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SOCIAL RESPONSIBILITY AS A KEY PERFORMANCE INDICATOR FOR THE QUALITY OF EDUCATIONAL PROCESSES

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ABSTRACT

Quality of education is a key issue in providing a sustainable future. University rankings have remarkable reputation among various stakeholders but they lack personality. This paper raises questions and proposes alternatives for possible solution for the problem. The change for the better is seen as implementing and in the same time adapting international standards to different regional, national and cultural settings.

INTRODUCTION

It is already a well-established practice to rank universities. Among the most widely used international rankings are the Times Higher Education World University Rankings, the Academic Ranking of World Universities (ARWU), the QS World University Rankings, etc.

The Times Higher Education World University Rankings promotes itself as "the only global university performance tables to judge research-led universities across all their core missions - teaching, research, knowledge transfer and international outlook." [17] The ranking is based on 13 performance indicators to be used by stakeholders such as students, academics, university leaders, industry and governments. The performance indicators are grouped in five categories with different relative share:

1) Teaching: the learning environment (30%) – results of the world's largest invitation-only academic reputation survey performed by Thomson Reuters (15%), staff-to-student ratio (4.5%), doctorate-to-bachelor's ratio (2.25%), number of doctorates awarded vs. number of academic staff employed (6%), and institutional income vs. number of academic staff (2.25%).

2) Research (30%): volume of papers published in indexed journals (6%), research income (6%), and reputation (18%).

3) Citations: research influence (30%) – "the single most influential of the 13 indicators, and looks at the role of universities in spreading new knowledge and ideas."

4) International outlook (7.5%): international vs. domestic staff (2.5%), international vs. domestic students (2.5%), and international research co-authorship (2.5%).

5) Industry income: innovation (2.5%) – knowledge transfer from university to industry through innovations, inventions and consultancy.

It is not hard to observe that Bulgarian universities are having a difficulties in getting top positions in this ranking. Half of the points in the first category are awarded based on an "invitation-only academic reputation survey". Due to the fact that a very limited number of Bulgarian universities offer degree courses in English, while most of the courses are taught in Bulgarian, most international staff are language teachers. This partially explains the low "international vs. domestic staff" ratio. But the most striking problem is the "volume of papers published in indexed journals", and the "research influence" correlated with it. Some of the causes for these negative overview are:

- The poor infrastructure (laboratory equipment, software, maintenance) which dominated the period between the fall of communism and the joining the European Union.

- Language barrier – a shift during the abovementioned period from Russian to English as the main language used in scientific work.

- Low activity and protection of intellectual property (patents, useful models).

- Unclear focus- are the universities a place mainly for teaching, mainly for research, or some proportion between these two.

- Financial hardships during the period of hyperinflation (1996-1997), and the economic crisis.

The Academic Ranking of World Universities (ARWU) takes into consideration universities with Nobel Laureates, Fields Medalists, Highly Cited Researchers, or papers published in Nature or Science, [15] The ARWU ranking also covers universities with significant amount of papers indexed by Science Citation Index-Expanded and Social Science Citation Index. This ranking system is based on four criteria and six indicators. The criterion "Quality of Education" accounts for 10% of the total index and its indicator is "Alumni of an institution winning Nobel Prizes and Fields Medals". The second criterion "Quality of Faculty" is formed by "Staff of an institution winning Nobel Prizes and Fields Medals" and "Highly cited researchers in 21 broad subject categories" each of them with a share of 20%. The third criterion "Research Output" is equally important to the second one, this time dividing the criterion's share of 40% equally between indicators "Papers published in Nature and Science" and "Papers indexed in Science Citation Index-expanded (SCIE) and Social Science Citation Index (SSCI)". The last criterion specified by the ARWU ranking system "Per Capita Performance" has a share of 10% of the total ranking grade and in fact means "Per capita academic performance of an institution". It is calculated as the weighted scores of the above five indicators divided by the number of full-time equivalent academic staff.

