COMMITMENT TO QUALITY EDUCATION SERVICES THROUGH ISO 9000:
A Case Study of Romania

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ABSTRACT

The past several years have known a tremendous growth in the number of universities adopting education improvement programs. This level of involvement of schools in education improvement programs suggests a broad and fairly understanding among universities of the need to excel in the highly competitive global marketplace. To enhance their competitiveness, many schools turn to high quality level of education and research so as to increase their reputation. Also, many engage in improving the quality of their internal systems so as to gain operational effectiveness as well as strategic position.

The paper discusses a model of quality management system for higher education. One of the main objectives of paper is to highlight the challenges facing the school during implementation of the ISO 9001 standard and the benefits of successfully implementing such quality system can bring to higher education. Based on the experience of a Romanian business school, the paper provides a framework for systematic interpretation of the integration of ISO 9001:2000 into higher education. The requirements and factors for the successful attainment of ISO 9001 certification are discussed. Advantages and possible pitfalls of such a development are also addressed. Results demonstrate that the effective and efficient implementation of a quality management system is ensured whether the following variables are engaged: commitment of top management towards quality and process improvement; awareness of faculty and staff, as well as students, regarding the importance of quality and implementation of required changes; identifying processes and designing communication system; focusing on learning, teaching, training, and research enhancement; documenting quality management system and controlling documents; performing internal audits, undertaking corrective and preventive actions, keeping quality records; and commitment to the continual improvement of results.

Key words: business higher education, continual improvement, ISO 9001:2000 model of quality management system

1. INTRODUCTION

It has been more than two decades since quality management became a major focus of business throughout the world. Review of literature indicated that Quality Management System was hailed as offering great potential as a possible solution for problems with productivity and quality in U.S. corporations. In turn, declining quality and productivity were offered as key offenders where U.S. firms were seen as losing competitive advantage- (e.g., Bowen & Lawler, 1992; Fuld, 1992; Lawler, Mohrman & Ledford, 1992; Shearer, 1996). However, the paper noted other literature which has suggested that quality management programs, at least as initially introduced in a number of U.S. organizations, have represented anything but a panacea. Moreover, in at least some cases, efforts to introduce quality programs have met with problems and failures (e.g., Choi & Behling, 1997; Galgano, 2002; Klein, 1991; Parker, 1991; Vora, 2002).

Besides gaining popularity at U.S. corporations, over the years, quality management systems and applications have gained significant acceptance in almost all communities in the U.S.; from its industrial origins to service organizations, public and nonprofit organizations, and educational institutions. In this same period American's higher education institutions were facing increasingly strong competition. Business schools in the country continued to receive scrutiny from companies that were ready to hire their graduates. Many U.S. corporations began to create their own universities in order to train their own employees, instead of relying on the traditional universities. Many reasons were identified for this decline in competitiveness of American universities, especially business schools; they include: status quo management, success that breed failure, cost inefficiency, internal conflicts, regulation barriers, neglect of emerging markets, rapid technology advances, rapid deregulation, and unexpected events (Ruback & Stratton, 1994).

Quality management in higher education became a popular topic for study and investigation (Ryland, 1991; Dorsky, 1992; White, 1992; Hubbard, 1994; Elmuti, Kathawala & Manipallili, 1996). The role of business schools in the country in providing managers who are capable of managing in the competitive environment was challenged by chief executive officers of large corporation such as American Express, Ford, IBM, Motorola, Procter & Gamble, and Xerox.

In response to the increasing challenge, many business schools began to incorporate quality management efforts in their own governance. These efforts have been led by the Association to Advance Collegiate Schools of Business (AACSB). Beginning in 1993, business schools seeking accreditation were required to demonstrate how they use continuous improvement concepts to improve critical processes related to curricula, faculty, and administration. Although many barriers remained to be overcome, yet many business schools have certainly made headway in their quality management efforts (Horine, Hailey & Rubach, 1993).

One of the many problems facing higher education institutions while implementing Quality Management System has been the multiple levels of customers. Many constituencies are often at stake, including students' parents who pay tuition bills, existing and prospective employers of students, foundations, government agencies, and surrounding communities. Some argues that each school must determine, based on its own circumstances, how many of these are part of its customer base (Fram & Camp, 1995). Columbia University, for example, identified major customer groups as: senior executives, recruiters, faculty, alumni and students (Elmuti, Kathawala, & Manippallili, 1996). Regardless of how many constituencies are included, most agree that students have to be counted as internal customers to this education process and their needs have to be satisfied. Some even suggested that for schools to succeed, students would need to be treated as customers. To be competitive, campuses would have to go to the customer and meet or exceed his or her expectations. Schools would need to provide wide choices, like shopping mall did. Customers had to be defined more narrowly and their needs identified (Ruback & Stratton, 1994).

