



Quality in Higher Education: internal quality assurance systems *and* the quality management models

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Abstract

Quality assurance and accreditation processes related to Portuguese higher education are a relatively new phenomenon, deserving special relevance today after the creation, by the Portuguese State, of the Agency for Assessment and Accreditation of Higher Education - A3ES. The creation of this organism determined the obligation of Higher Education Institutions (HEIs) to accredit their study cycles and, later, to implement internal systems for quality assurance. Thus, it is important to realize that these institutions have to decide which direction they have to take to better meet the requirements of the entities that steer them, and meet the needs of the market where they operate. To do this, they need to make strategic decisions that will allow them to apply effective evaluation and quality assurance mechanisms. The implementation of quality assurance internal systems implies that HEIs develop structures, mechanisms, indicators and models that support a dynamic culture of internal evaluation, allowing also responding to the requirements of external evaluation and accreditation systems. With this communication one intends to discuss how quality management models already known and universally accepted, namely ISO 9001 and EFQM, may help to address these requirements and consequently the implementation of such systems in institutions like these, characterized by a very distinct and complex culture.

Keywords: Higher Education, Quality Assurance, ISO 9001, EFQM.

1 Introduction

The paradigm of quality in relation to its assessment, assurance and management has changed over the past decades. Nowadays it is not enough to produce something or provide a service; it is also necessary to do it better than the others, more quickly, at the lowest possible cost and responding to customer needs and requirements, whoever they may be. Several factors can be put forward to explain this paradigm shift. Firstly the increased demand from customers, because they have access to more information, or simply because they can acquire a greater or lesser easily the product or service to another supplier. Another factor that may eventually influence has to do with the appearance of numerous success stories regarding the implementation of quality management frameworks, where the ISO 9001 and EFQM Excellence Model are two of the most popular examples.

Practices related to quality assessment in higher education exist nowadays all over the world. In Portugal, one can say that these issues have also been a subject of reflection for some years now. The proof of this is a legislative framework, which since 1986 with the publication of the Law of the Education, encourages Portuguese HEIs to promote evaluation practices. It was in this context of national legislation and also due to international developments, the most relevant being the signing of the Bologna Declaration, that the Portuguese State created the Agency for Assessment and Accreditation of Higher Education (A3ES). The Agency's primary mission is the evaluation and accreditation of HEIs and their study cycles. Initially, the agency has focused its work on the accreditation of study cycles that are in operation, as well as on the

pre-accreditation of new study cycles. In a second phase, it intends to certify HEIs quality assurance internal systems, in an attempt to simplify the procedures for study cycles accreditation.

This paper is divided into four parts. On the first part one briefly introduce the principles and concepts associated with quality management models based on the application of the ISO 9001 standard and the EFQM Excellence Model. In the second part some considerations are made concerning evaluation and accreditation in Portuguese higher education, specifically addressing the internal systems of quality assurance and with particular emphasis on the standards proposed by A3ES. Then, in the third part, a comparative analysis is conducted between the HEIs quality assurance standards, as proposed by A3ES, the ISO 9001 standard requirements and the EFQM Excellence Model criteria. The fourth part presents a reflection based on this comparative analysis and discusses the need to further study the quality management models and their potential, as an important starting point for the implementation of internal quality assurance systems in HEIs.

2 Quality and quality management

When it comes to quality, there is often difficulty in reaching consensus on its meaning. The word assumes different connotations being difficult to define it in a unique and unambiguous way. Sahney *et al.* (2004) tell us that the same word has different meanings for different people, and as such, is defined according to various perspectives and orientations. However, if it is true that the meaning is hard to find, is also true that throughout the literature reviewed, the concept is almost always associated with the words "fitness for use" even when it is applied in the context of higher education. So, regardless of the multitude of definitions, quality is related to provide products or services that ensure the needs and expectations of the customers, in an effort to optimize the resources of the organization, fulfilling the legal requirements and always assuming a continuous improvement logic.