The QS World University Rankings are based on the results of their own global academic and employer surveys and research metrics extracted from Scopus. [16] QS has excluded criteria such as financial metrics (for example research income), maintains a strong emphasis on peer review, takes into consideration geographical and cultural diversity, and "avoids a bias towards internationally recognized journals published in English". The QS ranking is based on the six indicators described briefly below:

1) The most important indicator (40%) in this ranking is "The Academic Reputation Index". This approach to international university evaluation is pioneered by QS in 2004 and is the component that attracts the greatest interest and scrutiny.

2) The "Employer Reputation" component is unique amongst current international evaluations in taking into consideration the important component of employability. The data for this indicator comes from a global survey and weights 10% in the QS ranking score. Together with the Academic Reputation Index the "Employer Reputation" is the aspect which sets the QS ranking most clearly apart from any other.

3) 20% of the ranking score is the result of the Student Faculty Ratio which "at present, is the only globally comparable and available indicator that has been identified to address the stated objective of evaluating teaching quality". This indicator relates the notion of "commitment to teaching" with the level of teaching quality.

4) Citations per Faculty (from Scopus) score contributes 20% to the overall rankings score.

5) The indicator "Proportion of international students" has 5% weight in the ranking score, which equals the weight of the last indicator

6) "Proportion of international faculty" (5%).

In Bulgaria the idea of ranking universities is fairly new (even though some kind of ranking was used in placing applicants in universities before 1989). In 2010 the Ministry of Education and Science has published a methodology for "A Rating System for Higher Educational Institutions in Bulgaria". The National Rating system was a result from a project financed by the European Social Fund (ESF) and the Operational Programme of the European Union "Human Resources Development 2007-2013". The latest developments in this sphere involve pro-active measures towards tying ranking scores to the governmental funding of universities. This is in conflict with the stated intent of the ranking:

The Bulgarian University Ranking System (BURS) has been developed to support potential students in their choice of a university. [1, 11] The 2013 updated version of the ranking system uses more than 77 different indicators. 69 of them are used when performing the standardized BURS ranking system against which universities can be compared. The indicators have been developed based on statistical data collected from different sources, including sociological surveys, and are grouped into 6 categories:

1) Teaching and learning process (20%). The indicators which comprise this category are:

- Accreditation grade, awarded by the National Agency for Assessment and Accreditation (NAOA),

- Theoretic expertise – richness of course content and ability to update curricula according to modern trends.

- Practical expertise – links of lectures and exercises with practice, field studies, etc.

- Participation of students in internships and stages.

- Teaching – method and quality of teaching, contacts of students with the professors, feedback and consultations, motivation for additional research work and continuing towards a higher educational and research degree.

- Method used to assess the students' knowledge.

- Intensiveness of education – average hours per week, devoted to lectures, exercises and self-preparation.

- International mobility – number of students per 1000 students who have participated in international exchanges (for example – Erasmus).

- Number of Bachelor degrees.

- Number of Master degrees.

- Regulated degree courses (majors) such as medicine, law, etc.

- Exclusivity of teaching staff – percentage of teaching staff with a main working contract with the university being ranked in relation to all teaching staff with a full-time contract.

- Significance of the teaching process for the teaching staff.

- Intensiveness of teaching – the average number of teaching hours per week per university teacher.

2) Science and research process (20%). The indicators in this category are:

- Citation index of the university – Scopus citations for the past four years.

- Citation index of the university – Web of Knowledge citations for the past four years.

- Citation index in the professional domain – Scopus citations for the past four years.

- Citation index in the professional domain – Web of Knowledge citations for the past four years.

- Citation index in the professional domain and excluding auto citation – Scopus citations for the past four years.

- Average number of citations of a document according to Scopus (for the past four years).

- Average number of citations of a document according to Web of Knowledge (for the past four years).

- Number of documents cited at least once in Scopus (h-index for the past four years).

- Number of documents cited at least once in Web of Knowledge (for the past four years).

- Articles in scientific journals (Scopus) – by scientific domain and for the past four years.

- Articles in scientific journals (Web of Knowledge) – by scientific domain and for the past four years.

- Participation of students in scientific and research activities (SRA) – the percentage of students who have participated in scientific projects, conferences, and who have written and presented scientific reports, articles and publications.

- Number of doctoral (PhD) programmes in the professional domain – the number of PhD programmes in the professional domain which have accreditation by the NAOA.

- Number of doctoral (PhD) programmes in the university.

