

Models for Quality System and Business Excellence Implementation in Higher Education

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Abstract: *This paper presents the experience of the authors, which was acquired during the preparation and initial steps in the project implementation of the quality system at the University of Montenegro. The paper points out some models and distinguishes one, in our opinion, which is based on detailed analysis, the optimal model for the establishment of quality in higher education and excellence in higher education. Also, the paper was presented and the structure and basic for referential which can make implementation of a high quality in the institution.*

Keywords: *quality system, higher education*

1. INTRODUCTION

We are the witnesses of higher education intuitions increase. This increase creates environment with advantages and disadvantages. It is clear that high number of educational institutions increases the percentage of educated population, but also it impact on economic and culture development. On the other hand, there is a danger of non-quality "university product" or graduated students. Now, after radical changes of our educational system at universities, we can speak about results, quality or non-quality output of our higher educational system. We can also speak about mark scaling, explanation of Gausov's division, student rating system and other newness that impact on final product quality. Those and other newness in higher education in Montenegro, bring significant changes of teaching staff. Firstly, the teaching staff passes from absolute authority in one completely different, more flexible period, when they have to change from certain barriers between professor and student to completely open space information flow that act on return.

When we talk about final product in higher education, we think about graduate student. Furthermore, we consider higher education institution as a process system model. Here we pose the question, is it possible to speak about

sustainability of that system that in the best case produces 60-70 % of successful products (this is the past rate at our faculties in the best case). Moreover, another question, is it possible to denote unfavorable quality cost structure, more precisely cost of non-quality that is created in our higher-educational institutions. Those and others points should be subject of discussion and improvement through detailed analysis, correction and prevention.

The conditions in higher education defined like this are followed by processes for checking and revision of different quality standards and especially by reintegration of different models in one system that will include all of them. This wave of standardization and orientation for management, control, development and improvement of quality systems in different areas did not pass even higher education system. The referential, mechanisms and models for quality systems and its implementation, maintenance and development were created for university entity and educational entities. Also, according to terminology and activities for business excellence implementation, even for higher education systems, experts develop the models for business excellence or how it will be called in this paper "excellence in higher education". Parallel with referential development, in this area the mechanisms for accreditation and

mechanisms for coherent trust, effectiveness and efficacy are developed. The basic specificity concerning quality systems in higher education as well as some concrete suggestions for implementation will be discussed in next section of this research.

2. STANDARDS AND DIRECTION FOR QUALITY IMPLEMENTATION IN AREA OF EUROPEAN HIGHER EDUCATION

Quality system in education should be organized to respect broad number of different standards. In this sense, as in other quality model systems, quality could be implemented in concordance with one or more referential. In this sense, directions and experiences are different from country, culture, needs and similar. A part, chosen referential, quality system in higher education has to take into

account national request for higher education and Bologna process. In this area, it is important to take in account also International network agency's request for quality implantation, European network for quality implementation and similar. The level that quality system will be implemented inside higher education institutions depends on personal necessity, need, wishes, etc. of that institution.

Project of quality implementation in superior education's institution has to be systematic and planned. In this sense, it should start from mission and vision definition and quality policy adoption. In this part of project, it is necessary to define well the quality objectives, priorities and decide clear quality definition and purpose. We can consider following quality definition:

- Quality is tool for objective realization
 - Quality is tool for earning achievement
 - Quality is a customer satisfaction
- Quality is the way for knowledge transfer and psichological customer transformation and etc.

Num	Questions concerning quality implementation in higher education institutions
1.	<i>How we will develop quality system (who will participate in project elaboration and evaluation, why and how will the process be realized?)</i>
2.	<i>Which definition and understanding of quality we will use?</i>
3.	<i>Which quality approach we will implement? For example, the normative one (ISO, EFQM, other standards...)?</i>
4.	<i>Which sectors and activities will be integrated in the project (lecturers, research, service, management etc.)?</i>
5.	<i>Which approach of evaluation and control will be implemented (internal, external...) and from which side?</i>
6.	<i>Which indicators should be used for monitoring and measurement?</i>
7.	
8.	<i>Who, from the organization's employees, will be integrated in the project and how?</i>
9.	<i>How the system will be documented (Informatics system ...)?</i>
10.	<i>How we will develop teaching resources?</i>
11.	<i>How we will measure equipment and resource development for student support?</i>
12.	<i>How is the communication policy inside the quality system (back clicks...)?</i>

Table 1.

