Quality management in universities: towards an integrated approach?

Abstract

Purpose - The research presented in this paper aims to empirically test the thesis that universities are developing their different quality management (QM) systems comprehensively and integrating them in their broader management and governance systems, covering different processes, organisational levels and the principles of QM.

Design/ methodology/ approach – The empirical work is based on a country case study which embeds three paradigmatic university case studies. Data is obtained from institutional documents, as well as from individual and panel interviews. A content analysis using N-Vivo was undertaken.

Findings – Universities show signs of integrating quality management in their overall management and governance framework. They develop their QM systems with a focus on teaching and learning, but they are increasingly trying to integrate their other processes. They seek to involve their different organisational levels, from the programme to the institutional level. Universities cover most QM principles, but show deficiencies regarding customer focus, mutually beneficial supplier relationships, involvement of people, and process and system approach.

Research limitations – Our research shows the results of three paradigmatic cases regarding QM implementation, since these were the first to have their QM systems certified by the Agency for Assessment and Accreditation of Higher Education (A3ES). In future work, it would be interesting to understand how other universities are developing their QM systems and whether implementation occurs in an integrated way.

Practical implications – We expect that our results will add to the discussion on the implementation of QM in universities, further contributing to the development of truly integrated approaches to QM in higher education.

Originality/ value – The article discusses the QM systems which are being developed and implemented in universities and analyses how integrated they are, as only those that are fully integrated will contribute to improve the overall quality of universities.

Keywords: Quality management, integration, universities, multiple case study

Article Classification: Research article

Introduction

A more integrative vision of QM in higher education is visible in the literature, emphasising the development of total and holistic approaches to QM (Manatos et al., 2015).

Likewise, universities show signs of increased integration in their QM systems, following the path shown in the literature (Srikanthan and Dalrymple, 2002, Srikanthan and Dalrymple, 2007, Manatos et al., 2015). Integration is understood as the development of QM methods within organisations covering different processes, organisational levels, QM principles, and being part of the organisational overall management framework (Manatos et al., 2015).

The conceptual work presented in Manatos et al. (2015) clearly highlights the trend in the literature towards the integration of QM in higher education. To better understand that process, we present here an empirical study using Portuguese universities. In developing the study, we focused on several aspects of the QM system in the organisation. We investigate whether the QM systems of universities approach their different processes in an integrated way, i.e., whether there are articulated policies, goals, strategies and practices for teaching and learning, research and scholarship, third mission and support processes, or whether they are fragmented (Barnett, 1990). We study whether the QM systems help integrate the different organisational levels, i.e. whether the programmes, the basic units and the institution as a whole are called to participate and are involved in QM (Brennan and Shah, 2000). Finally, we examine whether universities integrate the different QM principles into their QM systems: customer focus, leadership, involvement of people, process approach, system approach, continuous improvement, factual approach to decision making and mutually beneficial supplier relationships (ISO, 2012).

From a different perspective, we aim to understand to what extent the broader management framework of the universities integrates QM. In particular, the goal is to understand whether: (i) QM is part of the strategy of the universities; (ii) QM is a delegated area of responsibility for the management and governance bodies of universities (iii) the results from QM inform the universities' strategic management.

We use a country case study with three embedded paradigmatic cases of universities that have their internal QM systems certified by the Agency for Assessment and Accreditation of Higher Education in Portugal (A3ES). We believe that it is interesting to understand how the universities with more advanced implementations of internal QM systems behave regarding the integration of those systems. In assessing integration, we consider their main processes and mission, their different organisational levels, the QM principles, as well as the integration of the QM system in their overall management and governance systems.

Altogether, we aim to understand to what extent universities are developing and implementing integrated QM systems, since we believe that only an integrated approach to QM

in higher education can actually contribute to improving the quality of universities and their processes (Sun, 2000, Cruickshank, 2003).

The integration of quality management in universities

Traditionally, universities are fragmented and loosely coupled organisations. This reflects their disjointed internal and external environment, and the existence of dispersed stimuli or the incompatible expectations they are subject to (Cohen et al., 1972, Weick, 1976, Orton and Weick, 1990, Deem, 1998, Frølich et al., 2013).

However, there are indications that universities are more and more interested in integrating their main processes and consequently their management practices (Manatos et al., 2015).

There are signs that the management and governance framework of universities are becoming increasingly integrated, leading to the centralisation of power in a small number of decision-making and governance bodies (Melo et al., 2010). Often, executive bodies have shrunk in an attempt to become more agile, while collegial bodies have been losing deliberative powers and become merely consultative bodies to the executive centralised decision-making power (Sarrico et al., 2013b, Shattock, 2003, Shattock, 2006).

The trend towards integrative approaches in higher education has been partially translated into the development of European QM frameworks, national accreditation and assessment systems, and internal QM systems in universities (Rosa et al., 2001, Srikanthan and Dalrymple, 2002, Srikanthan and Dalrymple, 2007, Rodman et al., 2013). The European QM models, namely the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), have increasingly been paying attention to the role of QM in supporting and driving institutional strategic management (ENQA, 2015).

As the European University Association (2010) highlights: "institutional QM requires a comprehensive, all-encompassing approach". This covers all the processes of the universities, the different organisational levels and the QM principles, but also assumes the integration of QM in the broader management and governance framework of universities. This need for integration is actually highlighted by several authors, who emphasise the need to link QM to institutional strategic management (Gover et al., 2015) and to weave QM initiatives into the strategic plan of institutions (Horine and Hailey, 1995, Cruickshank, 2003, Bender and Siller, 2006).

Setting up quality management systems

Different developments at the European, national and institutional levels have influenced the emergence of internal QM systems.

The Bologna Process and the establishment of the European Higher Education Area is closely linked to the development of QM in European universities. At the same time they have been encouraging the quality debate in Europe and attempting to create a common understanding of the principles and procedures associated with internal and external quality assurance (Kohoutek and Westerheijden, 2014, Veiga and Sarrico, 2014, ENQA, 2009). In this context, the ESG (for internal quality assurance), developed in response to the demands of the Berlin Communiqué (2003), were crucial to the promotion and the development of internal QM systems in universities (ENQA, 2009).