- Ratio between the number of PhD students and the total number of students in the professional domain.

- Total SRA funds per student – government funding and additionally accumulated funds (in BGN) per student for the past year.

- Sub-total SRA funds per student –additionally accumulated funds (in BGN) per student for the past year. Such financing may come from the National Science Fund, international and domestic projects, FP7 projects, donations, etc.

- Significance of scientific research for the teaching staff.

- Intensiveness of scientific work- the average number of research hours per week per university teacher.

- Usage of scientific products and services by employers - the percentage of employers who have used in the last five years patents/products/services, provided by the university.

3) Teaching and learning environment (10%). The indicators in the third category are listed below:

- Infrastructure assessment – the opinion of students as expressed in a survey regarding the conditions in the lecture halls, the equipment in the professional domain, the access to computers and free internet in the university.

- Teaching schedule – the view of the students regarding the suitability and expedience of the teaching schedule.

- Library services – convenience of the working time, availability of information sources, access to electronic data bases and their usage in the educational processes.

- Infrastructure assessment by the teaching staff.

- Economic infrastructure – the value (in BGN) per student of lecture halls, equipment, sports facilities, canteens and kitchens.

- Equipment – the value (in BGN) per student of computers, hardware, machines, tools, automobiles and vehicles.

- Number of library items (volumes) per student – books, archived materials, microfilms, CDs, magazines, journals, conference proceedings, etc.

- Usage of library items – number of library items borrowed (per student and for the past year).

- Information assurance – number of subscriptions for international data bases.

- Educational area – the area (in m2) of lecture halls and laboratories per student,

- Significance of the teaching environment for the teaching staff.

4) Welfare and administrative services (5%). The indicators are:

- Scholarships – average expenditures of the university per full-time student.

- Students' dormitories – the percentage of full-time students who stay at the dormitories provided by the university.

- Satisfaction – the students' level of satisfaction with the social life, sports facilities, cleanliness and hygiene at the university, the living conditions and possibilities for studying at the dormitories, the access to students' cafeteria, canteen, kitchen, etc.

- Welfare assessment by the administrative staff.

- Students' assessment of the administrative services – student's perception of the working time and the effectiveness of administrative units, the availability and access to electronic administrative services.

- Self-assessment of the administrative staff of the university.

- Career development services – existence and operation efficiency of a Career Development Centre, meetings with employers and alumni, career days, etc.

- Assessment of the administrative services – similar to the students' assessment but from the point of view of the teaching staff.

- Significance of welfare and administrative services for the teaching staff.

5) Prestige (15%). Good reputation and demand are related to:

- Average grade from the high school diploma of the first year students.

- Foreign students (as a percentage of the total number of students).

- Prestige among students – the percentage if interviewed students from other universities who list the surveyed university in their "Top 3" of the universities in their professional domain.

- "First choice" – the students' first choice of university and speciality (major).

- Students' satisfaction with their choice of speciality.

- Prestige among employers – the percentage of employers who prefer to hire their personnel from the university.

- Prestige among teaching staff – the percentage if interviewed teaching staff members from other universities who list the surveyed university in their "Top 3" of the universities in their professional domain.

- Significance of prestige for the teaching staff.

6) Career and relevance to labour market (30%). The indicators which shape this category are:

- Social insurance income of graduates – data for the past five academic years provided by the National Social Security Institute (NSSI).

- Unemployment among graduates – the percentage of officially registered unemployed graduates for the past five years (based on NSSI data).

- Application of acquired higher education – percentage of socially insured graduates (based on NSSI data) who are employed in a position requiring higher education.

- 'I am more self-confident that I will succeed in life' – survey on the degree of confidence of graduates.

- 'I have established important contacts and made friends' – survey among students.

- Contribution to the social security system – the percentage of graduates with social security payments in Bulgaria for the past five years (based on NSSI data).

- Regional importance – percentage of the graduates who plan to start their careers in the city or in the region of the university.

- Importance of professional realization of the graduates from the point of view of the teaching staff.

- The ratio between the social insurance income of the graduates and the average income (before taxes) for the region for the past five years (based on NSSI data).

The Bulgarian University Ranking System presented above mimics the Times Higher Education World University Rankings in a number of categories but is much more detailed in respect to the number of indicators. This makes the survey and analysis processes harder to manage and maintain.

