

# Total Quality Management Implementation in Portuguese Higher Education Institutions <sup>†</sup>

Marina Godinho Antunes <sup>1,\*</sup>, Pedro Ribeiro Mucharreira <sup>2</sup>, Maria do Rosário Texeira Justino <sup>1</sup> and Joaquín Texeira Quirós <sup>3</sup>

<sup>1</sup> ISCAL—Lisbon Accounting and Business School of the Lisbon Polytechnic Institute, Av. Miguel Bombarda, 20, 1069-035 Lisboa, Portugal; mrjustino@iscal.ipl.pt

<sup>2</sup> Institute of Education, University of Lisbon, Alameda da Universidade, 1649-013 Lisboa, Portugal; prmucharreira@ie.ulisboa.pt

<sup>3</sup> Faculty of Economics and Business, University of Extremadura, Av. de Elvas, 06071 Badajoz, Spain; jtexeira@unex.es

\* Correspondence: maantunes@iscal.ipl.pt

<sup>†</sup> Presented at the 2nd Innovative and Creative Education and Teaching International Conference (ICETIC2018), Badajoz, Spain, 20–22 June 2018.

Published: 29 October 2018

**Abstract:** This research aims to study the role that the implementation of Total Quality Management (TQM) may have on organizational performance of Portuguese university and polytechnic higher education institutions, through a literature review that supports the presentation of a conceptual model proposed by the authors. This research is justified by the observation of a reality still relatively little studied at the level of higher education institutions, not only in Portugal but also in other countries, particularly about the perspective of their financial sustainability, in line with the growing relevance that quality has come to assume in these institutions. Regarding the methodology, a study of a qualitative nature is contemplated, although using quantitative techniques, being the data obtained through the application of a questionnaire elaborated by the authors to evaluate the different dimensions of the proposed conceptual model. In the treatment of quantitative data, a model of structural equations (SEM) will be used, to investigate the possible relations between the different dimensions incorporated in the model.

**Keywords:** Total Quality Management; education; higher education; organizational performance

---

## 1. Introduction

This research aims to study the role of Total Quality Management (TQM) implementation in organizational performance of Portuguese university and polytechnic higher education institutions. This research is justified by the observation of a reality still little studied at the level of Portuguese higher education institutions (HEIs), especially with regard to the perspective of its financial sustainability. Quality assumes a role of relevance in customer satisfaction and recognition of the institution in the market, and nowadays one of the primary objectives of any institution is to achieve excellence in its area of business. Regarding the results, it is expected to characterize the implementation strategies of TQM practices, at the level of Portuguese HEIs, seeking to understand their role and to highlight their relations with organizational performance.

## 2. Theoretical Framework

### *Total Quality Management in Higher Education*

Total Quality Management (TQM) is a management philosophy that aims at continuous improvement of organizational performance and customer satisfaction, being transversal to the whole organization and incorporating in its model all the actors of the organizational structure. Many of the researches that have focused on the effects of TQM over the competitive advantage have shown that its presence leads to improved performance and increased competitiveness [1,2]. TQM principles have been applied in the industrial sector for several decades, however, its application in service companies and, more specifically, in HEIs has recently emerged as a new concept, framed in new realities that began to recognize higher education institutions as profitable organizations.

Investigations on the implementation of TQM practices in HEIs have had projection due to the growing competitiveness of educational institutions, not only in the private but also public sector, and in the increase of expectations generated around the labor market. Nowadays, due to globalization and internationalization, there are constant changes that occur very quickly, which means that, in business environments, organizations have to react quickly and efficiently to these changes, if they want to be successful in the business world.