Consequently, the European higher education quality landscape has evolved quite rapidly, and by 2010 almost all European universities had implemented some form of national quality assurance procedures (Kohoutek and Westerheijden, 2014).

At the national level, the national accreditation agencies have also played a role in this process. Some of the accreditation agencies affiliated with the European Association for Quality Assurance (ENQA), such as the ones in Portugal, Spain, Finland, Norway and Austria have already started to audit, certify or accredit the internal QM systems of universities, based on compliance with the ESG. Despite not being a common practice to all the countries of the European higher education area, it seems to be growing. In the ENQA 2012 survey, 34% of the national agencies identified the introduction of QM procedures focused on the institution as a whole as a central change to be introduced in the future (Gover et al., 2015, Grifoll et al., 2012). In fact, developing periodic assessments of all study programmes in one country is costly and can cause significant disruption to the normal activities of the institutions. These are possible reasons for countries to choose to assess institutions and/or their internal QM system.

In Portugal, alongside its assessment and accreditation activities of study programmes, A3ES promotes the implementation and certification of institutional QM systems (A3ES, 2013a). In 2011, A3ES adopted a model for auditing QM systems with a view to their certification. It includes eight main dimensions: (1) the institutional policy for quality; (2) the effectiveness of the procedures and structures for quality assurance; (3) the relationship between the quality assurance system and the governance and management bodies of the institution; (4) the participation of internal and external stakeholders in the quality assurance process; (5) the information system; (6) the publication of information relevant to external stakeholders; (7) the monitoring, evaluation and continuous improvement of the QM system; and (8) the QM system taken as a whole (A3ES, 2013b). A3ES aims to provide guidelines to assist institutions in the design and development of their internal QM systems according to the profile and specific requirements of each institution (A3ES, 2013a).

By promoting the certification of QM systems in compliance with the European demands, A3ES favours not only the implementation of quality management practices but also makes universities more aware of internationalisation and of the European exigencies (Rosa and Amaral, 2014, Rosa and Sarrico, 2012).

Despite the decisive role and influence of the European and the national contexts, the responsibility for developing QM systems and practices lies ultimately with the universities, as stated in the Berlin Communiqué (2003). The institutional level, i.e. the university, has a preponderant influence on the way the internal QM systems are being set up. On the one hand, universities (mainly through their management and governance bodies) have the autonomy and the power to design their own internal QM systems. On the other hand, universities are strongly influenced by European and national regulatory entities, tending to closely follow their standards and guidelines, ultimately because they need the certification or accreditation of their QM systems (Cardoso et al., 2015).

Methodology

A country case study was undertaken, which includes three embedded university case studies. Universities A, B and C (designated as UA, UB and UC below) were the first universities in Portugal with an internal QM system certified by A3ES (in 2013, for a period of 6 years). These cases can be defined as paradigmatic (Flyvbjerg, 2006) or extreme cases (Gerring, 2007). We believe that it is interesting to explore the QM systems and their level of integration of the universities that should have the most developed QM systems, since they were the first ones to have their QM systems certified.

The university case studies are all different in terms of size and location. This choice ensures a diversified sample, able to empirically base the research. To further diversify the study, the contrasting study areas of Engineering, Language and Literature, and Education were investigated in the different institutions.

First, we analysed the content of official documents of the universities, such as their statutes, strategic plans, quality manuals, quality plans, activity reports, and audit reports from A3ES. Then, we have conducted semi-structured interviews with different internal stakeholders. We interviewed academics with different involvement levels in the internal QM systems and with different hierarchical positions in the organisational structure, from top managers responsible for the development of the QM policy, to academics without management functions, who have to deal with QM on a daily basis. We also interviewed other internal stakeholders, such as non-academics involved in QM activities, and students.

Academics without management functions and students were interviewed in panels of 3 to 5 elements. In total, 23 individual interviews and 9 panel interviews were conducted (see the list of interviewees in Appendix 1).

We have drawn on an interview script with several open questions around five main topics. Each topic encompasses different dimensions: i) quality in higher education, including the strategies, goals and drivers of QM; and the different levels where we look for integration in: ii) processes, iii) organisational levels, iv) QM principles; and finally v) QM as part of the broader management and governance framework of the university. The data collected was subject to content analysis and categorised into the different levels and dimensions of the grid displayed in Table 1, using the NVivo software for qualitative data analysis.

Table 1. Content analysis grid

Levels of analysis	Dimensions
Quality in higher education	Strategy and goals for quality
	Drivers for quality
Processes level	Teaching and learning
	Research and scholarship
	Third mission
	Support processes
Organisational level	Programme
	Basic unit
	Institution
Quality management principles level	Customer focus
	Leadership
	Involvement of people
	Process approach
	System approach
	Continuous improvement
	Factual approach
	Mutually beneficial supplier relationships
QM as part of the overall management and governance of the university	QM as part of the university strategy
	QM as an area of responsibility of the management and governance bodies of the university
	QM as a tool for strategic management

Our research is thus based on the analysis of the official documents regarding QM, but mostly on the perceptions from the different internal stakeholders.

Since the QM system from the three universities were certified by A3ES, and the reports from the external auditing by A3ES are publicly available, we also analyse our results in light of those reports.

The development and the implementation of QM systems in universities

Processes in higher education: the focus on teaching and learning

Teaching and learning

The three universities illustrate the specific attention that is being paid to teaching and learning.

The QM of teaching and learning is similar in the three universities. Teaching and learning activities are assessed mainly through: surveys to students about the performance of academic staff and their courses; reports developed by academics individually, about their courses; reports developed by programme directors about their programmes; reports developed by unit directors, about their units; and analysis by institutional bodies, such as pedagogic and scientific councils, regarding the courses, the programmes, the department, and the schools (in the cases of institutions B and C).

Teaching and learning assessment consists essentially of nested reports produced by different organisational levels, where each level of analysis reflects on the improvement actions proposed by the previous level. The importance of these reports, as self-analytical tools and crucial elements of the QM system produced by the different levels in the academic hierarchy (from individual academics to the pedagogic councils), is also highlighted in the A3ES auditing reports.

