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ALUMNI Indicator as a Criterion for Evaluating the Quality of Academic Institutions

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Abstract

This paper presents the model for ranking the quality of academic institutions, based on combination of academic and non – academic criteria. Each of the criteria consists of several indicators which are given certain relevance. The authors focused especially on the value of the ALUMNI indicator, which are given a total of 25% of the gravity factor. The use of this model will allow the forming of adequate methodology for the national ranking of the academic institutions.

Key words: *quality academic institution, ranking, criteria, methodology*

1. INTRODUCTION

The main purpose of the evaluation of the quality of the academic institutions is to set up guidelines for the development and enhance the work of the academic institutions. High placement in the process of ranking would help the academic institutions to adequately present themselves to the potential partners with whom they want to work on the projects, to attract high – school graduates during the process of the enrolment on the university and to help the employers to select adequate employees.
Methodology by which the evaluation of the quality of the academic institutions will allow forming of the adequate national rankings of the academic institutions. The world practice shows examples of different academic and non – academic methodologies of university rankings, which doesn't necessarily need to exclude one another. More complete ranking of the univesities and academic institutions can be acheved by combining different methodologies of the ranking. This approach will allow creating of the clear picture about the quality of each and every academic institution. It is important to notice that educational staff must contribute to the sucess of the academic institution. On the other hand, current and graduated students, as well as their professional sucess, should be taken into consideration when we discuss the image of the faculty or the university.

2. CRITERIA FOR EVALUATING ACADEMIC INSTITUTIONS

Work and sucess of the academic institutions on the international level is being permanently measured by implementation of various methodologies.

Methodologies used for evaluating the quality of the academic institutions can be separated on methodologies based on academic criteria and on methodologies based on non – academic criteria. Methodologies based on academic criteria have a goal to estabilish rankings of the academic institutions by taking into consideration the achievements of the academic institutions. More specificly, only the scientifical achievements acheved by the staff of the academic institution are taken into consideration. Non – academic criteria in the ranking methodology are focused on the sucess of the current and graduated students of the university and they give more attention towards the sucess of the Alumni and their perception of high – education facilities from which they graduated. This is important since creating a leadership does not include just academical excellence. It is not possible to be a leader in manufacturing whitout maintaining a leading edge understanding of the technology by continuous engagement with it [1].

Of the non – academic criteria the authors would like to single out the following ones: the speed with which they find employment, average salary, the opinnion of the experts for the human resources etc. The basic characteristic of those criteria is that they don't rank universities direclty, but indirectly via current and

graduated students. The main goal of those criteria is to single out the quality of the academic institutions through the sucess of its alumni and not through the achievements of its staff. Jalbert, Rao and Jalbert provided two rankings, the one that considers the number of graduates from the university that placed themselves in top CEO position and the one that considers the salary that those graduates receive [2].

2.1 ***Shanghai list***

The comparison of the institutions for the higher education started with the forming of *Academic Ranking of World Universities* list*,* which is yearly published by the Shanghai Jiao Tong University from Kine.

Shanghai list ranks 500 most sucessful universities in the world out of the 2000 which are taken into evaluation process. Laureats of the Nobel prise and other highly acclaimed scientific awards, as well as citation of the works of the scientific staff in the most prominent citation inedxes are the basis for the university to be taken into consideration [3].

Methodology of the university ranking takes into consideration several formed criteria which contain defined indicators which are adequately weighted. The highest ranked university has a 100 points while the other universities are ranked by the percentage of the grade of the highest university, which is taken as a benchmark. The criteria that Shanghai list use in its rankings are: the quality of the education (measured by the number of alumni which became laureates of the Nobel prize and other highly acclaimed scientifical awards), the quality of the institution (measured by the the number of the staff which became laureates of the Nobel prize and other highly acclaimed scientifical awards and by the number of the citations measured by the leading citation indexes from the 21 area of expertise) , quality of the research (indicators – articles published in Nature&Science and articles cited in the journals which are part of Science Citation Index and Social Science Citation Index) and performance per capita (indicator – per capita academic performance of the institution. For institutions specialized in humanities and social sciences such as London School of Economics, N&S is not considered, and the weight of N&S is relocated to other indicators [3].

In the total, the quality of the education has a 10% weighting, quality of the institution has a 40% weighting, quality of the research has a 40% weighting and performance per capita has 10% weighting. Jointly they make a 100% of the total score for the ranking.

This method of ranking of the academic institutions takes into consideration only the academic criteria, while it doesn't take into consideration the succesfulness of the graduated students in the field of work and their advancement through the career.

