

EDUCATION – RESEARCH PROCESS FROM QUALITY MANAGEMENT MODELS' PERSPECTIVE

Assoc. Prof. Catalina Sitnikov PhD
Faculty of Economics and Business Administration
University of Craiova, Craiova, Romania

Abstract: The paper focused on building a quality management model able to bring together the two main axes of higher education – education and research, and to ensure the quality continuous improvement from the perspective of the main two actors directly involved in these processes: students and professors. Based on a thorough analysis and critical views of quality management models applied in university education, the paper will develop potential steps for building a new quality model. The steps will go through analysis of universities internal and external environment using strategic management models and aiming to develop a set of strategies and strategic objectives focused on quality.

JEL classification: A23, M19, O15

Key words: academic education, quality management, quality model, strategic management, quality strategies

1. INTRODUCTION

Special attention was paid to the **quality or the quality movement** starting with the '70-'80. The main reason was represented by the competition among large companies. Many companies have started to search for solutions to survive by shifting their orientation from quantity to quality and customer satisfaction. A similar situation is encountered at the level of university education, from the '90, *due to continuous and rapid technological changes, the increase of costs, legislation, ways and forms of subsidy, the increasingly number of stakeholders and growing international competition in terms of students' recruitment, faculties staff abilities and competences, scientific research and its results. Once the customers of academic education are identified, it can be shown that the main objective of quality management and its models is to obtain profit as a result of satisfying the customer based on using continuous improvement strategy.*

European higher education is no longer stranger to change: for the last two decades, this sector has undergone reforms both in Western and Eastern Europe. However, starting with the early 90s, the rate of change was unprecedented, relying especially on three key aspects: the Sorbonne and Bologna Declarations (1998, 1999), their aim being to make compatible the European curricula as well as the entire European educational systems, and the Lisbon Strategy (2000), which aims at reform the still fragmented educational systems of the European states into a knowledge-based structure, more powerful and integrated. Subsequent reports have emphasized that the academic system is crucial for the welfare of Europe and, in fact, it acts as a true mean of support that brings together these key processes and strategies. Thus, the Bologna Process aimed to define the European Higher Education Area until 2010. While each

signatory country has interpreted the declaration in its own way and style, the process has registered a high growth, oriented toward a purpose and a much broader scope. Turning towards the reform of curricular programs on a structure with three cycles "license-master-doctoral degree", the Bologna process has generated concerns about comparability that led to the necessity of ensuring quality, accreditation and a certain degree of recognition, as certified by the Berlin Communiqué (2003).

The data of Bologna Process was later supplemented by explicit mention of *the importance of research as basis for the academic education that is involved in economic and cultural development of society and social cohesion.*

From these perspectives, quality management and quality continuous improvement must be assessed using models that are based on internationally accepted frames of work, such as ISO 9000, EFQM Excellence Model, Malcolm Baldrige Award, etc. While writing the paper, the study of literature and the referential assumptions, built the argument that distinction can be also made between national models of quality assessment and the ones chosen by each university separately.

2. OBJECTIVES

Often, an academic institution adopts a certain frame of reference for better matching the requirements imposed by the national approved bodies: Ministries of Education, accreditation institutions, etc. This is the situation in the case of Romanian universities, although there have been initiatives on introducing specific models of quality-oriented education – Programs' Assessment Model). Over the time, a large number of universities applied quality management models designed and developed for industry, generating both benefits in quality management as well as some disadvantages related to the application and the relevance of these models from the higher education's point of view.

