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THE RELEVANCE OF FINANCIAL AND NON-FINANCIAL INDICATORS TO ASSESS QUALITY AND PERFORMANCE OF HIGHER EDUCATION INSTITUTIONS (HEI)

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Abstract

In today's era of globalization, higher education institutions (HEIs) face constant challenges. More and more competitive environments are emerging in the various markets and one of the main objectives that has assumed relevance in the scope of their activities is the creation of value for the institutions and their financial sustainability. HEIs performance has been changed significantly, once these educational institutions are now forced to look for new sources of funding, assuming more and more the characteristics of a competitive market. In this way, HEIs that want to assert themselves in the markets should focus on strategic objectives that ensure financial sustainability like any other organizations in other sectors. For this purpose, it will be necessary to know their business processes very well, adopting a management approach that allows them to evaluate their quality and performance, both in national and international markets. The institutions seek to improve their competitiveness by implementing management strategies oriented towards quality and financial sustainability, using performance measurement systems that include a wide variety of financial and non-financial measures [1]. The advantages of non-financial performance measures have been cited in the literature [2-4], highlighting that these measures focus particularly on a long-term perspective, leading to better organizational performance. These measures enable managers to better understand the relationships between the various strategic objectives, facilitate communication between employees' actions and defined goals, and assist in the allocation of resources and the definition of priorities, considering those strategic objectives. In this context, it is extremely important to identify performance indicators, both financial and non-financial, which allow the evaluation of HEIs in terms of quality and performance. Measuring the performance of organizational goals is a key issue in the management of HEIs because without these measurement systems, organizations will not be able to efficiently and effectively deal with the uncertainty related to the contexts in which they are inserted [5]. Following this evidence, this communication proposes a research model defined in two distinct stages. In the first stage, it is intended to define the financial and non-financial indicators considered most relevant in the evaluation of the quality and performance of HEIs. Consequently, this research proposal intends to develop a model of analysis of cause and effect relationship between these indicators and the referred dimensions. Regarding the methodology, the data will be obtained through the application of a questionnaire to evaluate the different dimensions of the proposed conceptual model. The sample will consist of about 200 emails from members of the management boards of Portuguese universities and polytechnics. 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. In terms of discussion of results, it is intended to characterize the relevance of financial and non-financial indicators, seeking to understand their role and possible relations with the quality and performance of these institutions.

Keywords: Total Quality Management, Higher Education, Organizational Performance, Financial Indicators, Non-Financial Indicators.

1 INTRODUCTION

Higher Education Institutions (HEIs) reveal several distinctive features of any other type of institution, and these aspects reflect the strategy of the entire educational system as well as the development strategy of each educational institution. The evaluation of the performance, regarding the organizational objectives of the most varied organizations, and of the institutions of higher education,

assumes a key issue in the form of management, because without adequate performance indicators, organizations will hardly be able to deal efficiently and effectively with the new challenges and with the uncertain environment in which they are inserted. In this way, the probability of making mistakes in its strategic options and the inadequate use of its resources will be much greater without the aid of financial and non-financial indicators.

From the broad set of organizations, those of an educational nature gain increased importance because of their direct and indirect impacts on society. 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 HEIs [6-7]. To be successful, HEIs must apply business concepts that are inherent in profit-oriented businesses, including evaluating their performance. As it turns out in most public institutions, the HEIs have been seeking to develop measures of success in the process of managing their performance. However, their business objectives are something intangible and subjective, making it difficult to identify critical success factors and performance indicators. Due to the type of activities developed in HEIs, performance is measured through numerous qualitative indicators, which are difficult to quantify. Thus, to ensure long-term activity, increase competitiveness and attract partnerships and investments, it is essential for HEIs to create an evaluation system composed of financial and non-financial performance indicators. Traditional business valuation methods are based on calculations of financial indicators and their evaluation, but they do not identify all the factors that influence the development of the institution. The analysis of the performance of any educational institution based solely on financial indicators provides an incomplete evaluation of its performance, since the immeasurable and intangible factors, characteristic of this type of institution and which represent its internal potential and the prospects, are not considered.