Over recent years the paradigm of quality, with regard to their assessment, assurance and management has been supported by the appearance of numerous success stories, especially in the business world. According to Heras-Saizarbitoria *et al.* (2011), there are basically two reasons why this has happened. The first has to do with the success associated with the implementation and certification of quality management systems according to the ISO 9001 standard and the second is related to the success of the dissemination and implementation of business excellence models like the EFQM Excellence Model.

2.1 The ISO 9001 Model

The ISO 9000 family was created by the International Standard Organization, commonly known as ISO, which is the main international normalization organization. The first guidelines appeared in 1987, being successively revised in 1994, 2000 and more recently in 2008. The current standard, ISO 9001:2008, defines a set of requirements for the implementation of quality management systems in any organization.

The ISO 9000 standards do not refer to the fulfillment of a goal or the reaching of a particular result, which means that they do not measure the quality of products or services of an organization, but establish the need to systematize and formalize a series of processes and procedures. Applying the ISO 9001 standard on a voluntary basis, means that an organization is implementing a quality management system that gathers standardized procedures documenting the processes leading to the production of goods or the provision of services, as well as all others supporting the systematization and formalization of different tasks, allowing it to achieve compliance with the specifications set by the client (Saizarbitoria-Heras *et al.*, 2011).

The ISO 9001 standard is supported in the so called "quality management principles" that are reflected in the ISO 9000:2005 standard. According to ISO 9000:2005, the eight quality management principles are:

- Customer Focus.
- Leadership.
- Involvement of People.

- Process Approach.
- System Approach to Management.
- Continual Improvement.
- Factual Approach to Decision Making.
- Mutually Beneficial Suppliers Relationships.

These principles are guidelines that allow the organizations to respond more effectively to regulatory requirements.

The ISO 9001:2008 is a standard that specifies generic requirements and is able to be applied in any organization, to support the implementation of quality management systems, without imposing uniformity in the structure of the system or in the documentation that supports it. The ISO 9001 requirements are stated in five main blocks:

- Quality Management System.
- Management Responsibility.
- Resources Management.
- Realization of the Product / Service Delivery.
- Measurement, Analysis and Continuous Improvement.

By applying the ISO 9001 standards HEIs have to standardize procedures and document the processes that support the delivery of their service, which leads to promoting the organization and the documentation of the institution activities. The benefits that could result from an ISO 9001 implementation are immense – employees commitment and involvement, activities systematization, processes and procedures documentation, improvement of planning capabilities, improvement of the control activities, improvement of the corporate image (Saizarbitoria-Heras *et al.*, 2011).

2.2 The EFQM Excellence Model

The EFQM Excellence Model was established in 1992 with the aim of helping European organizations to establish a management system that allows to continuously improve their performance, and subsequently allowing the assessment of organizations seeking the European Quality Award (European Quality Award) (Dias & Melão, 2009). It is currently used by many European organizations in their path towards a total quality management philosophy. Based on approaches that promote the evaluation and continuous improvement, it allows organizations to focus primarily on the development and implementation of an effective strategy resulting in a higher added value and above all to get a perception of their market position.

The EFQM model is supported in eight fundamental principles or concepts that allow any organization to achieve Sustainable Excellence, based on a culture of organizational excellence (EFQM, 2011). These principles are:

- Achieving Balanced Results.
- Adding Value for Customers.
- Leading with Vision, Inspiration and Integrity.
- Managing by Processes.
- Succeeding Through People.
- Nurturing Creativity and Innovation.
- Building Partnerships.
- Taking Responsibility for a Sustainable Future.

Based on these principles, the EFQM Excellence Model is supported in nine criteria, which allow understanding and analyzing the cause and effect relationships between what an organization does and the results that it gets. Five of the nine criteria are related to the Enablers and the remaining four are related to the Results.

Means

- Leadership.

- People.
- Strategy.
- Partnerships and Resources.
- Processes, Products and Services.

Results

- People Results.
- Customer Results.
- Society Results.
- Key Results.

Underlying the EFQM Excellence Model, there is the RADAR logic (*Results, Approaches, Deploy, and Refine Access*), which is a powerful management tool that allows organizations to continuously evaluate, following a structured approach, their performance (EFQM, 2011).