The quality management models universally accepted and implemented by universities are:

1. The most frequently used model is **Total Quality Management (TQM)** defined as *an organization's managerial approach, focused on quality, based on the participation of all its members and pursuing long-term success through customer's satisfaction and obtaining of benefits by all members of the organization and society.* As this definition implies, TQM has the potential to include the perspectives of different stakeholders in an integrated manner, thus a comprehensive approach directed towards continuous improvement of quality management being constituted;
2. **EFQM Excellence Model** is a non-prescriptive instrument which establishes the criteria that any organization in pursuit of excellence can implement, requiring the identification of those who make performance possible;
3. **Balanced Scorecard** represents a strategic management and performance system built on four dimensions (finance, customer, internal process, learning), which requires the identification of performance indicators;
4. **Malcolm Baldrige Award** was designed and created as a structure that seeks the achievement of excellence through improved performance in terms of seven criteria (leadership; strategic planning; orientation towards market and customer; knowledge management; evaluation and analysis; human resource orientation; process's management; results);

5. **ISO 9000 standards** is a set of international standards for quality systems, targeting the continuous improvement through preventive actions;
6. **Business Process Reengineering** is a program that redesigns processes, systems and structures to achieve performance;
7. **SERVQUAL** was envisioned as a tool to evaluate customer requirements in terms of services' quality based on five dimensions (reliability, clarity, commitment, trust, identification of losses).

The EFQM, Balanced Scorecard, ISO 9000 models have entered into competition with TQM, and are focused on the systematic development of processes necessary to achieve measurable quality outcomes. All models presented are applicable either at the institutional level or at the level of faculty / department and were tested on at least two or three global environments. Despite their differences, a key feature of all these models is the necessity to evaluate their own contents compared with the predefined criteria. Testing these models has identified both the advantages and disadvantages of their application at the level of academic institutions.

The common advantages of the above models consists in the adoption by institutions or departments of a strategic approach to evaluation and quality management as well as in facilitating the identification of priorities for the quality's improvement. Also, these models include the perspective of students, seen as the clients, as an important element considering the current competitive market environment. As specific advantages we can mention:

1. TQM model is associated with the improvement of services offered to clients;
2. Balanced Scorecard aims to improve the financial activities, the allocation of resources and the bonus system;
3. ISO 9000 has brought improvements at the level of working conditions between departments and students' registration.

However, these advantages must be reconciled with a number of disadvantages related largely to the controversy generated by implementing the business models in the academic:

1. the bureaucratic structures within higher education institutions and a lack of effective leadership undermines the application of these models that relies on a team approach, providing a questionable character to the traditional independent role of professors.
2. inherent difficulties in quantifying the outputs of academic education process in order to self-evaluate;
3. lower applicability in the evaluation of research, teaching or learning processes' quality than in the assessment of services and management functions within higher education institutions.

Based on current controversies about the role of student as client or as a co-partner in the university education system, the only industrial-based model that treats the student as primary client and beneficiary of qualitative education is SERVQUAL, being focused on providing quality from a consumer's perspective. This represents the transition to a higher level, with a particular emphasis on evaluation and management of quality university education. Subsequently, efforts were made to create models of quality management that reflect the unique characteristics of university education and the importance of students learning ability. New models of university education quality management are: The Quality Management in higher education, Excellence Model, Academic Award Model, The Quality Assessment of student's degree of knowledge

and learning outcomes, Multiple models of Quality in Education, Performance Indicators for university departments, Internal Audit, The Dimensions of Quality Framework, Programs Evaluation Model, Subject Quality Assurance System, ISO-based TQM Model, Model in five phases the implementation of TQM.

While some of these models recognize the importance of the student's learning ability as the main indicator in quality management programs, others contain a different set of quality criteria (organizational capacity, management culture, a systemic vision of university education). *However, none of the models of quality management in university education brings in a whole the two dimensions: the educational process and the research process, and this are actually the premises of this paper.* Since university education sector should be designed and managed in close liaison with managerial and economic reasons, through the paper was considered that only by maintaining and continuously improving the quality of student's learning will be achieved the society's imperatives. This raises the issue of re-evaluation of current approaches to quality management of university education, since the purpose of higher education institutions must be to determine how to provide quality education. Thus, through the paper and the potential model that will be developed following the steps tracks the aim will be to turn the quality management into a management for quality, and the quality of educational and research processes will be the central point of any management program for quality.