Quality system in superior education institutions could be implemented basing on ISO 9001 standard requests or basing on other referential. In literature and practice we can find different opinions and experiences concerning referential choice. Basing on consultancy, we can consider one positive experience, Louisiana-Swiss, to implement quality in University of Montenegro's needs. The University of Montenegro accepted the

same standards and direction for quality implementation. The table 2 presents request structure that high education institution should adopt to implement quality system basing on Standards and direction that are coherent with request of European association for quality in superior education, ENQA.

Basing on requests of standard 1, institution has to define written policy and procedures for program quality implementation

and award system. Institution has to define quality culture and choice clearly quality definition that will be appropriate for its need. They should implement strategy for continual quality improvement. The policy should be announced publicly, and have to introduce regulation for students and other interested parties. Quality policy should include following elements:

- Link between teaching and research activities
- Institutional strategy concerning quality and standards

- Organizational system for providing quality
- Responsibility of departments, faculties, schools and other organizational entities and individuals in providing quality system
- Student involvement in quality implementation

Way in which policy will be implemented, evaluated and improved.

Number of standard	Standard's requests
Standard 1	<p>Policies and procedures</p> <ul style="list-style-type: none"> • Develop written policies and procedures for providing quality • Establish global principal for quality
Standard 2	<p>Appraisal, monitoring periodical control</p> <ul style="list-style-type: none"> • Establish model for quality state evaluation • Define way for monitoring • Establish plans and procedures for periodical review
Standard 3	<p>Student evaluation</p> <ul style="list-style-type: none"> • Establish model for evaluation • Establish plans and procedures for periodical review
Standard 4	<p>Quality establishment for teaching personnel</p> <ul style="list-style-type: none"> • Define clearly way for teaching personnel evaluation • Define regulation and support for this approach
Standard 5	<p>Resources for learning and student support</p> <ul style="list-style-type: none"> • Develop resources in sense of infrastructure and working environment for learning • Define and develop tools for student support
Standard 6	<p>Informational system</p> <ul style="list-style-type: none"> • Develop informational system in coherence with already defined quality concept • Develop informational system that is harmonized with organizational strategy
Standard 7	<p>Public announcement</p> <ul style="list-style-type: none"> • Program course information Develop informational system that is harmonized with organizational • Develop communication in sense higher education quality

Table 2.

Concerning **Standard 2** institution has to have mechanism for appraisal, periodical review and program monitoring and award or evaluation system. This process includes following:

- Development and public announcement about future student effort concerning quality
- Defining and planning teaching programs
- Definition of specific learning models (full-time, half-time, distance learning, e-

- learning) and superior education types (academic, specialist and etc.)
- Availability of adequate equipment for learning
 - Teaching program approval procedure for by other bodies that do not participate in teaching program definition
 - Monitoring for student development and improvement
 - Periodical program review including internal and external review
 - Back up link with employees, working force representatives and other important institutions
 - Student involvement in quality providing activities and etc.

Student evaluation is one of the most important elements of superior education and their requests are defined in **Standard 3**. Based on this standard, institutions have to define publicly announced criteria, roles and procedures for student evaluation. Those roles have to be respected implicitly. From procedures and roles is expected:

- To be projected to measure achievement level of already defined superior education process exit and other institutional objectives
- To correspond to their purpose
- To have clear and public evaluation criteria
- To be used by persons that understand their role in sense of evaluation student improvement to reach planned qualification
- To realize , where it is possible, evaluation by several teachers
- To have roles concerning student absenteeism, illness or other similar cases
- To assure that evaluation is realized safely (protected) in sense of institutional policy
- To be in coherence with administrative verification concerning used vision efficacy and validity.

Students have to be clearly informed about evaluation strategy and way.

By **Standard 4** institutions have to respect their needs and to be completely satisfied with teaching personnel. Also it is very important to assure qualified teaching personnel that have experience and skills for knowledge transfer. Institutions have to define clear requirements for defined condition minimum that, in sense of quality, have to have personnel employed.

Intuitions can employ perspective employees that will through education and training reach necessary quality level. Also personnel that is not formed and that do not keep necessary quality level that is defined by regulation will be eliminate from teaching function.

Assuredness request for appropriate resources for students are defined by **Standard 5**. This concerns psychological resource, for instance, library or computer room. Furthermore, it also concerns human resources, for instance, supervisors, advisors and etc. Those resources should be easy to reach for students and should be projected for students' needs. Institutions should implement programs and procedures for periodical control, monitoring, development, efficiency and effectiveness of those tools.