According to Heras-Saizarbitoria *et al.* (2011), there is the perception by organizations that the implementation of this model leads to improvement in capacity planning, management and internal control of the organization. However, the authors state that the complexity of the model itself, with assumed difficulties in understanding and assimilating its principles and criteria, as well as the marked lack of resources to work with it, make its application difficult and limit its use by a significant number of organizations. With the application of the Excellence Model, organizations are unanimous in considering that their vision as a whole appears enhanced, due to the improvement of the efficiency of internal processes and a more efficient decision-making process. Significant improvements in communication, motivation, teamwork and leadership are also some aspects considered by the authors as advantages associated with the implementation of the model.

Can the ISO 9001 standard and/or the EFQM Excellence Model, well known quality management models in the business world, be applied in HEIs in order to help them in the development of their evaluation and internal quality assurance systems?

Rosa and Amaral (2007) argue that the HEIs should look for quality assessment systems and models that enable them to secure and improve their quality, regardless of the presence of external systems of quality assessment. As centers of knowledge, whose raw materials are human beings, the HEIs are very complex organizations, providing a "service" that is too complex and difficult to assess. The application of Total Quality Management (TQM) models is not easy and when applied to these institutions may end up being a difficult process. However, this is one way that can be stepped by HEIs in order to continuously improve the quality of the service that they provide. According to the authors, this option should be a decision of the institution top management and not an imposition by external entities (Rosa & Amaral, 2007).

3 Quality in higher education: evaluation and accreditation

If the definition of "quality" in general terms is difficult, when associated with the education sector, is extremely complex to reach some consensus about its meaning. Traditionally, the quality of higher education is associated with the concept of "excellence." However, and similarly to what happens in the business world, this is a concept that higher education also associates with the idea of "fitness for purpose". Institutions that promote this level of education must become more sensitive to the demands of society, namely in terms of their graduates, making them possess the knowledge and skills the labor market needs (Westerheijden *et al.*, 2007).

In an attempt to define quality assurance in higher education, Baker (2002) tells us that evaluation is an important way to highlight and document the results of actions taken by higher education institutions. Also according to this author, the results of institutional assessment are a mean to provide an evidence base to demonstrate that the institution is willing and prepared to perform a self examination on a continuous basis.

Assuming that the evaluation process used by institutions is meant to improve their quality (at least in theory), then an accreditation process can be considered as a way to validate the quality level achieved, or, in other words, to ensure a minimum quality standard. Evaluation and accreditation may, therefore, conclude about the transparency of an HEI, making it comparable with other institutions in the eyes of different actors in different spheres, particularly through the publication of the results of the evaluation process. Evaluation and accreditation become thus powerful tools for consumer education in a context of increasing internationalization. Consequently, the results of accreditation are made public, while the evaluation may be kept for internal use only (Serrano-Velard, 2008).

Activities such as evaluation and accreditation in higher education have raised the need to create bodies responsible for their dynamics, control and certification. In this sense, based on a recommendation from the Council on Cooperation in Quality Assurance in higher education in December 1998, many countries have their own quality assurance agencies, and has even been set up a European Network for Quality Assurance Agencies, aimed at creating different initiatives to explore the context and the feasibility of accreditation, to clarify key concepts and issues, as well as to discuss possible collaborative accreditation schemes at European level. Furthermore, in June 1999, twenty-nine European ministers signed the Bologna Declaration, committing the governments of their respective countries to establish the European Higher Education Area by 2010. Quality assurance was one of the most important lines of action. Accreditation, as the visible face of quality assurance, can be seen as an important contribution to the creation of the European Higher Education Area (Hartley & Virkus, 2003).

Following these international developments and in the national context, as we look at the evolution of quality assurance in Portuguese Higher Education, according to Rosa and Sarrico (2007), we find two distinct phases: one that lasted from 1996 to 2006 and another starting around 2006. The first one was characterized by a government that kept the distance and the existence of an entity, CNAVES (National Council for Higher Education Assessment), whose mission was to coordinate the national system of quality assessment in higher education. The methodology used consisted mainly on the evaluation of undergraduate study cycles. In the second phase, starting around 2006, the Portuguese government created a new entity responsible for implementing and carrying out the purposes of evaluation in higher education, creating a new system clearly influenced by an internationalization strategy, derived from the implementation of the Bologna Process, and where the method is now the accreditation of study cycles and institutions (Rosa & Sarrico, 2007).

