# Le@rning Organizations: the IPP case

***Rui Pulido Valente*** *(rpval@estgp.pt)*

*School of Technology and Management, Polytechnic Institute of Portalegre;*

*C3i - Interdisciplinary Coordination for Research and Innovation*

Purpose

The main objective of the study is to demonstrate the advantage of implementing a Quality Management System (QMS) as opposed to a System of Quality Assurance as an instrument evidencing the importance of integration of the organizational structure, community approach, increased innovation and Polytechnic system differentiation.

Approach

The methodology has undergone a thorough examination of the evolution of the QMS of the Polytechnic Institute of Portalegre (IPP) with particular attention to the result of internal and external audits. Interviews with main actors of the system were held for further development of a survey across the IPP.

Findings

The implementation of a QMS based on the NP EN ISO 9001 standard, allows focusing attention on absolutely vital dimensions: internal audits, document control and records, Processes orientation and continuous improvement. This approach seems more effective with regard to the training organization for quality management and organizational change.

Research Limitations

The study will be completed by the employee survey that will be developed over the next two months.

Practical implications

The present study confirms the robustness of management systems against the guarantee schemes, stresses the need for a strong focus on internal audits and people, calls for organizational change resulting from a strengthening role of Processes and their managers.

Social implications

The IPP is right now better prepared for the challenges it faces and is able to use the QMS as an instrument of its territorial policy and mission achievement.

Value

The conditions were created for effective organizational change that will make the IPP more productive, more resilient, more community directed and focused on interested parties.

Keywords: Quality Management System; innovation; learning ability; Process organization.

Article classification: Case Study

## 1. Introduction

The creation of public higher education in the interior regions of the country has, over the years, proving to be an essential option for the survival of these regions, constituting itself as a measure of positive discrimination in development policy planning. Remmember that the network of polytechnics was even launched before the big political change in Portugal by Veiga Simão's Reform. It is, perhaps, a unique example of the State Entrepreneur, in which is reflected his presence on the economy and culture, through its intervention directly in the community.

Higher education is, together with local authorities and businesses, the only vehicle for innovation and collective initiative that helps to recover and energize the environment and the local life through the creation of a network based on citizen initiative represented by associations and thousands of institutions of social, cultural and sporting context.

The organizational structure of the public institutions and, by inference, the higher education does not have, at the outset, the flexibility and the ability to respond quickly (efficiency and effectiveness) to the challenges which are placed.

For a great deal of imagination and desire that their collaborators reveal, the rigidity of the hierarchical model and decision-making, with numerous power levels, a long chain of decision-making, are preventing a response and the resilience that is, today, sought to organizations which act directly on the ground.

The introduction of management and quality assurance systems gave the organizations a key tool in the conflicts of the future. It performs an organizational model that supports the transition between a traditional polytechnic education, centered on offer for higher education, and a higher education of proximity, increasingly

innovative, increasingly entrepreneurial, facing the community, creating solutions to the problems of the territory.

## 2. The role of innovation

In the 21st century society, innovation is no longer a responsibility of a group of scientists or technicians closed on themselves, to become the strongest link between the State and the private initiative, a process much more shared and participated.

In the search for the growth and promotion of innovation, it is essential to understand the importance of the role of both public sector and private initiative. This requires not only an understanding of the importance of the "ecosystem" of innovation, but, more particularly, what does each actor brings to the system (the book The Entrepreneurial State, Mariana Mazzucato).

The recognition that the State may, at the very least, encourage innovation in the private sector (through grants, tax reductions, carbon market, technical standards and so on and so forth) in particular, but not only, in view of the recent crisis, failure in the explanation of several examples in which the leadership of entrepreneurial strength come from the State in a more intense way than the private sector.

To understand the fundamental role of the state's assumption of risk present in modern capitalism is important to recognize the "collective" character of innovation. The different types of companies (large and small), the different types of finance and the different state policies, institutions and departments, interact, sometimes unpredictably - but surely so that we can adjust for the objectives intended.

Public policies should focus on the specific role played by the public sector, inside and within the sectors and institutions, in order to allow things to happen “that otherwise would not occur" exactly as Keynes argues in *The End of Laissez-Faire* (1926). It is not just the countercyclical role that State expenditure can have (unfortunately is not having our days due to the ideology of austerity) but also on the type of questions that should be asked about each instrument of individual policy, that is, the taxes on the R&D make happen R&D that would otherwise not exist?

## 3. The role of Quality in Higher Education

The Bologna Process has focused all its attention and priority on the issues of mobility, comparability and compatibility with the clear concern of bringing more closed the various existing systems of higher education in the various participating countries. It was, in a first stage, the intention of creating a European Higher Education Area and that will give a competitive response to the future Lisbon Strategy for a Europe of Knowledge.