Requests for informational system are defined by **Standard 6**. Institutions have to assure that through informational systems collect, analyze and use relevant information to reach effectiveness and efficiency. Informational system that is connected to quality system and his functionality depends on different events but it should cover at least following:

- Student progress and success level
- Level of graduate student employment
- Student satisfaction with teaching program
- Effectiveness and efficiency of teaching program and personnel
- Student population profile
- Available resources for learning and their prices
- Institutional indicators of key processes and similar.

In **Standard 7** requests for public announcement are defined. Institutions have, in right time, fairly and objectively to announce publicly about their activities. Announcement presents quality and quantity teaching and evaluation aspects. For this request realization organization has to define responsibility, realize announcement about programs that they offer, plan and offer qualification about their evaluation, inform about learning procedure, teaching and evaluation. Announcement can take into account employees' view, previous and actual students, about quality state at certain institution. Announcement should be clear, fairly, objectively and easy to follow.

3. MODEL FOR EXCELLENCE ATTAIN IN SUPERIOR EDUCATION

As in previous approach that synthesizes with previous and together they create model for excellence attain in superior education. Model for excellence attain is set of principals that are developed by American association for accreditation in superior education.

MBNQA Criteria	
Leadership	120
Strategic planning	85
Customer and market focus	85
Information and analysis	90
Development and managing human resource	85
Process management	85
Business results	450
Sum	1000

Table 3.

Model for excellence attain in superior education (we will call it EHE from eng. Excellence in Higher Education) will include Baldrige model. This will be realized by underlining development and improvement of specific areas in higher education. This model could be used by universities, student organizations, centers, institutes at universities and etc. Generally, this model help to implement connect integrated system for estimation, planning and improvement in the system. Advantages from EHE present the link between forces for excellence attain at all academicals and student level and to improve sense for forces and environment improvement.

Model for business excellence attain in higher education is constructed respecting following principals or points:

- Having clearly defined mission or vision that are widely implemented and distributed, that clear to everyone and that everyone is focused to their realization,
- Develop effective and efficiency leadership and management processes at all levels, including mechanism for checking and backward knowledge transfer
- Having strategic planning, priority definition and clearly measurable

objectives that are in clear sense of mission and vision programs, exercise and activities that provide resource availability and that are effectively and efficiency used at all levels

- Having clearly defined program for high quality introduction that is harmonized with already defined mission, that are designed with great attention, evaluated on regular basis, improved regularly,
- Having qualified and focused personnel and creates working environment and conditions that provide completely employees satisfaction with regular verification and improvement basing on priorities recognition,
- Create mechanism with systematic entrance verification and evaluation through process for level of excellence system's needs recognition, certain parts or programs comparing to mission, vision and objective level achievement. This is necessary to realize with objective to define actual forces and to create improvement priorities.
- Comparison with leaders to create innovation and improvement, to establish frame for forces recognition and areas that need improvement.

Model for excellence attain in higher education structurally could be presented as in figure 1.

So, as we can observe from the figure 1, model EHE includes 7 categories. Each of these categories are clearly explained and for each category clear questions are defined on which university's entity have to answer and realize activities in that direction in order to implement this model. For example, the leadership category has the following questions:

1. Which form is used for formal communication and rapports between certain entities inside University (communicate, explain, give a schema, responsibilities and etc.)?
2. What are defined areas proposed by schema?
3. Are the responsibilities well documented inside top management?
4. What is the role of top leaders inside global University's management?
5. and similar?