On the other end of the spectrum, there are also some who argued that student is the product of this process and the employer is the customer (Bailey & Bennett, 1996). Another often heard point of discussion among schools that were successful in their efforts of implementing quality management programs has been the issue of measuring students' learning. The major reason for this challenge is, traditionally, educational institutions focus on faculty

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teaching. Effective teachers are the ones that they believe to be able to transfer knowledge to students. Whether students actually absorb it or not remained unmeasured.

To further complicate the challenges, business schools around the world are facing competition beyond their own geographical regions. Just as businesses, its counterparts, are increasingly facing global competition, the focus of higher education is likewise becoming more and more national and even international. This current trend is brought about by the rapid development of information technology such as Internet, video-conferencing as well as satellite-communication. In addition, education is also changing rapidly from the traditional mode of "brick and mortar" to e-learning and distance learning.

Traditionally, higher education institutions only have to compete locally, perhaps regionally, because of the geographical limitation, now with the help of technology and ease of travel, schools will soon have to think and act globally in order to survive. To enhance their competitiveness, resembling their business counterparts, many schools turn to high quality level of education and research so as to increase their reputation. In addition, many engage in improving the quality of their internal systems and processes so as to gain operational effectiveness as well as strategic position.

In order to avoid re-inventing the wheels, many institutions in higher education rely on proven quality management standards such as Malcolm Badrige standards or ISO 9000 standards as benchmarks for their own quality levels. These well recognized quality standards can provide a systematic way of improving the quality levels of the higher education institutions, as well as providing seal of approval for many external constituencies. This trend is not limited to higher education institutions in the U.S. This increase in competition, furthermore, is not limited to U.S. educational institutions, similar situation can be found all over the world.

In many Eastern European countries, education is considered a national priority. The entire educational system is being protected by the Constitution and legislature. Unfortunately, because of lack of resources and the bureaucracy of many countries under former communist regimes, many education systems remained ineffective. With the recent education reform, the Eastern European educational system is now trying to catch up with its counterparts in the developed countries. The national educational systems in Eastern Europe typically consist of both public and private education institutions. They are organized according to levels differentiated by age, individual characteristics, and traits.

As a result of the growing interdependence of national higher education systems in Eastern Europe and the growing demand for better higher education, accountability in higher education became an important issue. In turn, defining quality of education, as well as assessment and enhancement of it, became a focal point for discussion at the national level. Several factors such as: the ability to meet the needs of industry, government agencies and other employers; the ability to maintain and improve academic standards and to be accountable to students, government and other funding bodies will become critical success factors for education institutions as competition between educational institutions for students become more severe in the years to come (Mariun 1998).

In Romania, for example, by the end of 2004, more than 3500 organizations have successfully achieved the ISO 9001:2000 certification of their quality management systems (see the ISO Survey of ISO 9001:2000 Certificates 2004). The main objective for attaining the ISO 9001 certification is to increase competitiveness of their products and services in the global market as ISO certification indicates to customers that their requirements for quality are met.

Compare to their business counterparts, few higher education institutions have gained ISO 9001 certification world wide. The number, however, differs from country to country and seems to be directly proportional to the determination of the governing bodies of national education. In Romania, for instance, about one-third of the eighty national universities are currently working to achieve ISO 9001:2000 certification but only one is actually certified at the time of this article. In other countries, such as United Kingdom, Germany or Australia, many universities have been operating for five or more years with ISO 9000 certified quality systems (Karapetrovik et al. 1997; Karapetrovik 2001). This does not, however, imply that Romanian universities are low quality as each Romanian university has to follow the national accreditation standards. These accreditation standards provide some degrees of assurance for the quality of education.

With the major reform initiated by higher education after the abolish of Communist rules in 1989, enrollment in higher educations in Eastern Europe has been steadily increasing. In addition, the undergraduate and graduate programs of economics and business have received major attentions in Eastern European universities in the last fifteen years, as the demand for these skills and knowledge continues to increase. During this time, many private universities have been founded, and successfully accredited by various accreditation bodies. Unfortunately, as enrollment continued to increase, the supporting infrastructure including: information technology, as well as faculty and staff motivation cannot keep up with the increase in enrollment and therefore the quality of education has actually deteriorated.