3. METHODOLOGY

The research methodology used for designing and developing the model will be based on a multidisciplinary approach, along with the scientific study based on national and international literature and empirical data. The phasing of the model development was made taking into consideration, on one hand, the correct dosage of effort and the guarantee of the information flow for the proper conduct of activities, and on the other hand, the correlation of activities with the specific foresight methodologies needed for achieving specific objectives. The stages of the scientific research methodology that must be followed within the model approach are structured as follows: 1.choosing the research topic, 2. scientific documentation, 3. explaining the phenomenon; 4. capitalization of research.

While choosing the research topic, its importance and timeliness must continuously be kept on mind, since it is targeting the quality management and continuous improvement in academic education. The research topic is the analysis and evaluation of quality management models currently applied in universities and the quality management techniques and instruments used in university education as the basis for quality strategies. The principles for choosing this topic were based on a set of criteria, such as: degree of knowledge on the field, ensuring the use of the researchers' creative potential; theoretical and practical timeliness of the research; the necessity of meeting the deadline.

In the stage of scientific documentation, there will be gathered information and considered the main concepts, theories, models and trends manifested in higher education's quality management nationally and internationally in order to establish the viability of current quality strategies.

The scientific and theoretical support must be complex and comprehensive, including papers on strategic management, quality management, quality models, etc.

To explain the economic phenomenon will undergo through two sub-stages: the hypothesis formulation (constructive creative moment); verification of the scientific findings and hypothesis (critical moment). In this approach, hypotheses on the impact of the factors of influence – internal and external - on higher education institutions' quality must be formulated in order to correlate them with quality strategies. As logical processes for the analysis and formulation of hypotheses, there will be used the combined process of consistency and difference (to make a correlation between international developments in university education in the field of quality management and the prospects of its adaptation nationwide – later labeled objective OS1) as well as the process of interferences by analogy (by determining the correlation between strategic objectives and the possibilities of model's implementation - later labeled objective OS3). The research methodology used will be based on two types of research: quantitative research and qualitative research. The qualitative research will analyze the causes and the functional mechanisms of the discussed phenomena.

The methodology of investigation involves the general approaches of notion, content, classification in order to determine the specific characteristics of different models of quality management and selection of a group of models with a high degree of compliance and adaptation to the evolution of academic education in Romania.

For researches conducting, several methods, techniques and instruments will be used such as: typology, grouping, analysis, synthesis, extrapolation, allocation, deduction, and direct observation, interviews with representatives of universities within the objectives OS1, OSC1, OS2, OSC2 and OSC3.

Quantitative research will highlight the size of causes' influences and will be based on an analysis of internal and external environment of universities built using strategic management matrix (objective OSC2). Quantitative measurement methods used will be: correlation and regression methods (objective OS1); operational research (OS2 and OS4); management and decision problems (OS3 and OSC3). Starting from the two-dimensional coordinates: education-research, the objective will be the development of a model of quality management and continuous improvement for academic education.

The design of an IT platform will enable collaborative work, documentation, communication, carrying out specific activities (Delphi survey, virtual panels) including management activities (planning, decision making and implementation, monitoring, reporting). The platform adopted will provide the interface for communication with the external environment and will be an essential research tool. In implementing the model, specific instruments will be adopted in analyzing the current situations, in the establishment of visions, in the elaboration of scenarios and proposals of action plans. These techniques of structured consultation will be used: Brainstorming, SWOT analysis, STEEPV, expert panels, Delphi surveys, Road mapping at the level of the following objectives (OS3, OS4, OSC3, OSC4 and OSC5).

4. ANALYSES

Anchored in the realities of economic, social, technological and political environment, academic education has to define its own space and all connections with everything representing internal and external clients. As has been demonstrated over the last two decades, the academic education must accept the conventional image, made famous by industry, of a quality management applied to the entire institution and led by the enthusiasm and awareness of the higher levels. Given that, originally, the

education's quality systems were not able to guarantee and engage transformative teaching and learning activities, while through the new model and its objectives, the universities will be placed in the position of true practitioners of quality management and of its continuous improvement. Thus, the entire system of higher education will contribute to the practical application of knowledge-based society concept as a specific trend of European scientific and educational development.