Given this legal framework and the need to structure a system of quality assurance that would be internationally recognized, the Decree-Law (DL nº369/2007 of 5 November) is published in 2007, creating the Portuguese Agency for Assessment and Accreditation of Higher Education, A3ES.

The Agency's mission is to contribute to improve the quality of the performance of higher education institutions and their study cycles, ensuring compliance with the basic requirements for their official recognition, through the evaluation and accreditation of institutions and study cycles. Through this it also aims to promote an internal culture of institutional quality assurance (A3ES, 2011). For the development of its mission, several functions for this body have been defined. In a first phase emphasis is being given to the evaluation and accreditation of study cycles; in a second phase, a certification of internal systems of quality assurance is being designed, that will allow in the future the simplification of the procedures for study cycles accreditation.

The processes of evaluation and accreditation of study cycles, as well as the implementation of internal systems of quality assurance in all HEIs, in light of the accreditation process imposed by the governmental body A3ES, are a powerful instrument of consumer protection in the context of teaching, intended to be increasingly international, with similar patterns being identified in other countries.

Undoubtedly, the issues associated with quality and its assurance can be considered as one of the most important issues concerning the reform of higher education worldwide, emerging at a time when it is notorious the reduction of public funds. It is no longer sufficient to assume that HEI develop their activity, using the resources available it is also necessary that HEI are capable of justifying the financing that is being allocated to them.

In industrial terms, working with quality means meeting the demands and expectations of the customers at the lowest possible cost. With the current globalization of markets, a company that does not worry about its quality and good performance is in danger of bankruptcy. And for HEIs, what will happen if they do not show good quality and performance? It will certainly be a relevant question, which is necessary to answer, and where systematic evaluation practices can certainly make a contribution to the response to this and other issues that may arise.

3.1 Internal systems of quality assurance

Quality assurance includes all processes that are adopted to ensure and continuously improve the quality of education that is offered. Therefore accreditation means validation, and can be seen as a part of quality assurance (Hartley & Virkus, 2003).

Initially, the A3ES has focused its activity mainly at the processes of accreditation of study cycles that are in operation, as well of new study cycles through the processes of preliminary and pre accreditation, respectively, followed by external evaluations based on visits to HEIs, conducted by the External Evaluation Committees. As already mentioned in the second point of this paper, in the objectives and plans of activities of the A3ES exists the possibility of certification of internal systems for quality assurance in HEI, systems that according to Santos (2011) provide *"[...] an essential tool for further simplification of procedures in the process of external evaluation and accreditation of institutions and study cycles."*

The internal systems of quality assurance proposed by A3ES are based on a set of standards, designed after a comparative analysis of European processes for the assessment and certification of internal quality assurance systems. These standards are not considered by the Agency as absolute ones, but rather guidelines for the design, development and implementation of internal systems for quality assurance in HEI (A3ES, 2012).

Based on the comparative analysis just mentioned, its author, Santos (2011), proposes 10 standards for the implementation of internal systems of quality assurance in Portuguese HEI, which are aligned with the European standards and guidelines. The standards are:

- Definition of a policy and quality objectives
- Definition and quality assurance of the training offer
- Quality assurance of learning and student support
- Research and development
- External relations
- Human resources
- Material resources and services
- Information systems
- Public information
- Internationalization

To ensure the response to each standard, institutions must develop a set of procedures and mechanisms for collecting and analyzing information, which allow them to make explicit to others their position in relation to each standard implementation.

Although these are the standards proposed, the author tell us that they are not prescriptive, and that it is up to each HEI, in accordance with its mission, goals and institutional culture, to define the organization of its own internal quality assurance system. Santos (2011) also refers that these standards are intended to promote and encourage innovative approaches as regards to the promotion of an institutional culture of quality and continuous improvement, rather than just responding and complying with external references.