Quality also plays a very important role, and nowadays one of the primary goals of any institution is to achieve excellence in its area of expertise. However, this task is more complex when it comes to assessing something intangible, such as education systems and HEIs processes, and it is therefore essential to define the appropriate tools for the evaluation of these intangible assets. Once again, also on the measurement of quality, it is evident the need to define financial and non-financial indicators, to look for cause and effect relationships. Currently, the most relevant aspects of education in higher education translate into learning, dynamic structures, flexibility and quality. Consequently, the higher education system will have to adapt to the continuous changes and new requirements, 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. Many factors can affect the quality of HEIs, such as the organizational culture and the rapid change that occurs in the contexts in which they are inserted and that inevitably affect all organizations, including HEIs. One way to achieve a quality organization is to implement the Total Quality Management (TQM) approach, which covers all processes and stakeholders of an institution.

2 THEORETICAL FRAMEWORK

2.1 Relevance of the Research

This research is justified by the observation of a reality still relatively little studied at the level of HEIs, not only in Portugal but also in other countries, particularly about the perspective of the assessment of their performance, considering a financial, operational and market perspective, in line with the growing relevance that quality has come to assume in these institutions. Thus, this research intends not only to emphasize the importance of financial and non-financial indicators in the evaluation of HEIs, concerning TQM implementation and performance evaluation, as well as to suggest a conceptual model and several research hypotheses to analyze the cause-effect relationship between these indicators with performance and TQM.

2.2 Financial and Non-Financial Indicators

The performance of institutions depends on the quality of the decisions that are made by their directors. These decisions relate to a constant need for information that ensures a rational management of resources and strategies. Performance evaluation systems, composed of financial and non-financial indicators, play a key role in the strategic definition of the organization because they provide value creation associated with the strategic objectives [8]. Several factors such as the phenomenon of globalization, a manifestly more aggressive competitiveness of the markets, new

management practices, the evolution of technology, among others, has led to a greater focus on companies' performance appraisal systems. To measure, evaluate and understand the "health" of organizations, managers often use financial indicators that support the analysis of the economic and financial situation. However, there are more and more theorists and practitioners who equally defend the importance of non-financial indicators, a trend that is intrinsically related to the adoption of new management practices [9-12]. In this way, there has been a great interest in the use of financial and non-financial performance measures, as well as in the results obtained by combining these two types of measures [13-14].

2.3 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. TQM involves integrating and dynamic processes. TQM is a strategic orientation within the organization, focusing on management commitment and support for the allocation of valuable resources in process improvements, product and service quality, in the participation and involvement of employees, as well as in the sharing of information and knowledge among the various elements within the organization. On the other hand, TQM also focuses on the demand and expectations of customers, the quality of suppliers and business partners, and strategic adaptation to changes in the surrounding environment and the markets where organizations are inserted. 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 [15-16]. 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 [17-18].

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 must react quickly and efficiently to these changes, if they want to be successful in the business world. Thus, 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 [7]. 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 [19], 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 [20]. 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, 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 [21].

2.4 Definition of Research Hypotheses

The strong market competition has led organizations to implement strategies and management systems to address weaknesses felt by managers in the information provided by financial measurement systems and their traditional short-term perspective. Organizations strive to improve their competitiveness by implementing quality and innovation-oriented management strategies using

performance measurement systems that include a wide range of financial and non-financial measures [1]. According to Hoque [22], the simultaneous use of financial and non-financial measures leads managers to pay more attention to critical success factors such as quality, service, times, reliability, innovation and customer needs. The advantages of non-financial performance measures have been cited in the literature [3; 23], emphasizing that they focus particularly on a long-term perspective, leading to better performance of organizations. Research based on performance measures presupposes that the integration of non-financial measures into measurement systems enables managers to better understand the relationships between the various strategic objectives, facilitate communication between employee actions and defined goals, and resource allocation and prioritization, considering these strategic objectives. In addition, considering the definition and implementation of strategies and information systems that emphasize the value creation, it will be possible to align management processes and internal objectives with the organization's external objectives [8]. However, it should be noted that the concept of organizational performance does not translate into an objective definition, that is, several studies emphasize financial performance, other market performance and even other operational performance. In this investigation, the organizational performance was considered under three perspectives, namely, financial, operational and market.

