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HOW TO ESTABLISH UNIFORM HIGHER EDUCATION QUALITY MANAGEMENT SYSTEM FOR MACEDONIA

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Abstract
Total quality management of higher educational institutions is of paramount importance for modern society and presents a growing interest for researchers. In this paper the issue of effective establishment of total quality management system in higher education in Macedonia is discussed in details. Current situation of the system and the legislative environment are discussed. It has been found that after significant changes in the system, stable developed legal environment has been established. Variations of the number of graduate students in the period 2000-2016 have been discussed in details and the origin of variations identified. Saturation of this indicator in the last decade was observed and its origin has been explained. Based on experiences from other countries with developed higher educational system, proposals for establishing an efficient total quality management system for the case of Macedonia are made. A detailed model for establishment of a common total quality management system is proposed.

Keywords: Bologna system, electronic administrative services, low on higher education, business process modelling.

Jel Classification: I21; I29; K39

INTRODUCTION

The issue of setting of total quality management in educational systems is nowadays of particular interest for researchers (Brookes and Becket 2007; Franco-Santos and Doherty 2017; Iyer 2018; Khan et al. 2018; Koch and Fisher 1998; Papanthymou and Darra 2018; Sallis 2002). The reasons for this are both complexity of the system and the requirements on international comparability of the educational achievements, needed for extremely intensified mobility of the professionals on global level. Sophisticated methods for analysis of such complex systems are required. Determination of total quality

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management characteristics in some works has been done using meta-analysis as an effective tool (Rabah 2016).

In the past, some proposals for creation of total quality management system in higher education in Macedonia were reported (Taskov and Mitreva 2015). However, efficient system is still to be established.

1. RECENT PROGRESS IN THE HIGHER EDUCATIONAL SYSTEM OF REPUBLIC OF MACEDONIA

In Macedonia, substantial changes occurred during last two decades: introduction of Bologna system (Sin and Tavares 2018; Stojanovski, Denkova, and Marolov 2018), establishment of private higher education institutions, accompanied by multiple changes of the respective state regulation. After a period of intensive changes, actual state of the higher educational system is relatively stable, allowing introduction of largely applied quality management system intended to be used in future on long term. On central level, particular role is expected to be played by the Higher Education Quality Agency, responsible for the accreditation and evaluation of higher education in Macedonia, according the new low (Ministry of Education and Science 2018). This agency has two boards: Higher Education Accreditation Board and Higher Education Evaluation Board. Previously, these two functions of these boards were given to two separate state bodies, connected to the Ministry of Education and Science of Republic of Macedonia. According the new low, the Higher Education Quality Agency is a single independent body.

Authors consider that in the next period optimal conditions will be in place to introduce uniform total quality management system which will support accelerated improvement of the quality of higher education services.

2. ROLE OF THE TOTAL QUALITY MANAGEMENT SYSTEM IN HIGHER EDUCATION

A total quality management system in higher education is required in order to achieve the goals of the institution in an efficient way, satisfying the needs of the users at reasonable price of the services. It consists of set of activities regularly performed in order to reach the given goals. ISO 9000 standard applies in general to various kinds of organizations. Several specificities are to be taken in the case of higher education (In'airat and Al-Kassem 2014; Iyer 2018; Nogueiro, Saraiva, and Jorge 2017).

It has been shown in literature that the basis for total quality management can be formed using business process modeling (Jeston 2014). Particular attention in creation of the models is to be paid to the satisfaction of graduates (Dragan, Ivana, and Arba 2014). Permanent improvement of performances, leadership and team work have been often also taken into account. Corporate social responsibility in conjunction with effective total quality management system provides a solid basis for sustainable improvement of institution performances (Nogueiro, Saraiva, and Jorge 2017).

Use of the stakeholders' theory in the creation of the model is of particular importance (Hickman and Akdere 2017), since the parts involved in the process have substantially different characteristics. Effective system has to produce value for all stakeholders.

In addition, in order to benefit at maximum of the total management system, organizational learning is required (Aminbeidokhti, Jamshidi, and Mohammadi Hoseini 2016; Petkovski, Joshevska, and Milenkovska 2015).

Rapidly developing higher education sectors require organized way of providing total quality management systems (Asif et al. 2013; Mohammed, Alotibie, and Abdulaziz 2016). An example for proposed TQM for Saudi Arabia has been recently proposed by Ahmad et al. (2015).

3. MAIN CHARACTERISTICS OF THE HIGHER EDUCATIONAL SYSTEM OF REPUBLIC OF MACEDONIA

In Republic of Macedonia there are 6 universities for which the state is responsible: Ss. Cyril and Methodius University in Skopje, St. Clement of Ohrid University of Bitola, Goce Deltchev University in Shtip, State University of Tetovo and South East European University in Tetovo, and University of Information Science and Technology (UIST) "St. Paul the Apostle" in Ohrid. Additionally, there are 19 accredited private higher education institutions: FON University, International Balkan University, University American College Skopje, European University Macedonia, University for Tourism and Management Skopje, University of New York in Skopje, School of Journalism and Public Relations, MIT Faculties, International University of Struga, University for Audiovisual Arts Parisian European Film Academy ESRA Skopje, Business Academy Smilevski Skopje, Euro College Kumanovo, Institute of Social Sciences and Humanities Skopje, International Vision University in Gostivar, Faculty of Business Studies in Skopje, University Euro-Balkan, Academia Italiana Skopje, Integrated Business Faculty and International Slavic University "G. R. Derzhavin" in Macedonia (Sveti Nikole).