Questions Stakeholders Should Ask Themselves

All the ranking systems presented in the previous section take into consideration the interests of a variety of interested parties. The problem is that their social responsibility remains a mystery. Just like in a job description we all have not only authority, but also responsibility. Thus, what is the responsibility of the following stakeholders:

- Authorities (the Parliament, the Government, the Ministry of Education and Science, the Regional administration, the municipalities),

- Local communities,

- University staff (teaching and administrative alike),

- Employers and their organizations,

- The families and social ambience of the students, and

- Last but not least – the customers of the educational services – our students.

Our responsibilities are dictated by law or affirmed in formal contracts, but our moral obligations or duty, if you may, are a significant factor which is missing in the equation. In order to bridge this gap we should start from the depths of our psychology.

So why not get some enthusiasm from motivational speaker and leadership consultant Simon Sinek. [14] In his bestseller book "Start with Why" Sinek advocates the idea of explaining the reason why we do things (so that we achieve our purpose), then specify how we plan to implement our solution, and finally what we actually do. Traditionally, this 'golden circle' is read and implemented in reverse. Universities mainly concentrate on teaching and research. Thinking they 'know-how' universities are trying to be more attractive through offering online courses and self-paced e-learning. But out of the three important questions, this is an answer to a less important one-"How". The universities of tomorrow should really ask themselves what is the necessity they satisfy?

A really sobering question for all teaching staff is "Have I taught properly if my students have not learned well enough?" [12] It is hard to accept criticism, but it is even more painful to look into ourselves and find our mistakes. It's not about guilt. Blaming ourselves, or even worse- blaming others, will get us nowhere. The obvious solution is to learn from our experience, to analyse students' feedback, to adopt best practices, and to do this constantly. As Heraclitus once said "The only thing that is constant is change".

Societies do change, and modern society changes at a faster pace than its predecessors. We all like to think that our way of living should be preserved for our children and the future generations. This urge to continue our human race has led to a number of initiatives and the creation of standards for sustainable development.

In 2006 the European Union has introduced its Sustainable Development Strategy (EU SDS) which defines the need and plans for action towards building a sustainable European future

based on overall objectives and concrete actions for seven key priority challenges: climate change and clean energy, sustainable transport, sustainable consumption and production, conservation and management of natural resources, public health, social inclusion, demography and migration, and global poverty and sustainable development challenges. [3] All these challenges directly or indirectly refer to education, and to higher education in particular. The EU SDS has been further developed on national levels and a monitoring and reporting system has been set up. In 2014 the EU SDS is going to be revised based on the outcomes of a multitude of EU funded projects. It is a fact that many universities have participated in such projects. Now, the question we should ask ourselves is what happens after the end of the projects, who maintains the project and its infrastructure after its completion, has society become more sustainable and what is the contribution of the educational institutions.

Social responsibility and corporate social responsibility (CSR) are integral elements of sustainable development. In 2001 Social Accountability International (SAI) - a US based company has proposed the first standard on social accountability SA8000. The current edition of the standard has been issued in 2008 and covers issues such as child labour, forced and compulsory labour, health and safety requirements, freedom of association and right to collective bargaining, discrimination, disciplinary practices, working hours, remuneration, and requirements for management systems. [13] Most of these requirements derive from UN conventions and declarations and by being such exclude prejudice for age, race, sex, religion.

The International Organization for Standardization (ISO) has reacted on this impulse and in turn has published a standard for social responsibility – ISO 26000. [9] This standard helps better understand social responsibility and recognize the responsibility of each stakeholder. In its 106 pages ISO 26000 is much more detailed than SA 8000. ISO 26000 gives guidance on integrating social responsibility throughout an organization by describing in detail core subjects such as: organizational governance, human rights, labour practices, the environment, fair operating practices, consumer issues, and community involvement and development.

