0.367	0.258	0.333
19	KhNUA	1.000	0.667	0.340	0.570
20	NUCPU	0.423	0.533	0.426	0.458
21	KhSADA	0.626	0.474	0.616	0.575

The source: calculated by the authors.

The ranking scores of the education quality, level of international recognition, quality of the students' training from the standpoint of employers and total score of Kharkiv higher educational establishments

№	Kharkiv higher educational establishments of III–IV accreditation level	Ranking evaluations			
		In terms of education quality	In terms of international recognition	In terms of training quality from the employer's standpoint	Total
		$r_{i,ed.qual.}$	$r_{i,int.recogn.}$	$r_{i,empl.}$	$r_{i,total}$
1	V. N. Karazyn KhNU	0.924	1.000	1.000	0.985
2	NTU "KhPI"	0.500	0.509	0.636	0.571
3	Yaroslav Mudryi NLU	0.234	0.263	0.273	0.262
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13	USURT	0.270	0.291	0.217	0.250
14	KhNPU	0.566	0.524	0.602	0.571
15	KhNAME	0.138	0.194	0.243	0.207
16	KhNAU	0.668	0.665	0.836	0.751
17	KhSUFTT	0.328	0.278	0.380	0.339
18	KhSAPhC	0.470	0.367	0.258	0.333
19	KhNUA	1.000	0.667	0.340	0.570
20	NUCPU	0.423	0.533	0.426	0.458
21	KhSADA	0.626	0.474	0.616	0.575

The source: calculated by the authors.

zin Kharkiv National University, the National Technical University "Kharkiv Polytechnic Institute", Yaroslav Mudryi National Law University and also four-year students of Faculty of Economics of V. N. Karazin Kharkiv National University), which included 78 persons, on the basis of a questionnaire using the method of expert evaluation.

By generalizing the material of the questionnaires the following results were obtained (Table 4).

According to the values of the coefficients, the total ranking score was determined as follows:

$$r_{i,total} = 0,31r_{i,SPP} + 0,25r_{i,ed.qual.} + 0,15r_{i,int.recogn.} + 0,29r_{i,empl.}$$

The values of total ranking scores were calculated and higher educational establishments of Kharkiv ranked by the score (Fig. 1).

The average value of ranking scores equals 0.483. Eight of the twenty-one higher educational establishments are ranked above average. These are the following ones:

1. V. N. Karazin Kharkiv National University (KhNU);
2. The National Technical University "Kharkiv Polytechnic Institute" (NTU "KhPI");

Table 4

The results of using the method of expert evaluation to determine weighting coefficients α for calculation of the total ranking score

Evaluation criteria	The criterion weight, %
Quality of scientific and pedagogical potential (SPP)	31
Quality of education	25
Level of international recognition	15
Quality of training for practical work from the standpoint of employers	29

3. Kharkiv National University of Radioelectronics (KhNURE);
4. National Aerospace University "N. E. Zhukovskii Kharkiv Aviation Institute" (KhAI);
5. Kharkiv National Medical University (KhNMU);
6. Yaroslav Mudryi National Law University (Yaroslav Mudryi NLU);

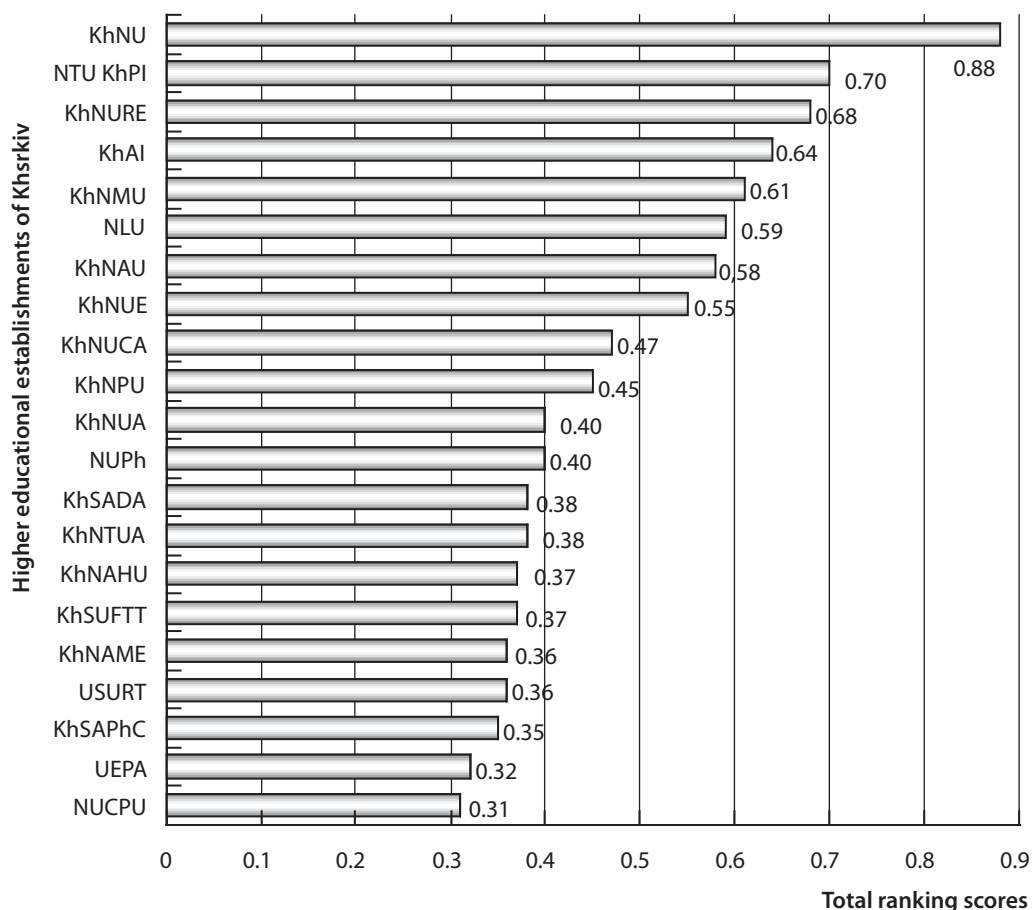


Fig. 1. The ranking scores and place of Kharkiv higher educational establishments of III-IV accreditation level in the general ranking

7. V. V. Dokuchayev Kharkiv National Agrarian University (KhNAU);

8. Simon Kuznets Kharkiv National University of Economics.(Simon Kuznets KhNUE).

Thus, according to the results of the study, it was determined that the first place among higher educational establishments of Kharkov is occupied by V. N. Karazin Kharkiv National University and its ranking score is significantly different from the others.

CONCLUSIONS

Despite a large number of evaluation methodologies that allow ranking higher educational establishments by the level of education, none of them can claim to be used as a universal one. Therefore, it is appropriate keeping the dynamics of changes in resulting indicators by several methods.

In respect to the evaluation of higher educational establishments of Kharkiv, summarizing the abovementioned, we can say that there are different techniques, different rankings [3, 5], but the main criteria for evaluating the quality of educational establishments in the market economy are the same:

1) the reputation, which is evaluated by the quality of students, who entered the higher educational establishment (competition, average points by one or another scale, age, work experience (for business schools), the number of foreigners, the cost of education);

2) educational process (availability of regular academic staff and its qualifications, scope of scientific research for

graduate and postgraduate studies, group sizes, cost of university facilities);

3) employment opportunities (percentage of graduates, who quickly received a job, starting salary, the number of graduates, who got jobs in famous transnational corporations, etc.). ■

LITERATURE

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