2.2 ***FORBES methodology***

One of the methodologies based on the non – academic criteria is the Forbes methodology. Forbes publication which goes under the name of *America's Best Colleges* presented a revolution in the methodology of the university ranking because it introduced a new dimension. This methodology takes into consideration the sucess of the student during studies and after they finished studies. A total of 600 USA universities which offer different degrees can be found on the list [4].

Forbes methodology has a business orientated approach to the ranking of the academic institutions. It uses the achevements of current and graduated students as the starting point. In the total grade for the academical institution, the achevement of the alumni of the university has a weighting of 12.5%, the salaries of the alumni are weighted with 12.5%, student evaluations have a weighting of 25%, the sucess of the students has a weighting of 16.67% and achieved students awards carry 8.33% of the weighting.

This data are pointing out the need for better and more organised communication between the academic institutions and graduated students which could be used as a starting point towards the different measuring of the qualities of the domestic faculties.

2.3 ***CHE methodology***

Ranking of the German universities, published in »Die Zeit« magazine on the data issued by the »CHE HochschulRanking« [5] uses a methodology based on the combination of the descriptive academic and non – academic criteria. The criteria of the ranking covers 37 indicators divided into 9 modules - Job market and career-orientation, Equipment, Research, Overall opinions, International orientation, Result of study, Town and University, Students, Academic studies and teaching. Part of the module Job market and career-orientation uses graduated students as the source for data (Survey of graduates), while the type of data is classified as ranks, average value and interval of trust. Some of the indicators that are taken into the final grade are: Advisory Board from the practice world, Career orientation and practical relevance of course, Didactical mediation of the subject matter, Teaching of transfer skills, Teaching of problem solving skills, Teaching of independent work / learning skill, Teaching of team skills, Integration of subfields, Research orientation, Promotion of research competence, Didactical mediation of the subject matter, Interdisciplinary relations within the curriculum, Promotion of key skills, Promotion of entrepreneurial thinking. Universities are classified by the field of research and can be divided into one of the four groups: top group, middle group, bottom group and not specified. Data is collected through questionnaires administered to members of departments or faculties, professors, students as well as on bibliometric analyses of the publication [6].

This methodology consider the opinion and the sucess of the alumni as important, however these categories are not given any value or weighting.

2.4 QS world university rankings methodology

Quacquarelli Symonds world university rankings is a list of world best universities measured by Quacquarelli Symonds company. The QS world university rankings were published as a Times Higher Education – QS World University Rankings from year 2004 to 2009. From 2010 the QS world university rankings are published separately, after the end of the colaboration with Times Higher Education.

The QS centers [7] its ranking on the academic reputation survey which carries 40% weighting. Other indicators are employer reputation (10% weighting), student faculty ratio (20% weighting), citations per faculty (20% weighting) and internationalisation (10% weighting). The difference that it makes is the way that academic reputation survey and employer reputation survey are done by opinion survey. Academic reputation survey is done by the university staff, while employer reputation survey is carried out by the company representatives. The method is simply naming the academic institutions for which the respondents think they are the best in the field of their interest. Because of that way of creating the rankings, QS methodology is constantly coming under criticism. In the process od calculating return questionnaire for university reputation, QS Rankings failed to control the number and qualification of questionnaire, thus leading to a selection bias [8]. Other reason why this methodology is coming under criticism is that it is geographical biased survey [9]. Nevertheless, the combination of academic and non – academic criteria can be of an interest. Graduated students are not presented in this methodology by their opinion, however the opinion of the employers about the graduated students certanly exist.

3. ALUMNI indicator

ALUMNI indicator is one of the indicators based on the non – academic criteria. The evaluation of the academic institutions on the base of non – academic criteria is mostly using the results, achievements and opinions of the graduated students as the relevant starting point. The important factor is also the employers. It is possible to determine compatibility of the study programs of the graduated students with the real needs on the labour market and the real needs of the employers.

ALUMNI associations can provide significant help in gathering data needed for creation of the ALUMNI indicators. That is why the authors will show the most important effects of the ALUMNI associations.

3.1 *ALUMNI associations*

After the formal end of studies, the interest of graduated students to continue nurturing connection with the faculties is high. One of the options for gathering and collective action of graduated students is through forming ALUMNI associations whose activities influence on the strenghtening of the link between graduated students and faculites.

It is important to keep a connection with the graduated students who are professionaly engaged because that is the way that connection between faculties on the one side and with the economy and the labour market can be improved. Actions of the ALUMNI associations through the cooperation with the faculty are important for the development and the improvement of the study courses. Graduated students, on the other hand, estabilish a link with the faculty and gain the possibilities for continuous connection with the faculty through programs of constant development and trainings.