In order to improve the quality of education, a variety of innovative measures are being implemented in the higher education institutions in Romania. These measures mainly focus on increasing the graduation rate of students who have acquired skills, and knowledge that are required by prospective employers and government agencies. In the end, it is still crucial for the institutions to provide the necessary evidences to the external constituencies that indeed their education system is effective in producing qualified graduates. Many, therefore, turn their attention to the quality management standards to obtain the "seal of approval".

In fact, many universities across Romania already have a somewhat formal quality management system in place. They are working in compliance with the national evaluation, accreditation and funding boards' criteria. These boards include: the National Council for the Higher Education Funding and the National Council for the Academic Evaluation and Accreditation. The main responsibility of these boards is to promote continual improvement of quality education level and ensure equal opportunities to educational services for everybody. In addition, universities have documentation available to illustrate compliance of their performance with the reference standards requirements, usually ISO 9001:2000. The main purpose of most Romanian education institutions in gaining ISO 9001 certification is to provide confidence to the faculty members, professionals, students, their parents, and other stakeholders that the requirements for quality education, training and research are continuously met.

However, in the future, there will be increasing competition for excellent students, faculty and staff. This in turn will provide growing pressures for continuous improvement of education and research processes, and intensifying pressures for outcomes assessment, evidenced by increased attention paid to the national and international accreditation criteria (Mariun 1998; Anton 1999; Warnack 2003).

The paper discusses a model of quality management system for higher education. In addition, it intends to provide a framework for systematic interpretation of integration of the ISO 9001:2000 specifically in economics and business higher education. One of the main objectives

of paper is to highlight the challenges facing the school during implementation of the ISO 9001:2000 standard and the benefits of successfully implementing such quality system can bring to higher education. Therefore, the next sections of the paper briefly address the concepts and approaches of ISO 9001:2000, and its successful integration into higher education. The intention it to argue that development and integration of the ISO 9001:2000 model of quality management system in business and economics education is not only possible, it is useful and desirable.

2. HOW CAN ISO 9000 BE IMPLEMENTED IN EDUCATION ORGANIZATIONS?

2.1. Essentials of ISO 9000 Series of Standards

In 1987, the International Organization of Standardization (ISO) developed a series of quality assurance standards named ISO 9000. The ISO 9000 series is a set of international standards on quality management and quality assurance, developed to help organizations effectively document the quality management system requirements to be implemented to maintain an effective quality management system (QMS). An organization that implements a quality management system aims to enhance customer satisfaction, and achieves continual improvement of its performance in pursuit of its objectives related to quality. By and large, the ISO 9000 series of standards provides a framework and systematic approach to managing business processes to produce a product/ service that conforms to customer needs and expectations. The standards underwent three major revisions, in 1994, 2000 and 2005.

The revised ISO 9000 series of standards requires organizations to establish processes for identifying customer requirements and communicating these requirements throughout their organization, as well as processes for tracking and analyzing customer satisfaction/ dissatisfaction. These standards have been accepted worldwide as a baseline for organizational effectiveness and performance, and are better aligned with the quality award programs. Three standards are comprised into the ISO 9000 family: *ISO 9000:2005 Quality Management Systems – Fundamentals and Vocabulary*, *ISO 9001:2000 Quality Management Systems – Requirements*, and *ISO 9004:2000 Quality Management Systems – Guidance*.

- ISO 9000:2005 establishes a starting point for understanding the standards and defines the fundamental terms and notions used in the ISO 9000 family.
- ISO 9001:2000 is the requirement standard that an organization has to consider assessing its ability to meet the customers and applicable regulatory requirements.
- ISO 9004:2000 aims at providing guidelines for continual improvement of the organization's quality management system to benefit all parties through sustained customer satisfaction.

Karapetrovik et al. (1998) developed a framework for using ISO 9001:1994 international standard in engineering education and research. They conceptualized three main products of an engineering school: student knowledge, program/ courses, and research (Karapetrovik, Rajamani and Willborn 1998). In addition to their interpretation, this paper provides a brief description of some fundamental terms used in the revised ISO 9000 family of standards, specifically for economics and business higher education (Table 1). This is meant to be applicable in any academic institution.