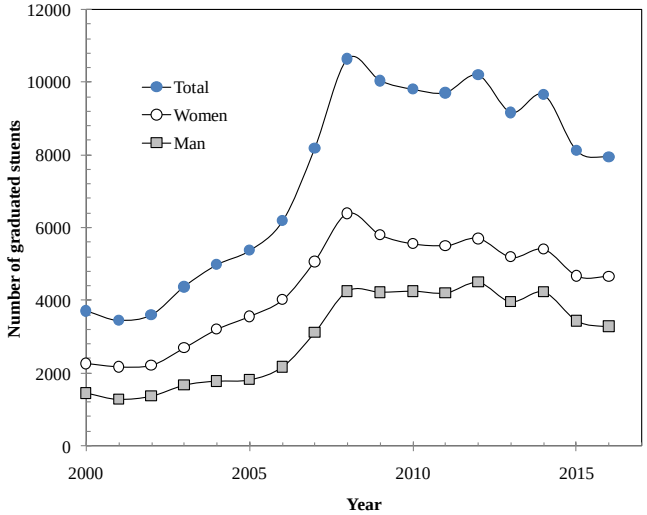

Figure 1. Variations of the number of graduate students (first cycle) for the period 2000–2016 (total, as well as man and women separately)
Source: MakStat database

These higher education institutions largely vary by the size as well by the types of the programmes offered. In addition, some changes will occur in near future due to the changes in the regulation. It is expected the number of the study programmes to be substantially reduced, because less institutions will be allowed to execute programmes. Besides, it is expected, based on the gained experience by the higher education institutions themselves, the programmes that appeared not enough attractive for students to be not reaccredited further.

In Figure 1 evolution of the number of graduated students since year 2000 is shown, using the values reported by State Statistical Office of Republic of Macedonia (MakState Database). Temporal patterns for man and woman are the practically the same, values for women being systematically about 50 % higher than those for man. Thus, only the evolution of total number of graduated students is considered in the analysis below. A sharp increase after year 2000 is observed, leading to peak values in 2008. This period of increase is due to the changes of the higher education system and the increase of number of higher education institutions. Number of graduated students per year in that period increased for a factor of about 2.5. In the period after 2008 the number of graduated students slowly decreases, with some oscillations that can be considered not significant. The slow decrease in the last sub-period can be in its major part attributed to the demographic changes. No marked variations of the ratio women/man have been observed. It remains on the value of about 1.5 for the entire considered period. Thus, we can conclude that the sharp changes in the higher education sector are finished and the further development can be effectively controlled in a relatively stable legal, institutional and program environment.

Only 3.7 % of the graduated are foreign students, mainly from neighboring countries, indicating low interest and unsatisfactory reputation of Macedonian higher education institutions in the region.

4. METHOD OF ANALYSIS

In order to suggest optimal solutions for introduction of total quality management system following approach has been adopted for this work.

First, experience from previous implementations of quality management systems in Macedonia is to be used in particular solutions for higher education that are to be adopted. More details on these possibilities can be found in (Novkovska 2014; Novkovska, Papazoska, and Ristevska-Karajovanovikj 2012). Since the basis for total quality management can be formed using business process modeling (Jeston 2018), such solutions indicated to be functional in this environment (Novkovska, Papazoska, and Ristevska-Karajovanovikj 2012) are to be used as well in the case of higher education. In order to establish as efficient total quality management system, the capacities of all of the institutions involved in the system are to be optimally used.

Second, best practices from other countries already having in place functional total quality management system are to be used as example in establishment of the system (Kanji, Malek, and Tambi 1999), thus avoiding repeating the same procedures by different actors in the process. The case of UK institutions is particularly important studied in that work is of particular importance, since this system is rather well

developed. Studies of different aspects for UK system are available, between them papers considering the employer's perspective of quality management (Willis and Taylor 1999).

5. EXAMPLES FROM COUNTRIES IN REGION

Dragan et al. (2014) proposed a model for quality management in higher education institutions of Romania based on business process modeling. General framework of the model has been constructed based on the approach used by Harrington et al. (1997) for the companies to improve their profitability. For higher education institutions model must to take into account bigger complexity, as well as the issues of sustainability and development.

Managerial process in this model involves: People Management, Process Management and Performance Management. Students are considered as clients of the university, with their specific needs and expectations. Customer (students) satisfaction is taken as a measure of the output of the system. On the top of the system is general management system built on main policies and supported by a central administrative structure. Human Management resources constitute the second level of thus constructed model. It covers the personnel and the infrastructure, both for education and research. Next level is that of teaching process and learning.