The main objective of the research (OP) will be the management and continuous improvement of quality based on a model that aims at achieving quality strategies' goals.

1. The research of current issues and trends in the quality management of university education at national and international level (OS1).

The domain of academic quality management is currently characterized by anchoring in the tandem of control and quality assurance. In the context of new approaches used by universities to transfer the center of gravity from the non economic feature to the economic one, the profit maker, the shift of quality management from the orientation towards the quality of a process to *the orientation towards quality of the key stakeholders (internal clients – teaching staff and external clients - students)* is a must be. Also, emphasizing the role Juran Trilogy *quality improvement* must play *as a generating factor* of basic continuous cycle of quality management is a necessity. In Romania, a reassessment of the current situation is required, when quality management makes its presence felt in the institutions of higher education, by creating and implementing quality assurance systems, the development of quality manuals and the accreditation of specializations based on quality standards imposed by ARACIS or, sometimes, on the ISO 9001 standards. From this perspective, a common model must be developed, able to focus on continuous improvement of academic education's quality as basis for the future certifications and accreditations of quality systems.

2. Analysis and evaluation of quality management models applied in economic education university (OS2).

The continuous changes of internal and external environment in higher education have turned quality management into one of the main points of connection between the many processes and the stakeholders. Also, both the national and international forces are factors of change for higher education institutions. Despite progress made through research and practice, there is still no consensus on the best quality management model for university education that can be successfully implemented. *None of the quality management models currently applied does emphasize the importance of the two essential coordinates of education process: education and research. This is why the objective OS2 still acts as a logical continuation of the perspective of creating a common model of quality management based on the two dimensions badly needed - education and research.* From this point of view, a set of indicators specific for the quality in education and academic research (professional development and recognition, the internationalization of the institution, research-development and innovation, etc.) must be designed and developed, based on which it will be made a comparative analysis of specific models. Following this analysis, the models will be grouped in categories and classes, given that there is currently no such classification in the theoretical or practical field. By analyzing each category thus created, the advantages and disadvantages will be identified and the main milestones in the construction of the quality management model and continuous improvement in university education will be determined. On the other hand, in the

completion of specific objective OS2, the it will be determined the degree in which the quality management in education and research has been realized and implemented at the level of higher education institutions in Romania. As a result of this objective, it can be noted the *Creation of a knowledge base for the elaboration of a model, its implementation and the operation of its dynamic results (OSC1)*, according to the specificity and characteristics of university education in Romania. In this regard, a database of the main institutions of higher education in Romania and their characteristics from the perspective of quality management will be built. Assessing the possibility of potentially implementing it in the university educational area, the capacity of adaptability of the model in the institutions of higher education in Romania will be determined. Choosing and applying some of the steps of the benchmarking strategy will be part of this goal, providing the interdisciplinary nature of the research by combining quality management with strategic management.

3. Definition of the set of strategies and strategic objectives of quality specific for the university education (OS3)

An increasing competition, the need for accountability and awareness of the importance of university education, compatible with the real needs of global and European economic space, and the growing volume of information change from one day to another the way universities operate in these years. For the university education to adapt to substantial and lasting changes in terms effectiveness, the institutional structures should integrated the new paradigm of quality and its assurance and continuous improvement. Among the basic instruments developed to measure the progress and success of these efforts the focus will particularly be on the following strategies of quality: Customer Orientation, Strategic Planning for Quality, Continuous Improvement, Training in Quality Management, and Partnering. The novelty of this research consists in changing its orientation from the restricted individuality of a single institution of higher education and its specificity to a much wider vision of the entire area of the university education, aiming to determine more completely all the elements that influence the actual results of *The analysis of internal and external environment of institutions of higher education with the help of strategic management models (OSC2)*. On the basis of interdisciplinary character, the SWOT matrix will be used, determining a set of quality strategies characteristic for the education in universities and their specific policy objectives. The Quantitative Strategic Planning Matrix (QSP - Quantitative Strategic Planning) will be used to determine the most viable strategy applied to the whole space of academic education with the generic benchmarking strategy.