Table 1 Interpreting Some of ISO 9000 Terms for Economics and Business Higher Education

Term (ISO 9000)	Explanation	
	Education	**Research**
Product	Student knowledge, skills, abilities, and competences Courses, textbooks, books, other material, informational and technological support facilities	New knowledge, theories, experiments, methods New software
Internal Customers	Undergraduate students, graduate students, doctoral students, post-doctoral scholars	Industry, research sponsors, other universities, community, governmental agencies, ministries
External Customers	Industry, community, professional organizations, parents, alumni, governmental agencies	
Supplier	High schools, colleges, other universities, professional institutions	Researchers, industry sponsors, research institutes, literature sources (books, journals, conference proceedings, expertise reports)
Quality Policy	The overall quality intentions and direction of the school, including vision, mission and core values, as formally expressed by the president/ dean/ department chair	
Quality Objectives	The measurable goals relating to educational programs, school processes and products and stemming from the overall quality policy	The measurable goals relating to research projects and activities and stemming from the overall quality policy
Design Plan	Undergraduate programs, graduate programs, Ph.D. programs, postdoctoral programs	Research objectives
Process Plan	Course syllabus, individual student curriculum	Research project plan
Raw material	Student knowledge, background and comprehension of basic arts and sciences before entering the university Existing material of courses and programs being offered	Existing practical, experimental and theoretical knowledge Existing software
Realization process	Learning, teaching, lecturing, training, consulting	Conducting research, managing project, administration activities
Nonconforming product	Student failure to meet course or program requirements Student failure to pass a course/ an exam Course and program failure to achieve objectives Textbook failure to comply with course syllabus or student individual curriculum	Research project failure to meet specified contract requirements Research project failure to achieve objectives Research project failure to demonstrate the projected socio-economic impact Research project failure to demonstrate its financial support

ISO 9001 is the only standard in the family against which a third party can issue certification. The ISO 9001:2000 standard specifies global minimum requirements for an effective quality management system. Any university should consider them if wants to demonstrate its ability to consistently provide educational services that meet student and applicable regulatory requirements and aim to enhance student satisfaction. On the whole, the standard provides a general framework to systematically institutionalize the university's strategic programs, focus resources and communicate progress. The standard is based on the plan-do-check-act methodology, also known as the Deming Cycle, which helps universities establish, implement, monitor and measure their processes to deliver results that align with the university's strategic goals, as well as continually improve performance by taking appropriate actions.

There are five major requirements in the standard that should be considered for effectively implementation of an ISO 9001:2000 model of quality management system into an education organization.

- The first requirement – *essentials of quality management system* – addresses the standard's general requirements, which encompass all activities from quality management system documentation and control of documents and records to determining the sequence and interaction of processes to implementing actions in order to achieve planned results.
- The *management responsibility* requires the management's commitment to quality management system and explains that management must be dedicated to the university's processes, products and services.
- The third requirement of standard, *resource management* provides the criteria needed to perform a job competently and in a safe environment. Human resources, infrastructure planning and work environment are discussed in this section.
- Section seven of standard – *product realization* – defines the steps in product development. These steps include everything from the initial design phase to the final delivery phase. In a university, for instance, this requirement addresses: curriculum design and development, programs development and delivery, and control of monitoring and measuring devices.
- The fifth requirement of standard – *measurement, analysis and improvement* – focuses on measuring, analyzing and improving quality management system by having universities perform periodical internal audits, monitor student satisfaction, control nonconforming product, analyze and monitor data and take corrective and preventive actions.

To gain certification, universities have to demonstrate how each section applies to their organization through the use of quality manuals, procedures, quality plans, instructions, quality records, and other support documentation.

2.2. Integrating ISO 9001:2000 into Higher Education

According to Kiefer, an ISO 9001 model of quality management system for higher education provides "*the rigor to focus on student achievement, develop unity of purpose, align processes, grow strong leaders, exploit the intellectual capacity of all staff, measure progress, make decisions based on data and provide for continuous improvement*" (Kiefer 2003).

In order to provide an objective evidence of quality management system existence, a university has to set up its overall quality policy and objectives, design university structure and communication system, identify and document its processes, review job specifications, analyze

data and make decisions based on data, measure quality performances, and maintain quality records. Furthermore, a university has to demonstrate the top management commitment to permanent improvement of its quality management system through: projecting and communicating the most significant quality goals throughout entire organization; conducting reviews of the university's performance; and monitoring implementation of corrective and preventive actions.