Universities also have strategies to identify the worst results and to highlight and promote best practice. In UA and UB, auditing is used to understand the problems of certain courses. Similarly, in both universities, "*the system automatically signals the situations which do not follow some criteria (linked with the goals established for the programme). And when that happens, no report can be submitted without some justification, and, if necessary, improvement and correction measures are asked for*" (Responsible for quality at the rectory level, UB).

In UC, "*if the performance results obtained via questionnaires to students are lower than a certain value, the academic being evaluated has to make a report covering the aspects that were highlighted as negative and, globally, discussing his/her performance and his/her course*" (Academic from the programme of Education, UC).

Good practices are also recognised. When academics at UA receive an excellent evaluation they are given an award in a public ceremony in the university. UB develops a "*portfolio that highlights best practices*" (Responsible for Quality at Rectory).

The main limitation in this process is the exclusion, until now, of the 3rd cycle (doctorate degrees). However, UA is already developing "*a pilot experiment in the 3rd cycle, especially in the more traditional classes (theoretical classes, practical classes, laboratory classes). Thesis and*

other 'evaluation' forms are being subject to pilot experiments, since last year" (Coordinator of the operational body for studies and planning, UA). Similarly, UB foresees "*the integration of the doctoral programmes in the current year*" (Responsible for quality at the rectory, UB). In this regard, UC lags behind the others.

Research and scholarship

With research and scholarship, all universities recognise that the assessment of research and of the research centres has been mainly developed by external entities and according to assessment methods and tools developed by the Portuguese Foundation for Science and Technology (FCT). However, more recently the QM systems started to integrate the research process. In UA, "*these days the evaluation of the research is based on the strategic planning of the R&D units (…) and we internally develop the evaluation of researchers and research centres*" (Coordinator of the operational body for studies and planning). In UB, "*the self-evaluation reports from the research units are introduced in the system, where they are processed and then analysed and commented by those directly responsible*" (Administrator, UB), and "*the participation rates are close to 100% (…) there is a great involvement of the researchers*" (Responsible for quality at the rectory).

However, especially in UC, the integration of research in the QM systems is not yet entirely consolidated: "*we are now creating working groups (…) involving people from the rectory and people from the research centres (…) in order to identify the priorities regarding the identification and implementation of mechanisms in terms of research*" (Responsible for quality at the rectory).

Third mission

The third mission reflects the engagement of universities in business-related activities, local and regional development, economic growth and societal development in general (Laredo, 2007).
UA has been "*developing regulations, related to the relationships with companies, namely to the internships of the students in the companies, and mechanisms to assess those relationships. And we have the Technology Transfer Office and specific groups (one of them is connected to intellectual property)*" (Coordinator of the operational body for studies and planning).

In UB, there are also bodies who assess this process, as with the "*cooperation with society units [which] have to produce a self-evaluation report, which is then submitted to the council*" (Coordinator of the operational body for quality). "*It is one of the strengths of the university, and the university is betting on an increase in the relationships with external partners*" (Academic from the Language and Literature programme, UB).

There are some signs of the third mission becoming integrated in the QM systems of the universities, especially in UA and UB. Some of the interviewees mention relationships that the

universities establish with several external entities, but they do not know how these activities are assessed or monitored: "*there are very strong relationships (…) with local institutions (…) city structures (…) companies (…) but I don't know if those relationships with the community are covered by the system*" (Director of the programme of Education, UC).

Support processes

The support processes cover all sorts of services and processes, ranging from administrative, accommodation, estates, sports, cultural and other services (Yeo and Li, 2014). The level of integration of these processes in the QM system varies in the three universities.

In UB, the QM system already has mechanisms that integrate the support processes. The top managers of UB explain how: "*services have a strategic plan and an annual activity plan, and at the end of each year they must develop an activity report*" (Responsible for quality at the rectory). The system "*registers the activities that were developed, comparing them with the activities that were planned, in order to gauge the level of compliance*" (Administrator).

In 2011, UA developed a pilot experiment based on customer satisfaction surveys for different services: "*For now, it is an experiment in some services, such as human resources, financial services and the postgraduate area*" (President of the strategic body for quality). In UC, "*this is an area which needed intervention, update and reorganisation. (…) We are in the process of certifying all the services where there is a close relationship with the student. We will then continue with the implementation of similar strategies covering the internal relationship between the services and the academics*" (Responsible for quality at the rectory).

However, most of the interviewees, who are not involved in the development of the QM system, do not know whether services are included in the QM system, and whether they are subject to some kind of assessment. When questioned about it, the answer is frequently: "*As far as I know, they are not integrated*" or "*I don't know!*" (Panel of academics from the programme of Informatics Engineering, UC). However, some academics and students highlight satisfaction surveys regarding particular services: "*students are asked to express their opinion about the services they use (equipment, materials, and facilities), through satisfaction surveys, including customer service*" (President of the student union, UB).

Organisational level: from the course to the institution

The different organisational levels (the course, the programme, the department and the institution) seem to be connected, mainly through the teaching and learning process. As we observed above, the different roles for the different organisational levels with regard to the

assessment of course and programmes are well defined, and the different stakeholders seem to know their role in the process.

As this may be, the relationships between the institutional level and the lower levels are sometimes more difficult, and the articulation is not always effective, mainly in UC, but also in UB. The Director of the programme of Education in UC states: "*it would be beneficial if the university encouraged more engagement between the rectory (for quality) and the professors*". Likewise, the Vice-Director of the programme of Language and Literature in UB considers that there should be "*proximity between the different bodies and the people involved in these processes*".

Quality management principles: a limited integration

Customer focus

Customer focus means the concern of universities with identifying the needs of their main customers and meeting and even exceeding their expectations.