Alternative Solutions for Higher Education Institutions

Ever since the first edition of the ISO 9000 series of standards for quality management systems their importance as a key factor for management and improvement in organizations worldwide has been rising continually. By 2013 more than 1101272 organizations worldwide have been certified for compliance with ISO 9001 to date. Alongside the core standard ISO 9000 which outlines the fundamental principles and specifies the vocabulary to be used in quality management systems, ISO 9001 is the most popular standard of the series mainly due to its wide recognition by authorities and non-governmental organizations alike. [2, 4, 5]

In the cases of companies which are not merely satisfied with the fact of certification, but rather prefer to continue their journey towards perfection, ISO 9004 is their primary choice. [6] This standard presents a quality management approach for managing an organization for its sustained success. ISO 9004 in its clause "8.3.2 Key performance indicators" specifies that

"Factors that are within the control of the organization and critical to its sustained success should be subject to performance measurement and identified as key performance indicators (KPIs). The KPIs should be quantifiable and should enable the organization to set measurable objectives, identify, monitor and predict trends and take corrective, preventive and improvement actions when necessary. Top management should select KPIs as a basis for making strategic and tactical decisions. The KPIs should in turn be suitably cascaded as performance indicators at relevant functions and levels within the organization to support the achievement of top level objectives."

In selecting the KPIs, the university should ensure that they provide measurable, accurate and reliable, and usable information regarding:

The needs and expectations of students and other interested parties- During the application process and upon registration each student is required to describe his/her motivation to study a specific major and in this specific university and faculty. Throughout the course of study each semester the faculty performs surveys on the student's opinion regarding the educational process, the teaching infrastructure, access to internships and the labour market, aspirations towards a higher educational and scientific degree. In addition some professors have transferred experience from Erasmus exchanges and have integrated feedback forms in an effort to continually improve their lectures depending of the real interest of the students. The Career Development Centre organizes and coordinates meetings of faculty and students with companies which lead to updating curricula and teaching programmes. Teaching and administrative staff continually upgrade their competence through training, Erasmus mobility and intensive programmes, and membership in professional organizations.

- The importance of individual products to the organization, both at the present time and in the future- The University of Ruse has 52 Bachelor degree programmes, 120 Master degree programmes and a wide variety of choices for PhD students. Keeping pace with modern developments in society is a challenge which we must learn to live with. The demand for higher qualification is countered by young people with expectations for quick solutions and gratification induced by their experience with the internet. Long and tedious lectures, exercises involving work in unpleasant environment, the need to complete detailed reports are a sure "repellent" for their interest. STEM (science, technology, engineering, and mathematics) related subjects are in a constant decline for years both in Europe and in the USA. E-learning and lifelong learning are on the rise, but real customisation of curricula and schedule,

accompanied by personal attention to each student are what we are already facing.

The effectiveness and efficiency of educational _ processes and use of resources- Effectiveness and efficiency are key terms in any quality management system. As defined in ISO 9000, effectiveness is the "extent to which planned activities are realized and planned results achieved". In other words, this KPI reflects the success rate and gives information whether the improvement is a fact. Thus, the quality records which state the results achieved (KPIs) and provide evidence of the implemented activities are: number of students in each major, curricula, teaching schedules, exam reports, diplomas, number of students who work exactly what they have studied for, etc. Efficiency, according to ISO 9000, is the "relationship between the result achieved and the resources used." In fact, this is the cost or the sacrifice of efforts and time in order to achieve improvement. Appropriate records are: financial balances (specifically payroll, energy costs, students' payments and subsidies, etc.), faculty to student ratios, number and area of lecture halls and laboratories, organization of scientific conferences, costs of publication vs. impact factor, etc.

Profitability and financial performance- the bottom line of any enterprise has always been a key indicator because no company can sustain its operations without financial stability. Typical of state universities is that the predominant share of their funding comes from the government. The autonomy of the universities in Bulgaria allows them to allocate the funding according to their needs and preferences. The University of Ruse is developing a financial management programme which will monitor costs related to maintaining each individual degree programme. If a programme takes a loss for a year it will be placed under stricter monitoring and corrective actions will be planned and implemented. If this negative trend continues for a period of 3 to 5 years, the programmed will be terminated. The departments in charge of the specific degree programmes are urged to find additional sources of funding through participation in projects, sponsorships, and close work with the Technology Transfer Office which oversees the partnerships between the university and businesses.