The most important effects (Figure 1) of the connection between graduated students and the faculties are:

a) In the process of evaluation of the quality of the faculty, one of the indicators is the sucess of the alumni members;

b) Faculty estabilish a direct insight on the professional development of its graduates and how to adjust and enhance the quality of its study programes so they can correspond to the needs of the labour market;

c) Graduated students are staying in the contact with the faculty through programes of life – long learning and through personal development trainings, which the faculty itself can organize.

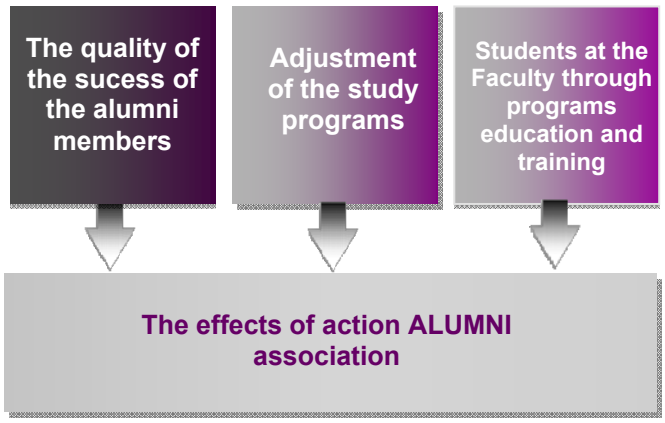

Figure 1. The effects of action ALUMNI association

Observations and suggestions of the members of the ALUMNI association based on experience from the practice can help to improve the quality of the studies. In formal two – way communication with the faculty and based on the experience of the graduated students from the practice it is possible to achieve significant results in the field of adjusting the courses towards the need of the labour market. Considering that it is hard to predict the needs for certain profiles which will be sought on the labour market, it is of great interest for the faculties to cooperate with graduated students which have a direct insight on the current situation and trends of the development. Well – timed formation of study modules which will produce experts with needed skills would decrease the time that fresh graduates spend as an unemployed. Also, it will provide the main goal of the process of education – to apply the knowledge in practice and increase the earnings for the

employee, to make the profit for the company and to contribute to the economical development of the society [10].

Activities of the ALUMNI associations such as gathering and frequent refreshing of the informations about the alumni association members could contribute to the use of the criteria of faculty rankings based on successes and achievements of the members of the alumni associations.

4. METHODOLOGY USED FOR CREATION OF THE MODEL

The authors took into consideration all mentioned methodologies (Shanghai list, FORBES methodology, CHE methodology and QS world university rankings methodology) when they created their own model for evaluation of the quality of academical institutions. Since the idea is to implement both academical and non – academical criteria in the model, the authors used methodologies that have non – academical criteria as a part of a final grade.

For the creation of the Alumni indicator the authors used FORBES methodology, since the weightening of the alumni as an indicator in total was the highest of all other observed methodologies. However, the authors implemented more subindicators so the measurement can be more precise. To include further subindicators, the authors used criteria from the QS world university rankings methodology and CHE methodology.

The FORBES methodology is also used as a starting point for the creation of the student indicator, while the QS world university rankings and Shanghai list were used for the creation of the Research and Quality of faculty indicators. Revenue is not widely used as an indicator, but some of the new methodologies (U – multirank) are taking the revenues of academic instiutions as an important criteria in measurements of the academic excellence. The authors consider this indicator as relevant since it can contribute to the more precies measurement of the enterpreneurship on the university and scientifical work that was commercialized.

The type of data largely depends on the source of data. While some of the data can be explicitly shown, other data is collected via opinion sheets, like in the QS world university rankings methodology.

5. MODEL FOR EVALUATION OF THE QUALITY OF ACADEMICAL INSTITUTIONS

The formation of the national rankings will be possible by implementing the suggested methodology for evaluation of the quality of academical institutions. Model presented on the Figure 2. is based on the combination of academical and non – academical criteria.

The choice of these indicators is based on the possibility of gathering reliable and measurable data. The sources of the data needed for calculation of the value of the indicators based on academic criteria are official sites of KOBSON library, Statistical office of the Republic of Serbia and offices of the academic institutions. The sources of the data needed for calculation of the value of the indicators based on non – academic criteria are ALUMNI associations, questionnaires sent to employers and to National employment agency. Indicators are divided in five groups, as shown in Table 1.