The three institutions assert their focus on students. Their main customers are the students and the universities clearly state that they seek to respond to their expectations and needs. As the responsible for quality at the rectory in UC mentions: "*the focus of our activity is the student, who is, simultaneously our customer (in the sense that this is a public service, of education, of teaching) and our product.*"

Nevertheless, other customers are also highlighted, mainly by the academics with management functions and/or involved in QM activities: "*the students are the main customers, since teaching is the main product of the university. However, there are other important stakeholders with whom the university works: the alumni, other institutions, and the society in general*" (President, UA). The responsible for quality at the rectory of UB also points out: "*the stakeholders[1] are perfectly identified in all the processes (…) the students (which are the focus of the teaching and learning process), the graduates, the companies, the employers and the customers of specialised services. And in a broader context, we must include the potential candidates (…), the families (…) and society in general*".

The interviewees often report that clients of the university are identified and that the university knows their needs. However, they find it difficult to explicitly state what is done to fulfil those needs.

---

[1] The interviewee refers to stakeholders and not to customers.

Leadership

Leadership is related to the role of the management bodies in universities. They help define a university's mission, values and goals, promoting a quality culture and promoting the involvement of people and quality management.

The top management bodies have an important role in the definition of the QM policy of the universities and in the promotion of a quality culture and QM practices. The important role of top managers is recognised by all interviewees, who, in general, believe that they are the driving force of the QM systems. As we have seen, all universities have top management representatives responsible for the QM systems. In this regard, interviewees highlight the "*very positive role of the top management, especially taking into account the restrictions on the budget*" (Coordinator of the operational body for quality, UA). Indeed, "*every mechanism and tool developed and implemented (…) which improve the quality of the school are top-down. So the top managers who have been leading this process are very important*" (Coordinator of the programme of Informatics Engineering, UA).

Involvement of people

The involvement of people is translated into the efforts to involve the people working in universities (academic and non-academic staff and students) in the QM process.

The policy for QM promotes the involvement of people in the QM processes of the university. In practice, the student surveys are an example of the involvement of the students in the evaluation of the courses and of the academics. It is true that students are somewhat involved in the assessment of courses and academics, and that "*more and more they are called on to participate in different bodies*" related to the QM activities (Coordinator of the Operational Body for Studies and Planning, UA).

The academics also mention that they are not effectively involved in QM, since they are mostly asked to fulfil the requirements of the QM system: "*what I know about the system is mainly what the system asks me to do, regarding the courses that I teach or the programme that I coordinate*" (Coordinator of the programme of Informatics Engineering, UA).

The resistance of academics and students to the QM system and the lack of knowledge they frequently show about the system, make their involvement more difficult. Universities have been developing strategies to bring people in. In this context, UC developed "*clarification sessions, where the results were shown in diagrams, where we explained the relationship between the different stages of our planning. And when people understand, it is easier for them to participate*" (Responsible for quality at the rectory). With the same purpose, UB "*had several meetings with pedagogic councils, programme directors, students (…), in the experimental stage*

of the internal quality management system, produced "*flyers for students with information about the system*" (Responsible for quality at the Rectory). Academics, namely programme directors, try "*to draw students attention to the importance of the students*" and develop a work of "*information and awareness (…) about the importance of quality for their educational pathways*" (Vice-Director of the programme of Language and Literature).

UB and UC face a major problem; the response rates to the student feedback questionnaires are relatively low, which is a huge concern according to those responsible for QM in institutions B and C.

The discourse of the interviewees around the involvement of people is mostly focused on the involvement of the students, mainly through student surveys; and on the involvement of the academics, through the fulfilment of the requirements of the QM system. Therefore, the involvement of people seems to be more about the need to get information from the people, and less about their effective involvement in the QM process.

Regarding the involvement of people, the A3ES auditing reports convey the idea that the QM systems have mechanisms that stimulate the participation and the involvement of people. Our findings also acknowledge the existence of those mechanisms. Notwithstanding, the perceptions of the interviewees collected in our study allows us to identify two main signs of insufficient involvement. First, some of our interviewees show a lack of knowledge and information regarding the QM system, their functioning and about what is being done regarding QM at the management level. An adequate involvement of people would guarantee a good level of knowledge and information regarding the QM system. Second, our interviewees (across the three universities) complained that they wish to be more involved in what their institutions are planning and developing regarding QM.

Process approach

A process approach has to do with the management of the different missions of the university (teaching and learning, research and scholarship, third mission, and support processes) as processes, i.e. as a set of interrelated activities that turn inputs into outputs.

According to the QM policies analysed, the activities and related resources of the universities seem to be managed as processes. In general, the QM policies state that the universities systematically define the activities necessary to obtain a desired result; analyse and measure the capability of their key activities; identify the resources and mechanisms that will improve their activities; and evaluate the role of internal and external stakeholders. The person responsible for quality at the rectory of UB emphasizes that the university, similar to the other two universities, defines: "*the responsibilities of the different bodies, the different organisational*

levels, the different processes of QM; the different processes of monitoring, control, discussion (…) and intervention in order to continuously improve; the participation of the different internal stakeholders (…) and external stakeholders; the assessment of the system itself, to achieve continuous improvement".

In general, the discourses of the interviewees show a very optimistic scenario. However, as we have seen before, the majority of the processes are not yet integrated in the QM system, and consequently this optimistic view seems to be true more for the process of teaching and learning and not so much for the other processes of the universities.

System approach

A system approach is related to the management of the different processes, units and services of the university in an integrated way.

In UA, "*in the management council, all the processes and activities are represented: teaching, knowledge transfer, relationship with the exterior, and the other areas, such as financial management, the management of facilities and equipment, etc. (…) And what matters is to ensure that the school is being developed as a whole and that is how we have been thinking and acting, at the management level*" (President of the strategic body for quality).

In UB, "*the matrix structure (different from a disperse structure based in several faculties), and the centralisation in two campuses (…) contributes to the articulation between the different services (…), the work is more articulated, fluent and coherent*" (President of the student union, UB).

In UC, "*regarding the systemic plan, the university has no problems*" (Director of the School of Social Sciences), which is due to the "*organic and organisational structure of the university, with several units, which work together in a very easy* way" (Director of the School of Sciences and Technology).