The university has also to prove that resources, including infrastructure and work environment, are sufficient to achieve quality objectives of enhancing customer satisfaction. This requirement refers, for example, to: provision of classrooms, laboratories, study rooms and libraries with a sufficient material, books, internet connections; ensuring competence of faculty and staff in performing their jobs; and providing training and professional development for all university's employees. In addition, a university must demonstrate its products/ services or processes meet student needs and expectations, and, additionally, it has to prove that continuously measure, monitor, analyze and improve its results and performance. Therefore, any university needs to keep records referring, for instance, to increasing overall satisfaction of students with course and program delivery or providing students with knowledge and competences that meet or exceed employers requirements (Peters 1999).

A university that decides to develop and implement a quality management system based on the ISO 9001:2000 standard requirements should pursue the following preliminary steps (Olaru and Paunescu 2004):

- Identify all processes that have an impact on the quality of its products/ services, including teaching, learning, research, programs and courses being offered;
- Determine the interactions between these processes and design the communication system;
- Determine the nature and amount of resources required to effectively and efficiently conduct the university processes, including human, material, financial and information resources;
- Determine the objectives related to quality supposed to be accomplished.

The following six-step roadmap has been used towards the development, maintenance and improvement of an ISO 9001:2000 model of quality management system in a Romanian higher education institution of economics (Olaru and Paunescu 2004):

a) *Establishing top management commitment.*

In this step, the university's top management designed an ISO 9000 project committee at the university level in order for it to lead and coordinate the project (the committee includes faculty, staff and student members); organized a quality board to supervise the project committee activity; and assembled a quality champion departmental level. Furthermore, the university's top management provided all ISO 9000 project members with the adequate training required by the ISO 9000 family of standards. The ISO 9000 project committee and each quality champion are responsible for documenting university quality management system. They are also responsible for the co-ordination of the ISO 9001:2000 model of quality management system implementation process.

b) *Developing quality policy and objectives.*

In the next step, the ISO 9000 project committee with the support of each quality champion performed a gap analysis of existing quality system against the requirements of ISO

9001:2000. The gap analysis addresses possible interactions and synergies between existing quality management system and ISO 9000 requirements. As result of this analysis, the ISO 9000 project committee decides on the scope of the prospective university's ISO 9001 quality management system. Further, the project committee defines the university's overall quality policy, including its vision, mission and core values, as well as measurable quality objectives at the university and departmental level, for short- and longer-terms. The quality objectives established at each department level have to be integrated and correlated to university's quality policy and general objectives.

c) *Structuring and organizing quality management system documentation.*

In the third step, the ISO 9000 project committee pursued the following actions: structured the university's educational programs in comprehensive elements, including: undergraduate and graduate programs, doctoral and postdoctoral programs, individual courses and projects, lectures, seminars, laboratories, and research programs; mapped the teaching, learning, training, consulting, and research processes, by creating process flowcharts, and identifying their mutual interactions and synergies (the process flowcharts are supposed to assist the faculty, staff and students to understand the functional process of universities). In addition, the project committee organized the teaching, learning, training, consulting, and research processes documentation.

d) *Documenting quality management system.*

In the forth step, the ISO 9000 project committee developed the university's quality management system documentation, including: quality manual, which describes the quality management system and refers to quality management system procedures; as well as general and operational procedures required by ISO 9001 and needed to ensure adequate operation of university processes. The general procedures developed include: *control of document and data*, *control of quality records*, *internal audits*, *control of nonconforming product*, *corrective and preventive action*, and *analysis of quality management system by top management*. As regard the operational procedures required by standard, so far any university has somewhat operational procedures in place agreed by faculty and staff. In addition, these procedures have to be documented and evaluated for adequacy and conformity against ISO 9001 requirements. Such operational procedures include: *selection, admission, and enrollment of students*; *curriculum design and development*; *assessment and evaluation of students*; *evaluation of lectures and courses content*; *graduation of students*; etc.