- Statutory and regulatory requirements- all Bulgarian universities are adhering to European and national laws and regulations related to higher education. The universities are under continuous monitoring by the NAOA (academic standards) and NSSI (financial control). The Rectors' Council is active in proposing amendments and enforcing the application of the Law of higher education, and discussing and implementing the ranking system.

In addition, ISO 9004 extends the basic ISO 9001 structure with guidelines on sustained success, financial and natural resources, knowledge, information and technology, and the interested parties providing the inputs and receiving the outputs from the processes of the organization- namely its suppliers and partners. Special attention is devoted to innovation and learning in clauses 9.3 and 9.4 or the standard. A significant tool which is incorporated in ISO 9004 is the self-assessment which provides an overall view of the performance of the organization and degree of maturity of its management system. Based on its current maturity level the organization can identify areas for improvement and/or innovation using the recommendations for the next higher maturity level and determine priorities for subsequent actions. The ISO 9004 standard advises that to achieve and maintain the sustained success of an organization it is necessary to adopt "learning as an organization" through analysis of success stories and failures and by means of learning that integrates the capabilities of individuals with those of the organization. This can be achieved through better alignment to the mission, vision and strategy of the company, stimulation of networking, connectivity, interactivity and sharing of knowledge both inside and outside the organization, implementing a knowledge management system, and appreciation of creativity, supporting diversity of the opinions of the different people in the organization.

Universities from all over the world can benefit from additional international standards related to developing the involvement of their staff, training staff, and teaching students. ISO 10015 presents guidelines for training, based on a four-step process:

- 1) Determining educational needs.
- 2) Developing training programme and planning.
- 3) Implementation of training.
- 4) Assessment of training results. [7]

Each of the four steps is presented with its inputs, outputs, and expected quality records. These records are meant to serve as a basis for monitoring and improvement of the training process.

The international standard ISO 10018 provides guidelines on people involvement and competence to leaders, managers, supervisors, quality practitioners, quality management representatives and human resources managers. [8] It is based on a strategic process-based approach for developing the involvement and competence of people at all levels of the organization.

Involvement of people is the third quality management principle. Out of the remaining eight principles, three moreleadership, customer focus, and mutually beneficial supplier relationships, are closely related to it. This standard provides a framework for getting the best out of people by following the ISO 9001 structure and pointing out the specific competence which can assure quality. Annex A of ISO 10018 lists the factors that impact on people involvement and competence: Leadership, Recruitment, Responsibility and authority, Empowerment, Education and learning, Attitude and motivation, Engagement, Awareness, Networking, Communication, Recognition and rewards, Creativity and innovation, Teamwork and collaboration. The level of people involvement can be monitored by using the self-assessment in Annex B of this standard.

Specific guidelines for the application of ISO 9001 in education are given in the International Workshop Agreement

IWA-2. [10] It also follows the structure of ISO 9001, but aims to "assure the overall effectiveness of the education organization's quality management system and the delivery and continual improvement of its educational service to the learner." According to the participants and the contributors to this workshop agreement it "is recommended as a guide for educational organizations whose top management wishes to move beyond the requirements of ISO 9001, in pursuit of continuous improvement and sustainability of success." As in other standards which provide guidelines and do not specify requirements, the main products of IWA-2 are "hidden" in its annexes. Annex A provides a self-assessment questionnaire for educational organizations, and Annex B lists examples of educational processes, measures, records and tools. A starting point when implementing IWA-2 is to assemble a team which should carefully go through both annexes and then "rewrite" it in the language used in the university while specifying the documents and records which actually reflect the operations. One of the hardest things is to find meaningful KPIs, to devise and put in place a system for monitoring these KPIs, but most importantly - to take action on what the analysis of the KPIs of the educational process show. Only then sustainable development will not be a mere buzzword.

CONCLUSION

Based on the research presented in this paper, the following conclusions can be outlined:

- The present day ranking systems cover a wide variety of factors which are meant to demonstrate the quality of educational services.

- Currently there is no research on the mid- and long-term impact of ranking systems on the sustainable development of modern societies.

- Teaching staff motivation and career development efforts can be streamlined and focused when there is a clear and unambiguous ranking system with feedback loops, analyses and updates.

- A PhD thesis is planned to be developed in an effort to further study the effects of educational processes on society.

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