Academics acknowledge that "*the university is thought of as a system*", but they doubt about its operation: "*whether it works as a system, as an articulated whole, is another question*" (Academic from the Informatics Engineering programme, UB). Furthermore, academics, mainly from UC, emphasise that the dimension, the dispersion and the diversity of scientific areas can sometimes make the articulation between different units difficult: "*the physical dispersion of the university (…) and the autonomy (or relative autonomy) of the schools (…) make it harder. Similarly, the different disciplines and the fragmentation are not favourable*" (Academic from the programme of Education, UC).

From the discourses of our interviewees, we can conclude that there are differences between the rhetoric of the top managers, which is much more integrative and systemic, and the

discourses from the other interviewees regarding the actual practice. In fact, the system approach appears to be more rhetoric than practice, i.e. it seems to be an approach that universities are trying to develop, but which is not yet in place. Moreover, as we have seen above, the different processes are not equally integrated into the QM system.

Continuous improvement

In practice, continuous improvement refers to the efforts of universities to constantly develop their quality.

The QM systems of the three universities are clearly based on the continuous improvement principle. In fact, the expression "*continuous improvement*" is frequently used by our interviewees: "*The university seeks to achieve continuous improvement: of our performance, of the performance of the programmes, verifying the results, through this important tool [the QM system] so that we can see the strengths and the weaknesses*" (Vice-President of the School of Engineering, UB).

In this context, some examples of continuous improvement are highlighted. At UC, "*each year, the programmes with lower results are warned and have to present an improvement plan, which is prepared by the programme director, and then goes to the school; the school director sends it to the scientific council, who analyses the improvement plan (…) then it is sent to the pedagogical council, and, finally, it is submitted to the assessment council of the university*" (Director of the School of Sciences and Technology, UC). In UA, "*some years ago, one of the criticisms of the students were the schedules, and they were modified, and another criticism was the public information area, and that led to changes and improvements in those areas*" (Coordinator of the operational body for studies and planning, UA).

In line with our study results, the contribution of the continuous improvement principle, integrated in the QM systems, to the quality of the activities and services is also highlighted in the A3ES auditing reports of the universities under analysis.

Factual approach to decision making

A factual approach to decision making, as the name suggests, means that decisions in universities are based on the analysis of data and information provided by different sources.

The different QM offices seem to be important information sources for decision making. They support the decision-making process of management bodies, through the development of studies and the analysis of the results that come out from the QM system.

In relation to teaching and learning, for example, any change to a course or to a programme in the three universities is supported in the results from the reports of the programme coordinators, and the results from the student questionnaires. Moreover, the change has to be

validated by different bodies, such as the scientific and pedagogic councils, which also validates the articulation between the different organisational dimensions, as mentioned before. The president of the strategic body for quality in UA describes the procedure, which seems to be similar to those developed in the other universities: "*once all the results from the questionnaires are collected, they are treated and there is an executive commission of the Pedagogic Council, which integrates academics and students, and where the problematic situations are identified. Then, there is a meeting with the programme director and the academics in question in order to have their feedback (…) so that a decision can be made not only based on the students' opinions (…) having the feedback of all the people involved*".

Mutually beneficial supplier relationships

The principle of mutually beneficial supplier relationships in practice is seen through the concern universities show for developing relationships with suppliers. In a broader sense, and as we understand it, this refers to the external stakeholders. This is in line with the new ISO 9000 standards (ISO, 2015), where stakeholders may refer to parents, secondary schools, future employers, local community and the society as a whole.

The policies of the three universities for QM emphasise the participation of the most relevant stakeholders for the university in its processes of strategic planning.

In general, our interviewees highlight that secondary schools (which provide the future students), companies (where the students develop their work, their internships and their theses), alumni, and other external stakeholders, are important elements. At UB, the "*relations with external stakeholders are one of the strengths of the university and an area the university has been working on*" (Academic of the programme of Language and Literature, UB).

Although the relationships between the external stakeholders and the universities are clearly important for the QM system, those relationships seem to be still part of a developing dimension, mainly in UC. The person responsible for quality at the rectory of UC states: "*I would say that it is an area where we should invest. And this need is already identified and we are creating working groups in order to identify the mechanisms to improve this area. The dimension of influence and interaction between the university and the region is highly significant. But it does not have yet the mechanisms to support it.*" The director of the programme of Informatics Engineering adds: "*each area (secondary schools, companies, employers) works independently and there is not an integrative vision about the relationships with the exterior, from the quality point of view.*"

Additionally, as mentioned before, our analysis of the third mission found that some of the interviewees were not clear that the relationships with the external stakeholders are part of the

QM system. An academic from the programme of Informatics Engineering in UA claims that: "*in terms of the monitoring/ control in that area, I am not sure if it is done and how.*"

Again, our results are in line with the A3ES auditing reports, which show that the universities could improve the involvement of external stakeholders.

Quality management as a strategic and integrated element in the overall management and governance framework

QM is referred to as a crucial area in all the universities. This has been driven by internal factors, such as the will of the institutions to develop mechanisms to improve their activities' quality, but also by external ones, namely by A3ES and by the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). Universities emphasise that "*concerns with improvement were always present in the institution*" and that a sign of those concerns was the participation in the first auditing exercises of their QM system: "*we have always been at the forefront in these topics*" (Coordinator of the strategic body for studies and planning, UA).

The interviewees also highlight the role of A3ES and of the ESG, stating: "*A3ES has played a decisive role (…) A3ES alerts to the importance of the interaction with these tools [from the QM system]. It is now a matter of time*" (Director of the programme of Education, UC). "*Another aspect which should be pointed out has to do with the European standards. Despite not being a bible, which has to be followed religiously, they are very useful*" (Responsible for quality at the rectory, UB).

In this context, the three universities developed not only operational structures for the coordination of the QM area (such as quality offices), but have also created strategic bodies (with top management representatives and other internal stakeholders) and top management representatives for QM (such as vice-rectors for quality), which seems to indicate that QM is defined as a strategic area. In addition, the results from the QM practice seem to be used as tools for the strategic management of the universities to assure that the results of the assessment of the different processes and areas of the universities are used to inform the decision making process.