Thus, in order to differentiate themselves from their competitors, organizations must develop their resources, promoting the creation of knowledge and the dissemination of information. It is in this perspective that the new paradigm of how to manage and develop knowledge and the strategic forces of organizations, thus becoming the central focus of recent investigations. Education is a resource of enormous value for the development of any society and the recognized quality of education provided in institutions is a fundamental element of the administrative management of higher education institutions [3]. Quality assumes a role of relevance in customer satisfaction and recognition of the institution in the market, and nowadays one of the primary objectives of any institution is to achieve excellence in its area of business. However, this task is more complex when it comes to assessing something intangible, such as education systems and the processes of higher education institutions [4], and it is therefore essential to define adequate tools for the evaluation of these intangible assets. Although the TQM principles were initially used in the industrial sector, the implementation of TQM practices is also applicable to higher education institutions, having the potential to improve quality in educational institutions and achieve continuous improvement [5].

Nowadays, the most relevant aspects of education in higher education are translated by learning, dynamic structures, flexibility and quality. Consequently, the higher education system will have to adapt to the continuous changes and new requirements, in order to achieve the success and the proposed objectives. This means that the entire education system will necessarily, to coat itself on high levels of quality. On the other hand, the emphasis placed on costumers and quality leads to consider as priorities organizational learning and innovation so that institutions provide the best services to students and teachers as well as to society itself, promoting, ultimately, growth and economic development [6].

## 3. Empirical Research

### *3.1. Conceptual Model and Definition of Research Hypotheses*

The conclusions obtained in the various studies carried out focusing on the usefulness of TQM in education are not consensual [7]. Some authors point out that TQM practices can be applied in HEIs [8,9], while others disagree about their applicability in dynamic and constantly changing environments such as those that characterize the reality of HEIs [10]. A possible explanation for the divergent results obtained is the application of TQM practices and the interpretation of their assumptions.

In the current market environment, quality is a key aspect for the competitiveness of institutions. Faced with a dynamic and complex environment, HEIs realized the relationship between TQM and performance assessment, starting to adjust their courses and offerings to meet the needs of various

markets and customers. TQM assumes itself as an organizational strategy and a commitment of organizations to continually improve and develop their procedures in order to manage quality results and respond to customer satisfaction. Being the process of quality linked to business strategy, this will bring advantages to the performance its organization. TQM scales developed for HEIs are, to a large extent, an adaptation of the relevant constructs initially developed for the industrial sector.

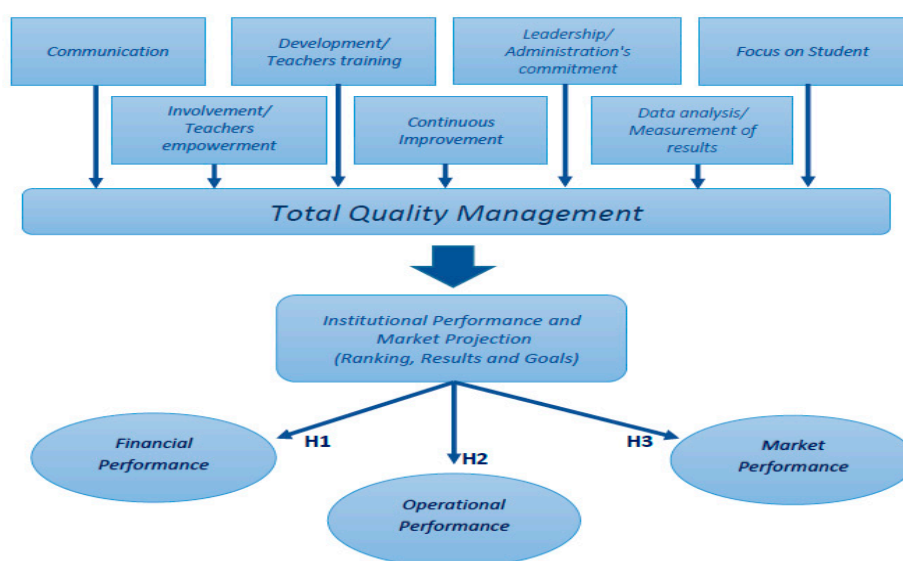
In this way, we consider that it is useful to develop a conceptual model that aims to analyze the different dimensions of TQM in the evaluation of HEIs performance, from a financial, market and operational perspective. Thus, this communication aims to define a proposal for a conceptual model to be studied, with the definition of the respective research hypotheses, which aims to analyze the benefits of the various dimensions of TQM in Portuguese HEIs. For this research were considered the following hypotheses of investigation:

**Hypothesis 1.** *Higher education institutions that implement TQM practices reveal an improvement in their financial performance.*

**Hypothesis 2.** *Higher education institutions that implement TQM practices reveal an improvement in their operational performance.*

**Hypothesis 3.** *Higher education institutions that implement TQM practices reveal an improvement in their market performance.*

Considering the brief theoretical framework presented, the research model proposed for this research is shown in Figure 1.



**Figure 1.** Conceptual model and research hypotheses.

### 3.2. Research Methodology

Regarding to methodology, this research is of a qualitative nature, although using quantitative techniques, being the data obtained through the application of a survey elaborated by the authors to evaluate the different dimensions of the proposed conceptual model. The sample will consist of about 200 emails from members of the Direction of Portuguese HEIs. In the treatment of quantitative data, a model of structural equations (SEM) will be used, to investigate the possible relations between the different dimensions incorporated in the model. The questionnaire will be designed with closed questions, using a Likert scale of five points for the evaluation of the opinions of respondents about the considered dimensions. For the characterization of the respondents and organizations, nominal and ordinal scales will be used.

#### 4. Final Considerations

TQM has come to be recognized as a tool which allows to obtain a significant competitive edge in the global market. Some of the most frequent topics mentioned in various definitions suggested for TQM are related to continuous improvement, the customer orientation, the employee autonomy and management commitment, stressing also that the interests of customers, employees, suppliers, competitors and all large-scale society should be considered. Having been demonstrated the role of TQM practices in HEIs, with this research proposal, it is intended to highlight the importance of quality in education, precisely in HEIs, since the existing literature has highlighted the fact that educational institutions have lagged from other organizations, regarding the culture of total quality.

#### References

1. Zhang, Z. Developing a model of quality management methods and evaluating their effects on business performance. *Total Qual. Manag.* **2000**, *11*, 129–137.
2. Antunes, M.G.; Texeira-Quirós, J.; Justino, M.R. The relationship between innovation and total quality management and the innovation effects on organizational performance. *Int. J. Qual. Reliab. Manag.* **2017**, *34*, 1474–1492.
3. Rahman, S.; Bullock, P. Soft TQM, hard TQM, and organizational performance relationships: An empirical investigation. *Omega* **2005**, *33*, 73–83.
4. Cabrito, B. Avaliar a qualidade em educação: Avaliar o quê? Avaliar como? Avaliar para quê? *Caderno Cedes* **2009**, *29*, 178–200.
5. Owlia, M.S.; Aspinwall, E.M. TQM in higher education—A review. *Int. J. Qual. Reliab. Manag.* **1997**, *14*, 527–543.
6. Mucharreira, P.R.; Antunes, M.G. Os efeitos das variáveis macroeconómicas no desempenho das organizações: Evidência das pequenas e médias empresas em Portugal. *Port. J. Account. Manag.* **2015**, *17*, 113–143.
7. Meirovich, G.; Romar, E.J. The difficulty in implementing TQM in higher education instruction—The duality of instructor/student roles. *Qual. Assur. Educ.* **2006**, *14*, 324–337.
8. Sirvanci, M.B. Critical issues for TQM implementation in higher education. *TQM Mag.* **2004**, *16*, 382–386.
9. Houston, D. TQM and higher education: A critical systems perspective on fitness for purpose. *Qual. High. Educ.* **2007**, *13*, 3–17.
10. Matthews, W.E. The missing element in higher education. *J. Qual. Particip.* **1993**, *16*, 102–108.



© 2018 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).