As a result of achievement of previous specific research objectives, the proceeding to a further objective, represented by the *Identification of the availability of higher education institutions in Romania to apply the model (OSC3)* through the analysis of environmental factors specific to each institution in order to implement quality management strategy, will take place. In this way, the means by which the new strategy will be adapted to every institution of higher education in Romania, according to its characteristics will be determined

4. Development of quality management and continuous improvement (OS4)

Thus, the model developed comprises two dimensions - education and research - as a whole, following on this basis the growth and continuous improvement of quality at the level of universities. In this context, it will be enhanced the idea of university as a profit center, creating products (students) that are profitable in terms of quality. Thus,

research activities are directed to achieving and improving the quality of key stakeholders: students as the end product (graduates) and teachers seen as providers and beneficiaries (through research) of the knowledge. The management and continuous improvement of quality is designed based on the following coordinates: stakeholders, requirements, processes, education and research results, which ensure continuous improvement. These are interrelated and they also coordinately interact: **stakeholders (students, teachers)** express their **needs** (learning and labor market integration, namely research and training) and they will **be satisfied** by **the processes of education and research**. The route will be designed as a five-phase, corresponding to the position occupied by the institution, and of related key indicators in terms of implementing quality management and quality assurance system:

1. Recognizing the problems quality and lack of measurement and evaluation systems;
2. Delimitation of quality problems in the given context of fragmented or inefficient systems;
3. Implementation of quality system through replacement or adjustment;
4. Improving quality by forming a real culture of quality;
5. Excellence through quality.

Each phase will have allocated processes, tools, methods and techniques with which it is aimed to shift to a higher position in terms of quality. At each level and between these phases, information flows will be provided through which the quality continuously improves. To facilitate the implementation of the model in the institutions of higher education in Romania, their grading scale (OS2 and OSC1) will be correlated with the position (phase) corresponding to the model.

As an additional objective, to implement the model thus established, the *Design and Development of an IT platform of the model (OSC4)* must be envisioned to determine its viability and functionality. Model implementation will bring on the fulfillment of the last research objective, *Measurement of the feedback resulted after the implementation of the project and the consequent upgrade of the model (OSC 5)*.

5. CONCLUSIONS

The importance for the domain consists in the translation of the strategic management of faculties from one coordinate – management of university education – to a complex coordinate that combines two components: the management of university education and scientific research management. Also, we designed through the project the management of university education on two dimensions: strategic and operational.

Strategic dimension will aim to promote new educational programs and development of quality standards and performance for students and teachers.

Operational dimension focuses on rules and procedures aimed at evaluating the quality of the educational process and students' knowledge, rules and procedures for evaluating and promoting teachers manage their educational programs, etc. Management of scientific research should be promoted by university education faculties on three cycles (bachelor, master, and doctorate) and refers to the evaluation criteria of performance in research and major research projects, contracted with various institutions and firms. University faculties which promote the university education management and scientific research management will structure their management on two levels: department and college, on each level being fixed both strategic components (development of new educational programs) and operational (supply of courses).

By the topic and objectives of the project we estimate a social, technological and economic impact. Thus, implementation of this model of management and continuous improvement of quality in higher education will help create an educational and research framework corresponding to the principles in the Declaration of Bologna.