As such, QM is to some extent being integrated in the broader management and governance framework of the university. This integration is emphasised by the majority of the interviewees, from top managers to academics, pointing out that the existence of a Vice-Rector, a Pro-rector, or specific structures for quality evidence that integration: "*We have the perception that QM is integrated and that the university confronts it as a necessity*" (Academic from the programme of Education, UC).

It seems that at present what exists is mostly articulation between specific bodies responsible for the coordination of their QM area with top management representatives, and the use of the results from the QM activity for the decision making process. However, the fact that universities have created strategic QM bodies with top management representatives, instead of quality management being dealt with by existent management and governance bodies questions to what extent there is full integration.

Discussion and conclusions

Our research aimed to understand whether the QM systems of universities cover their main processes, their organisational levels and the different QM principles; and whether they are being integrated in the broader management and governance framework of the universities. To answer our research questions, we undertook a national case study, including three embedded cases of different Portuguese universities; these are paradigmatic cases because they have internal QM systems certified by A3ES.

Globally, our results show that the QM systems of the universities show signs of integration across their different processes, organisational levels and QM principles. In addition, they seem to some extent to represent part of the overall management and governance framework of the universities. As such, our case studies seem to follow the trend for integration of QM in higher education emphasised in the literature (Manatos et al., 2015, Rosa and Amaral, 2007, Srikanthan and Dalrymple, 2002, Srikanthan and Dalrymple, 2007).

In this context, European and national standards and guidelines for QM, and the A3ES in particular, have played a crucial role, as stressed by the literature (ENQA, 2009, Kohoutek and Westerheijden, 2014, Rosa and Amaral, 2014, Rosa and Sarrico, 2012, Veiga and Sarrico, 2014). In fact, academics in the cases studied have stressed the role of those European standards and the role of A3ES, stating that they were two central external drivers for the development of QM in their universities.

Furthermore, QM is defined in all the universities as a strategic area of activity and several efforts are being made to develop QM systems in compliance with the national and the European standards. In this respect, universities created specific bodies responsible for the coordination of the QM systems, and the QM activities in general, and/or created structures more directly linked with strategic management. In fact, this is in line with previous studies based on the analysis of both self-assessment and external reviews of the internal QM systems of universities in Portugal (Cardoso et al., 2015, Tavares et al., 2015). One of the most important strengths of internal QM systems is related to aspects such as the existence of a policy,

structures, regulations and tools for QM, denoting more concern with structural elements and formal procedures (Tavares et al., 2015).

The lack of significant differences between the three universities regarding their QM policies (as opposed to the QM practices, where some notable differences exist) may be explained by the fact that universities have applied for the certification of their QM systems, following similar patterns, standards and guidelines. Furthermore, the levels and dimensions analysed here are in the audit model of A3ES, which universities must follow in order to achieve certification. Eventually the attempt of universities to have their internal QM systems certified and, in this sense, to benefit from a 'lighter-touch' external quality assurance, contributes to the standardisation of the systems (Cardoso et al., 2015). Nevertheless, it must be said, that despite the fact that the QM systems of the different universities are quite similar, their level of development seem to differ: those of Universities A and B are more developed than that of University C (less developed). One of the explanations for this discrepancy is probably related to the absence of functioning pedagogic councils in the latter university, which are important bodies in the QM system.

However, QM practice seems to tell a different story, since there are some observed limitations regarding the integration of QM in the studied universities.

At the process level, the internal QM systems of the universities have started with teaching and learning, which is still the most developed process. The centrality of teaching and learning is also emphasised by other studies (Cardoso et al., 2015, Loukkola and Zhang, 2010, Sursock, 2011). There are signs that the universities are slowly approaching other processes, which may be explained by the strong influence of A3ES. In this sense, mechanisms to assess, monitor and improve research and scholarship, third mission and support processes are being developed, as is also evident in the auditing reports of A3ES.

The different processes are globally classified by A3ES as having attained 'substantial development'. However, the auditing report of UA highlights that 'the integration of research and development, inter-institutional collaboration with the community and support unities in the internal quality assurance system, considering a systematic, uniform and comprehensive approach, is more recent'. Similarly, it is acknowledged that in UB 'there is a contrast between the level of development of teaching and learning and the other domains.'

Only the auditing report of UC emphasises that the internal QM system 'covers all the missions of the university' with a 'high integration level between the different areas' despite the 'effectiveness of the internal quality management system being substantially diminished due to the continuous omission of the Pedagogic Councils'.

As such, our conclusion does not significantly differ from the conclusion derived from the A3ES auditing reports, when these refer that the integration of other processes in the universities' QM systems is less effective than teaching and learning, which is the primary and most addressed process by the universities' QM systems.

At the organisational level, the different organisational dimensions show signs of articulation, with the roles of the different levels (from the course to the institutional level) well defined. In contrast, the articulation and communication between the highest and the lowest levels is sometimes difficult. The difficulties in the system vertical articulation is one of the major 'complaints' from the internal stakeholders, particularly those without management functions and with lower levels of involvement in QM activities. Top managers seem to be aware of the importance of communication with other internal stakeholders for the success of the QM systems, but simultaneously seem to find it difficult to develop effective communication procedures.

Some of the QM principles seem to be integrated in the QM system; but there are important exceptions, namely the principles of customer focus, involvement of people, process approach, system approach and mutually beneficial supplier relationships.

Universities generally show customer focus, identifying their main customers and their needs – but they do not always convincingly show that they act towards satisfying those needs and expectations.

The involvement of people shows some limitations, as people generally seem to be called to give information to feed the QM system, but not necessarily to participate fully in the QM process itself (Cardoso et al., 2015). Despite the participation of the different hierarchical levels in the QM system and of their contribution to improvement actions (also acknowledged by the A3ES auditing reports), their involvement seems to be unsatisfactory. It seems clear, from the observed lack of knowledge and information, mainly from the internal stakeholders with low involvement levels in QM activities, that the involvement of people needs to be further developed.