At this stage, the project committee with the support of each quality champion further designed and developed course and research project quality plans, work instructions, and other support documents as applicable. Work instructions are developed, for example, for using facilities such as: computing facilities, laboratory workspace, and communicating technologies. So far the job specifications for each faculty and staff member were reviewed in order for them to comply with the university's quality policy and objectives and its structure related to quality management system. Furthermore, some measures and indicators for assessing the university's quality management system performance (including: teaching, learning, training, consulting, and research processes) were established.

e) *Performing internal quality audits.*

In the next step, the university's top management with the support of the university's quality board and all quality champions conducted a quality management system analysis as well as internal quality audits in order to verify the effective implementation of documented quality management system. The main objective of an internal quality audit is to verify if the quality management system of university complies with the ISO 9001 standard requirements, as well as whether these requirements are effectively implemented and are suitable to achieve the general and quality objectives. Therefore, in this stage the ISO 9000 project committee and quality champions performed the following actions: measured, assessed and monitored the teaching, learning, training, consulting, and research quality indicators selected in previous stage; undertook corrective and preventive actions; recorded and tracked the progression; and kept quality records. For example, an internal quality audit should identify specific problems to be addressed or rewritten, simplified or clarified. Also, if the university's quality management system is not compliant with the ISO 9001 standard requirements, the internal audit should specify corrective and preventive actions to be undertaken. By and large, internal quality audits serve to improve the quality management system from the perspective of individual faculty and staff member.

f) Performing external quality audit.
At this stage, in order for university to gain ISO 9001 certification, an external quality audit has to be performed by a third party. Upon performing external quality audit, a summary report and recommendation for certification and non-conformance reports as applicable were provided to university. These reports comprise findings and recommendations for university registration and certification (or not) in compliance with the ISO 9001:2000 standard requirements. Usually, the certificate is issued for three years. A complete reassessment is carried out every three years.

In order to sustain the ISO 9001 certification, the university's top management has to accept quality improvement as a continuous process (Palmer 2002; Warnack 2003). Therefore, commitment towards quality improvement will continue even after certification. Trained and competent internal auditors will conduct internal quality audits on a periodic basis stated by the procedures at least once each year.

3. FINDINGS

Good cooperation and teamwork among the school's departments, as well as faculty, staff and students are a necessity for successfully implementation of ISO 9001 in a university. The effective implementation of ISO 9001 will be ensured only if all faculty and staff members, as well as students, understand the benefits of quality management system implementation and appreciate that their individual and collective roles and responsibilities are essential in order for operational procedures to work effectively.

Romanian universities have been experienced many peaks and valleys while implementing the ISO 9001:2000 standard requirements (Olaru and Paunescu 2004). So far, during performing internal quality audits, many corrective and preventive actions have been figured out; Kiefer was also pointing some of them in his paper (Kiefer 2003). These actions include:

- *Involving all faculty and staff.* Every faculty and staff member should be held accountable for doing what the university sets out to do within its quality policy and objectives, particularly help all students achieving the high levels of knowledge, skills and academic performance.
- *Increasing attendance in school and classes.* In order for students to better understand their role and contribution towards the university's Quality Management System improvement as well as learning enhancement, faculty should teach them on their rights and responsibilities; also, the university's top management has to institute high expectations for regular attendance to ensure the faculty and staff members are doing everything possible for students to be present for learning.
- *Improving readiness for school and classes.* To improve the readiness for school and classes, every faculty with the support of university top management should provide students with a rich selection of books, course materials, as well as informational and technological facilities. At the same time, the university's top management should create essential partnerships with high schools, libraries, community groups, other universities as well as government agencies committed to education.
- *Increasing achievement in core subjects and values.* The university must measure its progress against settled core subjects and values and continuously improve its performances. For instance, the university should keep records of the number of students who enroll, participate, and graduate rigorous course programs; evaluate the academic performance of these students; as well as measure the number of students who qualify for excellent jobs because of superior course results.
- *Measuring student satisfaction after graduation.* The university should permanently measure the student satisfaction, for example one or two years after graduation. In order to do that, it can use a survey to determine how students perceive they were prepared for work or further education after graduation; as well as measure the number of students who got a job in their area of specialization.

Implementation of the ISO 9001:2000 requirements in some Romanian universities, with the main goal of raising student achievement, has been solved with a series of advantages for many of them. Some of the most apparent benefits of implementation of ISO 9001 in business and economics higher education are depicted in Table 2. Besides these stated advantages, many obstacles have been arisen through implementation of ISO 9001:2000 in Romanian universities (Table 3). Most of these disadvantages are a reaction to misunderstanding of language and goals of standard, as well as the lack of commitment and awareness against university quality management system (see also Mariun 1998; Karapetrovik 2001).