The authors divided criteria under five indicators: Alumni indicator (25% weighted), scientific indicator (25% weighted), student indicator (30% weighted), faculty indicator (15% weighted) and revenue indicator (5% weighted). These five criteria were given such weighted because the authors had in mind the good practice from the already existing methods of rankings and bordering themselves on the national level. Furthermore, the authors divided the indicators by the source from where the required data could be collected.

Introduction of separate ALUMNI indicator presents the market – orientated part of the evaluation. In the most of the worldwide methodologies of the evaluation of quality of the academic institutions graduated students appear rarely as a part of the rank. Since the graduated student is considered as the most important carrier of the information about the academical institution from which he or she graduated, ALUMNI indicator is introduced and weighted with such a high factor. Furthermore, future students mostly look up on their possibilities when they graduate. That is why the success and achievements of graduated students present one of the most important criteria when it comes to the choosing of the academical institution among future students. Thus, shorter period between graduating and finding a job as well as average salary are important indicators. The prizes and the achievements of the graduated students are also important as the indicator, showing the scientific work of the alumni. Possibility of a good internship and suitability of the study programme are showing that the institution has a program that produces highly sought – after experts that are currently needed on the labour market.

The authors identified two types of data that would appear during the process of data collection:

1) Exact data (such as average salary or average time the graduates spent before the first employment)

2) Data from questionnaires (such as suitability of the study programmes)

The exact data could be obtained from different government agencies or from the alumni associations. The scale that would be used is from 0 to 100, taking

the decimals into account. The institution with the highest absolute value of one indicator would be given a 100 points and that value would later act as a benchmark. The rest of the institutions would be given points on the base of how close they are to reach the benchmark value in terms of percentage. That way the values of all indicators would be put on the same scale.

Data from questionnaires would be different to the exact data given that it is based on opinion of the examinee. The questionnaire would contain the questions for indicators that can't be assessed through the official data. The authors used methodology where each factor can take value from 1 to 5, where 1 represents the lowest and 5 the highest rate (similar to the QS world university rankings methodology). The final grade of the indicator is a mean value of all five ranks. After that step, the process is the same as with the exact data. The questionnaires would be sent through to the data base of the ALUMNI associations and to the broad range of employers.

These steps are required so all the values can be transferred to the same scale and then weighted accordingly.

On Figure 2. is presented proposed model for evaluation of the national academical institutions based on existing methodologies for evaluation of the quality of the academical institutions.

Table 1. Indicators and source of date suggest of methodology

Indicators	Subindicators	Source of data	Type of data	Weight
ALUMNI indicator	The success of the alumni members-awards, Speed of employment, the average amount of earnings	Information from Alumni association, questionnaires, The National Employment service Statistical office of the Republic of Serbia	Average	15%
	Adjustment of the study of the labor market, Professional practice, Opinion of experts human resources	Alumni survey, companies in which former students work	Rank 1 the lowest – 5 the highest	10%
Research	Research and conditions for the Scientific Research (equipment include)	The National Employment service	Average	10%
	The result of scientific research: the published on the SCI list,patents	Kobson/researches	Average	15%
Students	Results of study: number of students per year, during the study, the average success	Faculty services	Average	5%
	Students evaluations	Faculty services	Rank 1 the lowest – 5 the highest and other	10%
	The success of the students - awards	Faculty services	Average	15%
Quality of Faculty	International cooperation: The number of foreign students/the number of students who have gone on exchange	Faculty services	Average	5%
	Faculty awards	Kobson/ researches	Average	10%
Revenues	The share of revenue from the study, Income from projects, Revenues from the sale of patents, Revenues from the spin - off companies	Faculty services	Average	5%
	Total:			**100%**