However, although there is a laconic reference to issues of quality assurance, forgot that in order to make comparable systems it is not enough to simply define the equivalence of degrees and/or establish a model for the allocation of credits based only on workload of students. Essential aspects of teaching practices, from the formative offer (designing and structuring of courses, implementation, monitoring and evaluation) to the pedagogical and scientific practices (methodologies of teaching and learning, teaching methods and technical-scientific resources) were not considered, initially, in the Bologna Process.

For this reason, a large proportion of citizens, were left with the idea that the changes introduced with Bologna just wanted to equate the various systems in terms of the number of years of study and a purely bureaucratic view of the effort level study and work of the young student, which would quickly reach the called Diploma Supplement. So one talked about hidden agenda of Bologna and many opportunities were lost. And the main one was, exactly, the open door, with the Bologna Process, to the aspects of quality assurance and the exchange of experience between countries with values and practices highly differentiated, potentiating a network that, at that moment already included more than 45 countries of Europe.

Three words were the symbol associated with a new Higher Education Quality concern: Transparency, Information and Evaluation.

## 4. The first steps of the Bologna Quality Assurance

In the Bologna declaration, in the distant year 1999, was included a point on Quality (June 19, 1999):

> **Promotion of European cooperation in quality assurance with a view to develop comparable criteria and methodologies**

The objective defined in the document was to raise the international competitiveness of the European system of higher education. Of the six specific objectives listed only one made direct reference to the quality from the perspective of its assessment, calling for the development of criteria and comparable methodologies. The remaining points showed the concern of mobility in the European area of higher education and its compatibility and comparability of the various existing systems.

In follow-up of Bologna the European Ministers of Education, meeting in Prague in May 2001, recognized the importance and the need for more three lines of action for the evolution of the process:

1. Promotion of the lifelong learning;

2. Greater involvement of students in the management of Higher Education Institutions;

3. Enhancing the attractiveness of European Higher Education area.

In September 2003, the Ministers responsible for Higher Education area of 33 European countries gathered in Berlin, reaffirmed the objectives set in Bologna and Prague, and added:

1. The need to promote close links between the European Higher Education Area and the European Research Area;;

2. The extension of the current system of two cycles, including a third cycle in the Bologna Process, consisting of the Doctorate.

On 19 and 20 May 2005, in Bergen, the ministers of the 45 countries already participating in the Bologna Process, reaffirm the importance of the objectives of Berlin, and finally reveal the importance of Quality Assurance (Bergen Communiqué):

*Quality Assurance*

*Furthermore ..., we urge higher education institutions to continue efforts to their enhance the quality of their activities through the systematic introduction of internal mechanisms and their direct correlation to external quality assurance. We adopt the standards and guidelines (ESG - European Standards and Guidelines) for quality assurance in the European Higher Education proposed by ENQA (European Network for Quality Assurance)*

In paper *Perception of academics on ESG implementation in English Universities,* presented recently (27 to 30 August 2014) at the Annual Forum in Essen (Germany), Maria Manatos, Claudia Sarrico and Maria Rosa claim, regarding the assumption or internalization of standards and guidelines approved in Bergen (the so-called ESG) in Higher Education Institutions in Portugal:

*Thus, there seems to be some barriers to the implementation of ESG in HEIs (Higher Education Institutions), Namely the non-prescriptive character of the standards (Prikulis et al 2011) and the lack of communication of the ESG to the HEIs (Kohoutek, 2014). Globally, HEIs apply to the ESG in mannered fragmented, rather than "as an integrated whole" (Loukkola & Zhang, 2010, p.35).*

The development of a culture of quality in an organization is a process that takes time and requires an adjustment to its own characteristics.

Institutions of higher education have come to the Quality for two main routes: through the implementation of Quality Management Systems based on NP EN ISO

9001:2008 standard or by defining Quality Assurance Systems from the model introduced by the Accreditation Agency A3ES. These are two ways that can reach the same end result but, initially, quite different, mainly considering the different focus: in the first case we are talking about quality management and we intend to integrate the entire organization; in the second case we focus attention on the academic component and teachers, limiting ourselves to quality assurance. It is quite different to the strategic approach taken by the highest authorities of the institutions.

Professor Machado dos Santos in his work "Comparative Analysis of European processes for assessing the certification of internal quality assurance systems" establish a direct association between EQAR - *European Quality Assurance Register,* resulting from ESG, and internal evaluation referencing seven standards that represent three different levels of concerns: the institutionalization of internal evaluation; evaluation of teaching in its various dimensions (courses, students, teaching staff and resources); collecting and using information.

In a statement from London meeting, in 2007, the Ministers of Higher Education insisted to highlight the importance of quality: "standards and guidelines for Quality Assurance in the European Higher Education Area adopted in Bergen have been a powerful engine of change in relation to the quality assurance."