It covers management of curricula, as well as activities connected to accreditation, creation of new courses and modernizations of existing ones. In addition, post-learning assistance is also considered. This is a rather complex level, since it requires specific knowledge of all of the phases involved in it and having multiple particularities. The last level is the measurement level, containing internal audits, student's satisfaction and outcomes of educational activities.

Total quality system management has not been extensively used in Greece. However, there are certain practices that can be considered as useful (Psomas and Antony 2017). Specific experiences with detailed analyses of an existing total quality management system have been reported for the case of Department of Primary Education of the University of the Aegean (Papanthymou and Darra 2018). The results were obtained by method of questionnary covering the issues connected to case of electronic administrative services. Both weaknesses due to the human factor and electronic system have been identified trough the survey. Hence, the performance of these subsystems of the total quality management system can be effectively monitored by convenient surveys.

A way to identify design characteristics of a higher education institute responding to needs of students using quality function deployment have been proposed in (Skordoulis et al. 2015) and applied on the case of a Greek university. It is concluded that the improvement of the delivered quality must be based on total quality management system based on international standards.

In (Duzevic, Mikulic, and Bakovic 2018) framework for analysis of higher education quality in Croatia has been proposed and tested on the higher education performance, using a model involving theories of student involvement and retention. Results relevant for both researchers and higher education institution managers have been obtained.

6. SUGGESTIONS FOR THE ESTABLISHMENT OF A TOTAL QUALITY MANAGEMENT SYSTEM IN REPUBLIC OF MACEDONIA

Some suggestions for total quality management system in Macedonian higher education were given by Taskov and Mitreva (2015). In this work made attempt to propose general framework for building nationally uniform total quality management system for higher education based on experiences of similar countries and taking into account the real possibilities of the country to implement such solutions in near future.

Electronic administrative services are functional on most of the universities in Macedonia, i.e. ikNow at Ss. Cyril and Methodius University in Skopje, e-student at the University for Tourism and Management Skopje etc. They provide a strong basis for development of tools for assessing the customers' satisfaction on an efficient way. Further in-deep studies are required in order to create standardized evaluation process for different higher education institutions having different systems electronic systems and internal organization. As a result, it is expected to obtain satisfactory results for the component of the Performance Management.

Process Management component of the system can be most efficiently provided using appropriate resources of national institutions. Between them, the newly created Higher Education Quality Agency can play crucial role. Its outputs will be of particular interest for the iterative process of adaptation and modernization of the curricula with the time.

In figure 2 the schematic diagram of the proposed by the authors of this work model for total quality management in higher educational institutions in Republic of Macedonia is shown.

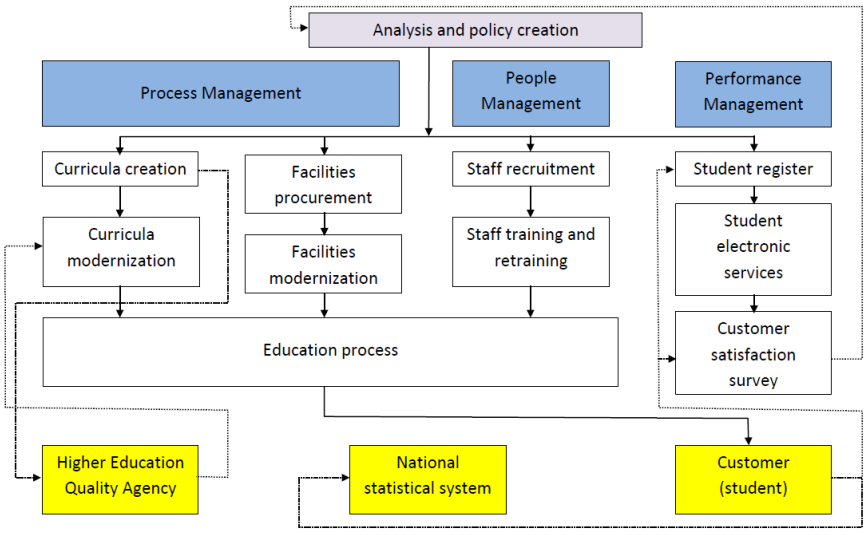

Figure 2. Total quality management system for educational institutions in Republic of Macedonia and its connections with customers (students) and other involved institutions. Dotted lines are for information flow.
Source: Model proposed in this work

CONCLUSIONS

Based on the result of this work, it can be concluded that efficient total quality management system for higher education institutions can be established, following models proved to be functional in other countries of the region. Preconditions for establishing of such a system are identified to be the stable output of the actual system, measured by the number of graduated students, from one hand, and stable legal environment, manifested by the end of rapid changes in legislation that occurred in previous period, from the other.

Specific model for Macedonia has been proposed in this paper. The model involves three main components: process management, people management and performance management. Customer (students) satisfaction is considered as a measure for the output of the system. Feedback from it to all the main components of the total quality system is provided through analysis and policy creation unit in order to secure continuous improvement of the quality of higher education. National Higher Education Quality Agency is included in the improvement process of the curricula. Data for outputs are transferred on national level to the State Statistical Office. It is expected using this model to obtain uniform measures in all higher education institutions (state and private) for the quality of higher education as well as functional total quality management subsystems leading to optimum performances of the higher education system in the country.

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