Results of the research conducted during the project will be implemented both at the level of faculties' management and the actors directly involved in the educational process (teachers and researchers). It also takes into consideration the preparation and evaluation of students at faculties by establishing a new framework, appropriate to daily realities and requirements of integration into European structures. By creating computer platform of this model and its implementation in the faculties will enable the processing of information from the database using built-specific algorithm, interaction with stakeholders and dissemination of research results

REFERENCES

1. Antonesei, L. *Management universitar*, Editura Polirom, București, 2000.
2. Arcaro, J. S. *Quality in Education – And implementation, Handbook*, St. Lucie Press, Delray Beach, Florida, 1995
3. Atanasiu, G. M. *Managementul internațional și asigurarea calității în învățământul superior*, Editura Economică, București, 2000
4. Botan, C. *Managementul institutelor de învățământ superior*, studiu elaborat în cadrul proiectului „Politici educaționale”, Chișinău, 2001
5. Brakhahn, W., Vogt, U. *ISO 9000 pentru servicii – rapid și sigur spre certificare*, Editura Tehnică, București, 1998
5. Brătianu, C. (coord) *Ghidul calității în învățământul superior*, Editura Universității, București, 2004.
6. Cristea, S. *Metodologia reformei educației*, Editura Didactică și Pedagogică, București, 1994.
7. Drăgulănescu, N. *Standarde pentru evaluarea calității în învățământul superior din Romania*, UPB, București, 2003
8. Froman, B. *Managementul calității – Instrument strategic al abordării calității*, Editura Tehnică, București, 1998
9. Goldberg, J., S., *Quality Management in Education: Building Excellence and Equity in Student Performance*, în *Quality Management Journal*, USA, nr. 10, 2002.
10. Juran, J. M. *Planificarea calității*, Editura Teora, București, 2000.
11. Militaru C. „Tendințe în evoluția conceptului de Sistem de Asigurare a Calității, în sectorul terțiar la începutul mileniului al III-lea”, în „România – orizont 2010”, Editura Oscar Print, București, 2001.
12. Militaru C. „Impactul managementului calității în universitățile românești în contextul aderării la UE”, în „Integrarea României în structurile Euroatlantice”, Editura Dimitrie Cantemir, București, 2003.
13. Olaru, M. *Managementul calității*, Editura Economică, București, 1999.
14. Perigord, M. *Etapile calității. Demersuri și instrumente*, Editura Tehnică, București, 1997.
15. Petrescu, I., *Tratat de management universitar*, Editura Lux Libris, Brașov, 1998.
16. Popescu, S. Brătianu, C., (coord.) - *Ghidul calității în învățământul superior*, Editura Universității din București, 2004.
17. Stanciu C., *Sisteme de asigurare a calității*, Ed. Oscar Print, București, 2002.
18. Stanciu, I., *Managementul calității totale (TQM)*, Editura Cartea Universitară, București, 2004.

19. Stanciu, S. *Pedagogia modernă și contemporană*, E.D.P., București, 2001.
20. * * * *Spațiul European al Învățământului Superior – Realizarea obiectivelor*, Comunicat al Conferinței Miniștrilor Europeni Responsabili cu Învățământul Superior, Bergen, 2005.
21. * * * *Explorarea dimensiunilor sociale ale spațiului european de învățământ*, Atena, 2003.
22. * * * *Analiza politicii naționale în domeniul educației*: Ministerul Educației Naționale, București, 2000.
23. * * * *Raport de țară, Conferința Europeană a miniștrilor educației*, MEN, Berlin, 2003.
25. * * * *SR EN ISO 9000:2001 Sisteme de Management al Calității. Principii fundamentale și vocabular*.
26. * * * *SR EN ISO 9001:2001- Sisteme de management al calității. Cerințe*.
27. * * * *SR EN ISO 10013:1997 - Ghid pentru elaborarea manualelor calității*.
28. * * * *SR EN ISO 9004:2001- Sisteme de management al calității. Linii directoare pentru îmbunătățirea performanțelor*.
29. * * * *Towards the European higher education area. Bologna Process. National report 2004-2005*.
30. * * * *Progress towards the European Higher Education Area, Trends 2003, European Commission*.
31. * * * *Quality management in higher education*, Casa de Editură Venus, Iași, 2004
32. * * * *Legea nr. 288/24.06.2004 privind organizarea studiilor universitare*.