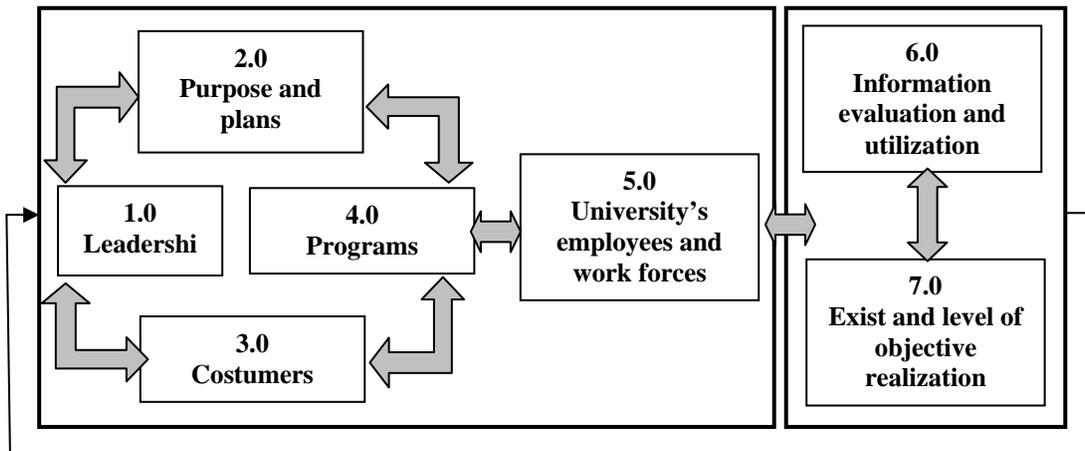


Figure 1.

Each of the previous seven categories is divided in sub categories in order to explain better individual signification, influence and in order to answer easier, effectively and efficacy to all questions and to realize all activities.

The categories are divided in following way:

- 1.0 Leadership
 - Organizational leaders,
 - Public and professional leadership,
 - Ethical and social responsibilities.
- 2.0 Purpose and plans
 - Plans development,
 - Plans implementation.
- 3.0 Customers
 - Needs and expectations,
 - Relation improvements.
- 4.0 Programs
 - Mission, programs and processes,
 - Operational processes and support.
- 5.0 University's personnel and work force
 - Faculty and personnel,
 - Working environment.
- 6.0 Information evaluation and utilization
 - Evaluation approaches and methods,
 - Comparative analysis,
 - Information division and utilization.
- 7.0 Exist and objective level achievement
 - Leadership,
 - Purpose and plans,
 - Customer groups
 - Mission, services and processes,
 - Operational processes and support,
 - Faculty, personnel and working environment ,
 - Information division and evaluation.

Above indicated categories from 1 to 5 present fundamental set of elements in each effective organization. Category 6 is oriented on methods and procedures directed for improvement and evaluation of quality and efficiency for all other categories. Category 7 concerns documented exists and everything other that is realized in pervious categories.

4. CONCLUSION

A part several disagreements concerning quality implementation and quality management system's advantages, the majority of literature focus on real benefices of quality system implementation. Those benefices are defined as cost cutting, waste decrease, etc. Even more, benefice from quality could be measured by money. In today business conditions, quality systems represent world process and necessity that could not be avoided, leave a part or postponed. In fact, it is world process that is in expansion. This is supported by the fact that the number of works and articles on this topics is increasing significantly. Today, this trend starts to be wider, even on the subject of quality for higher education, at the world level. In our country, we may argue that percentage of interest increase every day. Hence, firstly in Japan and then in Europe and USA, lot of institutions and agencies for accreditation and educational quality program for assurances, studying conditions, and other elements for quality implementation at higher education institutions are developed. University of Montenegro has recognized general

importance for quality implementation in different areas and even in area of higher education. Following the global trend, University of Montenegro has started measures, defined concepts and quality perception, wrote policy and clearly defined mission and vision of quality. Furthermore, special teams are formed that will work on specific entities. Also, the University has started with training for quality implementation in higher education. Those trainings run usually at competitive institutions that have very functional and effective quality system. Those activities are considered as very importance, since they present crucial factor for successful quality system implementation at University.

Quality system implementation for higher education could be based on different referential such as ISO 9001 model, EFQM model for business excellence, by European foundation for quality or by some other European or world standards. Literature presents different possibility approaches and referential. Hence there is no defined law concerning importance of one or other referential. This work presents and suggests possibility for quality implementation in higher

education basing on Standards and directions for quality education proposed by European association for quality in higher education-ENQA.

Regarding quality systems in higher education as well as other systems, interested parties will always try to go one step further to develop and implement excellence. The models for business excellence are well known such as Malcolm Baldrig, model for European quality award, Swedish model for business excellence and etc. Many organizations, for their needs, defined individual award for business excellence. Furthermore, they used it for evaluation and for comparison with other performances. For excellence attain in higher education, we can use model developed in Canada and which is based on Malcolm Baldrig award. This model has seven categories and like that it is compatible with standards and directions for quality implementation in European higher education. This model, more precisely his appropriate utilization, allows realization of high quality documented systems, success for mechanism for performance process improvement, long system efficiency an etc.

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