Regarding the implementation of TQM, there have been theoretical and professional proponents of the idea that non-financial indicators may be as significant as traditional financial indicators [10; 12]. Other studies highlight the advantages that can be obtained by an efficient combination of these two types of measures [1; 10]. There are studies that even point out that, the greater the level of implementation of TQM practices, the more non-financial performance measures will be required, since it will require greater control and monitoring of the whole process [24]. On the other hand, other researches demonstrate clear evidence that non-financial performance measures play a very important role in the successful implementation of TQM, as non-financial measures lead to the commitment of employees to quality, including them in organizational actions [25-26]. In this way, eight hypotheses of investigation are defined:

- **H1:** The use of financial indicators provides the implementation of TQM practices in HEIs.
- **H2:** The use of financial indicators provides an improvement in the operational performance of HEIs.
- **H3:** The use of financial indicators provides an improvement in the financial performance of HEIs.
- **H4:** The use of financial indicators provides an improvement in the market performance of HEIs.
- **H5:** The use of non-financial indicators provides the implementation of TQM practices in HEIs.
- **H6:** The use of non-financial indicators provides an improvement in the operational performance of HEIs.
- **H7:** The use of non-financial indicators provides an improvement in the financial performance of HEIs.
- **H8:** The use of non-financial indicators provides an improvement in the market performance of HEIs.

Completed the description of the fundamentals that led to the construction of the initial issues, it is now presented the proposed research model as illustrated in the figure 1:

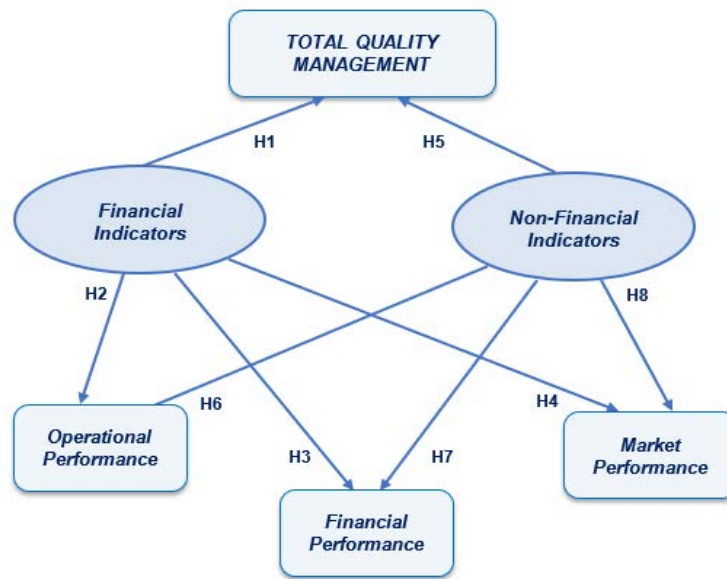


Figure 1 - Conceptual Model and Research Hypotheses

3 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

The development of global markets, the increasing relevance of customer relations, the improvement of the quality of products and services and the improvement of production technologies are factors used to increase the level of competitiveness between institutions. As a result, management will need measures and performance indicators in all its functional areas, delegating to management control systems a key role in providing the required information, which could be reflected in the improved institutional performance [27].

Many organizations implement the use of management planning and control tools to help improve their performance. The issue that stands out here is the little evidence of the effectiveness of these instruments in the results obtained from the organizations. The main limitation identified in previous investigations is based on a difficulty in obtaining the key data to prove the causal relationship between the indicators analyzed and the results obtained [14]. Undoubtedly, it can only be improved something that can be measured. In this way, this principle applies equally to HEIs, because only through the evaluation of their performance in various perspectives, using financial and non-financial indicators, it will be possible to obtain viable conclusions for the correct decision-making.

In this way, this research proposes a model of analysis that incorporates these different dimensions, based on the enormous importance that HEIs have acquired in globalized markets, not only as knowledge institutions and promoters of research activities, but also being institutions that follow a profit-oriented competitive market strategy and looking for useful indicators to ensure their financial sustainability.

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