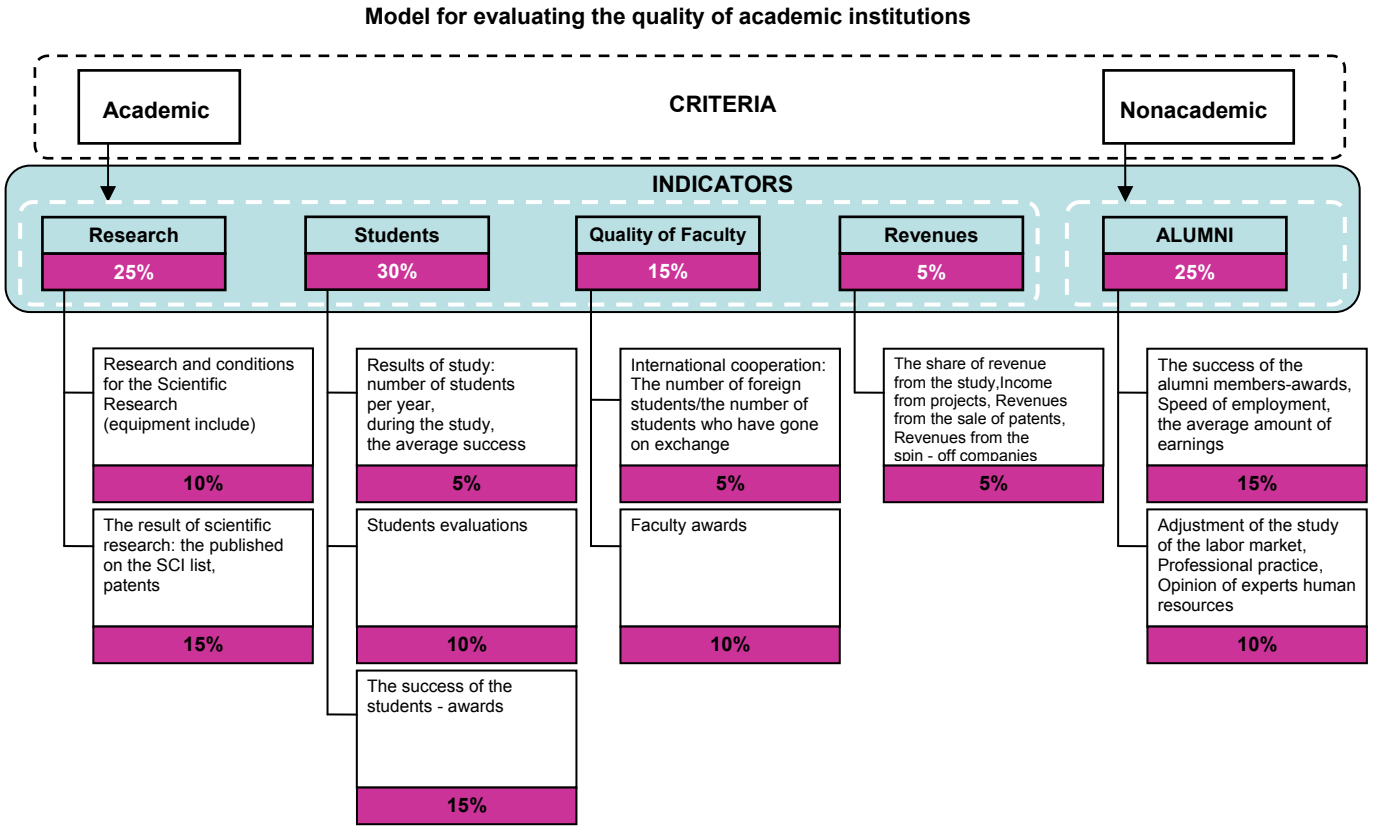

Figure 2. Model for evaluating the quality of academic institutions

6. CONCLUSION

The evaluation of the academic institutions is done with the aim for raising the quality of work and success of the institutions. The formation of the rankings of the domestic faculties modelled after world renowned university rankings will help create the clear image about the quality of domestic academic institutions. The proposed model for formation of the rankings is using a combination of academic and non – academic criteria for evaluation of the success and the quality of the academic institutions. The sources of data for measurement of indicators based on academic criteria are recognizable and it is possible to easily measure the indicators. However, acquiring the data for measurement of the indicators of the non – academic criteria is quite harder. In this paper the authors showed the significance of the ALUMNI associations as one of the sources for acquiring reliable and adequate data about the development of graduated students. The methodology presented for creating the new domestic ranking of the academic institutions presents a easy – to – use tool. Including the ALUMNI indicator, the authors added a market – orientated indicator for assessing the quality of the institution. Further steps would be to find the needed data and create the rankings of the domestic academic institutions.

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ALUMNI indikator kao kriterijum za ocenu kvaliteta akademskih institucija

Snežana Sando i Miroslav Ferenčak

Rezime

Ovaj rad predstavlja model za rangiranje kvaliteta akademskih institucija koji se zasniva na kombinaciji akademskih i ne-akademskih kriterijuma. Svaki od kriterijuma sastoji se od nekoliko indikatora koji imaju određen značaj. Autori su se posebno fokusirali na vrednost ALUMNI indikatora kome je dato ukupno 25% faktora značaja. Upotreba ovog modela omogućava stvaranje adekvatne metodologije za nacionalno rangiranje akademskih institucija.

Ključne reči: *kvalitet akademske institucije, rangiranje, kriterijumi, metodologija*