Table 2 Benefits of Integrating ISO 9001:2000 in Economics and Business Higher Education

Benefit factor	Explanation
Documentation of quality management system	University can demonstrate a documented quality management system; This documentation guides teaching, learning, research, and other university's processes in a convenient, predictable and generally acceptable way; It improves understanding and communication among faculty, staff, and students; It aligns all university's processes and develops a unity of purpose; It provides faculty, staff, and students with clear rights and responsibilities.
Process approach	It allows university to identify the real needs and expectations for undergraduate, graduate, and other courses and programs being offered; It allows university to focus on student achievement; It allows university to design courses and programs that meet the stated and implied needs and expectations, and, also, to offer adequate program delivery; It allows university to identify quality problems of products and services being offered; It allows university to implement corrective and preventive actions in order for it to continuously improve results.
Training of faculty and staff	The implementation of an ISO 9001 quality management system in a university environment ensures focusing on training and professional development of every faculty and staff member; It exploits the intellectual capacity of all faculty and staff members.
Image and impact on society	The implementation of an ISO 9001 quality management system in a university environment enhances university's image with internationally accepted quality management standard; It conducts to marketing and government accreditation benefits.

Focus on quality improvement	The implementation of an ISO 9001 quality management system in a university environment ensures commitment to permanent improvement and involves measurement of performance and progress; Continual improvement of results could be assessed through internal quality auditing, self-assessment, as well as external quality auditing; Some measures for a university's quality management system performance are: course or program accreditation, teaching appraisal, external recognitions, quality awards, and quality awareness, motivation, co-operation, and consciousness of faculty and staff.
Focus on quality problems	The implementation of an ISO 9001 quality management system allows university to decrease failures of student to pass courses/ exams, failures of courses to meet planned objectives, or failures of research projects to meet contract requirements; It reduces student complaints.

Table 3 Potential Disadvantages of Integrating ISO 9001:2000 in Economics and Business Higher Education

Disadvantage/ obstacle	Explanation
Language	Difficulty of understanding, perception, and interpretation of standard language.
Image	Perception of university as having a formalized management system that diminishes creative spirit, initiative and academic freedom.
Culture	Negative reaction to the idea of change; general misconception that through implementing ISO 9001 in a university, it will change the university's entire operating procedures.
Bureaucracy	Fears of increasing bureaucracy and paperwork; bureaucracies that sometimes limit the learning, innovation and growth of faculty, staff and students.
Resources	The implementation and effective integration of an ISO 9001 quality management system in a university environment require a considerable amount of human, information and financial resources.

The Romanian universities experience achieved while implementing the ISO 9001:2000 standard requirements demonstrates that the effective and efficient implementation of a quality management system is ensured whether the following variables are engaged: commitment of top management towards quality and process improvement; awareness of faculty and staff, as well as students, regarding the importance of quality and implementation of required changes; focus on learning, teaching, training, and research enhancement; use of data and facts for making decisions; and commitment to the continual improvement of results.

4. CONCLUSIONS

Our findings demonstrate that the university's key variables a quality management system addresses are: commitment of top management, identifying processes, designing communication system, identifying resources and defining responsibilities, documenting quality management system and controlling documents, controlling processes, performing internal audits, undertaking corrective and preventive actions, keeping quality records, and commitment to the continual improvement of results.

Globally, the ISO 9001 certification of universities becomes more and more a necessity required by the increasing competition for excellent students, as well as high-performance faculty and staff, but also growing importance of quality education services for students, their potential employers and governmental agencies. Very soon, the biggest challenge for universities will be not to implement the ISO 9001 standard requirements or to achieve the ISO 9001 certification, but to further maintain the certification gained. This should be a strategic goal for Romanian universities, if they want to remain competitive in the educational market.

5. FUTURE RESEARCH

An interesting future study would be to clarify the extent to which universities could adopt another approaches from industry (such as Six Sigma) that could help them to enhance quality of their services. Such kind of study could be focused, for example, on assessment, evaluation, and monitoring of variation in student's performance in the curricula. The question is: could Six Sigma be applied to measure performance and track progress of the implementation of an ISO 9001 model of quality management system in a university? For instance, by applying Six Sigma, could the results provide a methodology to increase the graduation rate of students to address the needs of highly skilled employees for economics and business industry? These are questions that need to be answered in future research.

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