The process approach is also more developed in teaching and learning, than in other areas of activity of the universities. Also for this reason, it can be concluded that a system approach has not been fully attained, since the different processes are not equally integrated in the QM system. Moreover, the system approach is sometimes hampered by the lack of communication between the top management and the lower levels of the hierarchy in the universities. There are also relevant differences between an integrative and systems rhetoric from top managers and a more fragmented discourse from other interviewees.

Finally, the relationships with external stakeholders, despite being important in the three universities, are still not fully integrated in the QM system. QM regarding third mission also seems to still be a developing area. The study which analyses the external reviews on the internal QM systems of Portuguese universities also reaches a similar conclusion, signalling the participation of external stakeholders as a weakness of those systems (Tavares et al., 2015). The A3ES auditing reports, despite acknowledging a good level of participation of internal and external stakeholders, point out that the involvement of external stakeholders should be improved.

Integrating QM in the broader governance and management framework of the universities, shows two relevant signs: the existence of top management representatives in QM structures and the use of the results from the QM system for the decision making process of universities. The important role of top managers is generally recognised and they are considered the driving force of the QM systems.

Nevertheless, the very existence of separate bodies dedicated to quality management, albeit with people from other management bodies, including top management, is an indication of the lack of total integration. Furthermore, the discourses of top managers are not always in line with the discourses of other academics. In this sense, the QM practices implemented by academics on a daily basis are not always in line with the discourses of top managers who developed the QM systems in the universities. This problematic articulation between the top management bodies and the other levels of the university may also make it difficult total integration. In general, QM processes are very much centralised in the top management bodies of universities (Sarrico et al., 2013a, Cardoso et al., 2015).

We observe that the conclusions from our research are not always totally in line with the conclusions from the A3ES auditing reports, despite both analyses being based on similar dimensions. We consider that this 'mismatch' can be explained by three reasons. First, the way we understand the dimensions of analysis within the scope of the QM theoretical framework is sometimes different from the way the A3ES understands similar dimensions. For example, the A3ES understands the system's approach idea as a dimension of analysis that considers the need for the QM system to be taken as a whole. Nevertheless, our framework is based on the understanding of system approach as proposed by the ISO 9001:2008, meaning the management of the different processes, units and services of the university in an integrated way.

Second, our results are mostly based on the perceptions from different internal stakeholders, who did not have any particular interest in showing a particular positive scenario regarding the

QM systems of their universities, which we believe did not happen when they were being assessed by A3ES.

Third, the time lag between the A3ES auditing (2012) and our research (2015) can also explain some of the discrepancies. If it is true that it is expected that over the years the QM systems will develop and consolidate, it is also true that over the years constrains and difficulties can arise, and that some of the QM policies which were envisaged, end up not being satisfactorily implemented.

We believe that our research contributes to a better understanding of QM in higher education and to the discussion of a trend concerning QM systems that seems to be characterising universities: the trend for integration.

We expect that our results will add to the discussion on the implementation of QM systems in universities, further contributing to the development of truly integrated approaches to QM in higher education. Indeed, we believe that only a QM system that includes the different processes, organisational levels of the universities, the different principles which underline the definition of QM, and which is fully integrated in the overall management and governance of universities, can contribute to improving the quality of the universities and their activities in general.

Our results revealed new dimensions: barriers were found to the implementation of the QM systems; and different perceptions were found between different types of stakeholders. Unfortunately, this research could not investigate this aspect more fully, but it should be studied in further research.

Moreover, it would be interesting to monitor the development of the QM systems of these universities in the next few years, in order to understand the breakthroughs and setbacks of the system.

Naturally, since our research is based on three case studies, it cannot be representative of other universities. For this reason, it would be interesting to understand what is happening in other Portuguese universities, and indeed in universities of other countries - how their QM systems are being developed and how they are preparing themselves (or not) for certification of their systems.

References

A3ES (2013a), *Activity Plan for 2013,* A3ES, Lisbon.
A3ES (2013b), *Auditing internal quality assurance systems. Guidelines for the auditing report,* A3ES, Lisbon.
Barnett, R. (1990), *The idea of higher education,* Society Research for Research into Higher Education, Buckingham.

Bender, K. K. and Siller, T. J. (2006), "How an engineering college uses a university's quality enhancement system to generate and manage evidence for multiple accreditation and accountability bodies", *Quality in Higher Education,* Vol. 12 No. 2, pp. 175-191.

Berlin Communiqué (2003), *Realising the European higher education area,* Communiqué of the Conference of Ministers responsible for Higher Education, Berlin.

Brennan, J. and Shah, T. (2000), *Managing quality in higher education: an international perspective on institutional assessment and change,* Open University Press, Philadelphia.

Cardoso, S., Rosa, M. and Videira, P. (2015), "On the road to regaining trust? The development of internal quality assurance systems in Portuguese higher education institutions", *CHER 28th Annual Conference*.

Cohen, M., March, J. and Olsen, J. (1972), "A garbage can model of organizational choice", *Administrative Science Quarterly,* Vol. 17 No. 1, pp. 1-25.

Cruickshank, M. (2003), "Total Quality Management in the higher education sector: a literature review from an international and Australian perspective", *Total Quality Management and Business Excellence,* Vol. 14 No. 10, pp. 1159-1167.

Deem, R. (1998), "'New managerialism' and higher education: The management of performances and cultures in universities in the United Kingdom", *International Studies in Sociology of Education,* Vol. 8 No. 1, pp. 47-70.

ENQA (2009), *Standards and guidelines for quality assurance in the European higher education area, 3rd Edition*, European Association for Quality Assurance in Higher Education, Helsinki.

ENQA (2015), *Standards and guidelines for quality assurance in the European higher education area (ESG) (Revised ESG approved by the Ministerial Conference in Yerevan, on 14 -15 May 2015),* European Association for Quality Assurance in Higher Education, Yerevan.

EUA (2010), *EUA policy statement on quality and quality assurance in the European Higher Education Area,* European University Association Brussels.