Implementing quality assurance systems, implies the creation of structures, mechanisms, indicators and models in HEIs that support a quality culture and a dynamic quality evaluation, which are the key to promote cycles of assessment, helping them to take decisions and responsibility for the actors involved in the education system.

4 Internal quality assurance systems and quality management models

Quality assurance systems are a new phenomenon for the Portuguese HEIs. Thus, they need to reflect, in order to define the path that they should follow to better meet the requirements, both of the entities that will evaluate them and of the market where they operate.

It is essential that an evaluation process of HEIs and their study cycles is supported by a concrete reality, in a very complex context made of very complex institutions. Since this is an ongoing process, where accreditation processes are already being applied to HEIs, which will be the next step? Have HEIs to be prepared for the certification of their quality assurance internal systems? What models or tools may be applied by the institutions to implement these quality systems?

Based on the work of Rosa *et al.* (2012), we present in Table 1 an exploratory comparative analysis between the standards that have been proposed by Santos (2011) for the Portuguese HEIs and, the ISO 9001 requirements and the EFQM Excellence Model criteria.

Table 1: Comparative analysis between the internal quality assurance standards proposed by Santos (2011) and the two models for quality management: ISO 9001 and EFQM Excellence Model.

| Standards (HEI) | Requirements of ISO 9001:2008 | Criteria of the EFQM Excellence Model |
|--|--|---------------------------------------|
| Definition of a policy and quality objectives | Quality Management System | Leadership |
| Definition and quality assurance of the training offer | | Strategy |
| Quality assurance of learning and student support | Realization of the product / service delivery | Processes, Products and Services |
| Research and development | | |
| External relations | | |
| Human resources | Resources Management | People |
| | | People Results |
| Material resources and services | | Partnerships and Resources |
| Information systems | Measurement, analysis and continuous improvement | People Results |
| | | Clients Results |
| | | Society Results |
| | | Key Results |
| Public information | Realization of the product / service delivery | Processes, Products and Services |
| Internationalization | | |

Quality assurance systems proposed for HEIs and the quality management models presented in the previous table are undoubtedly based on approaches that promote the evaluation and continuous improvement. With this exercise, where we compared the internal quality standards proposed by Santos (2011) and the requirements of the ISO 9001 and EFQM models, we come to the conclusion that it is possible to relate them and even fit them into four major areas: Quality System; Resources; Processes and Measurement and Continuous Improvement.

It is obvious that the comparison illustrated in Table 1 is only exploratory and needs a deeper analysis. It is not enough to provide answers for the questions that we put on top of this point. The intention of this paper is to point out the existence of unambiguous aspects common to these three sets of standards. If there is a worldwide scenario of ISO 9001 and EFQM Excellence Model implementation, with interesting and quite positive results, it seems relevant to at least analyze the possibility of adoption by HEIs of these quality management approaches as ways to implement internal quality assurance systems.

5 Conclusion

Westerheijden *et al.* (2007) tell us that quality assurance is here to stay and may even be regarded as a new tool for policy makers and managers of HEIs, occupying a safety place when compared to other management models. Models of quality assurance developed for the business world, can be useful, not in the sense of a simple adoption, but after proper adaptation to the specific characteristics of higher education.

The implementation of any assurance or management quality system in any institution consumes time and resources. In complex organizations such as HEIs, implementing these systems is also a very complex process. If there are other models, like the ISO 9001 and EFQM Excellence Model, known and widely implemented, which show a relationship between its requirements and those proposed for the internal systems of quality assurance by A3ES, it seems reasonable to conclude that, at least, the possibility of adoption of these guidelines by these institutions should be studied in depth.

It is urgent to reflect about the issues pointed out in this paper, in order to find ways to help HEIs to make strategic decisions that will allow them to move towards the implementation of effective mechanisms and quality assurance systems, which could be, by the end, certified by an independent organism.

Nowadays, in an increasingly and competitive market with limited funding opportunities, HEIs probably need to conduct their activities in a perspective of "business" and thus the ISO 9001 standard and the EFQM Excellence Model can result in an important mechanism of quality assurance, which will certainly influence the future and the sustainability of these institutions.

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