Flyvbjerg, B. (2006), "Five misunderstandings about case-study research", *Qualitative Inquiry,* Vol. 12 No. 2, pp. 219-245.

Frølich, N., Huisman, J., Slipersæter, S., Stensaker, B. and Bótas, P. C. (2013), "A reinterpretation of institutional transformations in European higher education: strategising pluralistic organisations in multiplex environments", *Higher Education,* Vol. 65, pp. 79-93.

Gerring, J. (2007), *Case study research: principles and practices,* Cambridge University Press, Cambridge.

Gover, A., Loukkola, T. and Sursock, A. (2015), ESG Part 1: Are universities ready?, in, *EUA Occasional Papers*, EUA, Brussels, pp. 1-31.

Grifoll, J., Hopbach, A., Kekäläinen, H., Lugano, N., Rozsnyai, C. and Shopov, T. (2012), *Quality procedures in the European Higher Education Area and beyond - visions for the future, Third ENQA survey - Occasional papers 18*, ENQA, Brussels.

Horine, J. E. and Hailey, W. A. (1995), "Challenges to successful quality management implementation in higher education institutions", *Innovative Higher Education,* Vol. 20 No. 1, pp. 7-17.

ISO (2012), *Quality management principles,* International Organization for Standardization, Genève.

ISO (2015), *Quality management principles,* International Organization for Standardization, Genève.

Kohoutek, J. and Westerheijden, D. (2014), Opening up the black box, in Eggins, H. (Ed.), *Drivers and barriers to achieving quality in higher education*, Sense Publishers, Rotterdam, pp. 167-175.

Laredo, P. (2007), "Revisiting the third mission of universities: toward a renewed categorization of university activities?", *Higher Education Policy,* Vol. 20, pp. 441–456.

Loukkola, T. and Zhang, T. (2010), *Examining quality culture: Part 1 - Quality assurance processes in higher education institutions,* European University Association, Brussels.

Manatos, M., Sarrico, C. S. and Rosa, M. (2015), "The integration of quality management in higher education institutions: a systematic literature review (forthcoming)", *Total Quality Management & Business Excellence*, 10.1080/14783363.2015.1050180.

Melo, A., Sarrico, C. S. and Radnor, Z. (2010), "The influence of performance management systems on key actors in universities", *Public Management Review,* Vol. 12 No. 2, pp. 233-254.

Orton, J. D. and Weick, K. E. (1990), "Loosely coupled systems: a reconceptualization", *Academy of Management Review,* Vol. 15 No. 2, pp. 203-223.

Rodman, K., Biloslavo, R. and Bratož, S. (2013), "Institutional quality of a higher education institution from the perspective of employers", *Minerva,* Vol. 51 No. 1, pp. 71-92.

Rosa, M. and Amaral, A. (2007), A self-assessment of higher education institutions from the perspectives of EFQM model, in Westerheijden, D. F. (Ed.), *Quality assurance in higher education: trends in regulation, translation and transformation*, Springer, Dordrecht, pp. 181-207.

Rosa, M. and Amaral, A. (2014), The Portuguese case: new public management reforms and the european standards and guidelines, in Eggins, H. (Ed.), *Drivers and Barriers to Achieving Quality in Higher Education*, Sense Publishers, Rotterdam, pp. 153-166.

Rosa, M., Saraiva, P. M. and Diz, H. (2001), "The development of an excellence model for Portuguese higher education institutions", *Total Quality Management,* Vol. 12 No. 7, pp. 1010-1017.

Rosa, M. and Sarrico, C. S. (2012), Quality, evaluation and accreditation: from steering, through compliance, on to enhancement and innovation?, in Amaral, A. and Neave, G. (Eds.), *Higher Education in Portugal 1974-2009. A Nation, a Generation* Springer, Dordrecht, pp. 249-264.

Sarrico, C. S., Veiga, A. and Amaral, A. (2013a), "The long road - how evolving institutional governance mechanisms are changing the face of quality in Portuguese higher education", *Educational Assessment, Evaluation and Accountability,* Vol. 25 No. 4, pp. 375-391.

Sarrico, C. S., Veiga, A. and Amaral, A. (2013b), "Quality, management and governance in European higher education institutions", *Journal of the Higher Education Area,* Vol. 4, pp. 47-70.

Shattock, M. (2003), *Managing successful universities,* Society for Research into Higher Education and Open University Press, Buckingham.

Shattock, M. (2006), *Managing good governance in higher education,* Open University Press, Maidenhead.

Srikanthan, G. and Dalrymple, J. (2002), "Developing a holistic model for quality in higher education", *Quality in Higher Education,* Vol. 8 No. 3, pp. 215-224.

Srikanthan, G. and Dalrymple, J. (2007), "A conceptual overview of a holistic model for quality in higher education", *International Journal of Educational Management,* Vol. 21 No. 3, pp. 173-193.

Sun, H. (2000), "A comparison of quality management practices in Shanghai and Norwegian manufacturing companies", *International Journal of Quality and Reliability Management,* Vol. 17 No. 6, pp. 636-660.

Sursock, A. (2011), *Examining quality culture part II: processes and tools - participation, ownership and bureaucracy,* European University Association, Brussels.

Tavares, O., Sin, C. and Amaral, A. (2015), "Internal quality assurance systems in Portugal: what their strengths and weaknesses reveal", *Assessment & Evaluation in Higher Education*, DOI: 10.1080/02602938.2015.1064515.

Veiga, A. and Sarrico, C. S. (2014), Changes in governance: do they help overcome barriers to the implementation of the European standards and guidelines for quality assurance in

higher education?, in Eggins, H. (Ed.), *Drivers and barriers to achieving quality in higher education* Sense Publishers, Rotterdam, pp. 67-81.

Weick, K. E. (1976), "Educational organizations as looosely coupled systems", *Administrative Science Quarterly,* Vol. 21 No. 1, pp. 1-19.

Yeo, R. and Li, J. (2014), "Beyond SERVQUAL: The competitive forces in higher education in Singapore", *Total Quality Management & Business Excellence,* Vol. 25 No. 2, pp. 95-123.