Still in 2005 has been published the ENQA document *Standards and Guidelines for Quality Assurance in the European Higher Education Area* covering three components: internal quality assurance, external quality assurance and quality assurance of external quality assurance agencies. In particular, our interest concerns the first component of the internal quality assurance, crossing it with the standard requirements of quality management (NP EN ISO 9001: 2008) and the references RJIES (Legal Regime of Higher Education Institutions) on designated "mechanisms for regular self-assessment of performance."

The document defines seven ENQA guidelines for internal quality assurance:

1. Policy and procedures for quality assurance;
2. Approval, monitoring and periodical revision of programs and goals;
3. Evaluation of students;
4. Quality assurance of teaching staff;
5. Learning resources and student support;
6. Information system;
7. Public Information.

In RJIES there are five articles that integrate the concern of quality assurance (I would even say, in quality management) have been introduced:

- Article 17 - Internal quality assurance;
- Article 18 - Self-evaluation;
- Article 19 - External evaluation principles;
- Article 161 - Transparency;
- Article 162 - Information and advertising.

The Polytechnic Institute of Portalegre opted for implementing a Quality Management System from 2006/2007, choosing as the reference standard NP EN ISO 9001: 2000 (later updated to 2008). It was a long process of learning throughout the organization which today is paying off and that last year was subject to assessment A3ES Accreditation Agency.

## 5. The choice of the standard NP EN ISO 9001

If we put ourselves in the distant year 1987, we find the first versions of ISO 9000 with three "models" for Quality Management Systems, translated into the ISO 9001, ISO 9002, and ISO 9003 The main feature of this set of documents was his strong connection to the productive sector with notable influences from British Standard BS 5750 and MIL-STD of the United States Department of Defense. The difference between them lay in the integration or not of product design or the production itself, in the case of 9003.

Basically the whole structure of the quality assurance model suffered industry influence, valuing the inspection, quality control and organization around the production process.

All organizations outside the productive area found great difficulty in structuring their systems of quality management, since many of the requirements should suffer substantial adaptations.

Adjusting factors that allowed an extension to virtually every type of organizations were:

- The management approaches to PDCA (Plan Do Check and Act) models;
- The grouping of the main management responsibilities in to five major areas (standard chapters): Management Quality System; Management Responsibility; Management Resources; Product Performance; and Continuous Improvement.

In the document IWA2 (2007) *Quality Management Systems - Guidelines for the Application of ISO 9001: 2000 on Education,* from the UNIQUA - IPS, April 2009, Professor Ramos Pires comes to adjusting the eight principles of quality to the Higher Education and takes the liberty of adding four, namely:

1. Creating value for the learner - the learner appreciates what is supplied;
2. Emphasis on social value - stakeholders retain the values of ethics, safety and environmental conservation;
3. Agility - educational environment in radical change;
4. Autonomy - the educational institution should take their own decisions.

Ramos Pires define as a priority for a good Quality Management System (QMS) a structure of well defined and careful documentation, so that the requirements are fully covered at all levels but in a balanced way. This means that there should be general procedures for general requirements and that the specificity of activity is reflected in specific technical procedures.

It is proved to be of great importance the way one conceives the Quality Manual (QM), which must refer to all types of documents related to each clause and its interconnections. The QM must clarify the documentary structure associated with the functional structure or the scientific-pedagogical level (Chairman, Technical Scientific Council, Pedagogical Council, etc...) or at the administrative level (Direction, Departments, Sections, etc...).

In an organization where responsibility, authority and communication are too divided and take up some duplicity regarding its practical application, it seems even more important the description of roles and responsibilities, combining those that manage, the ones that execute and who check quality.

As remarked by Ramos Pires: "in an educational organization, the relationship between the organizational structure and people is not characterized, essentially, by the hierarchy, but by cooperation. Thus, the authority and responsibility emanate often from the bodies themselves. However, such features should not prevent the decision and its monitoring decisions. It is expected that structures with fewer hierarchical levels and with great *peer* activity, are more effective than the essentially hierarchical and functional structures. However, the top management has to be defined precisely. (Possibly in joint bodies: CD, CC, CP) "

The option of the Polytechnic Institute of Portalegre for the implementation of a Quality Management System capable of being certifiable, anticipating all the movement

that create the accreditation of quality assurance systems, proved not only temporarily right (sign up *timing* which ran from the Bologna Declaration in 1999 and the first evaluations of the systems of internal quality assurance promoted by A3ES in 2012/2013) as much more comprehensive and useful to the organization.

The launch in 2006 of the first internal audits after a thorough job involving all the IPP and its Organic Units, allowed a long period marked by learning steps as certification in 2008, adapting to the new version of the standard in 2009, extending to the Social Responsibility in 2010, creating a pool of internal auditors with the participation of teachers and non-teaching employees with the most different responsibilities in 2011, the integration of the requirements of A3ES in response to ESG ENQA from 2013.

## 6. Learning ability in IPP case

As with many institutions, mainly for the sake of ease and better monitoring of deadlines, the IPP also developed its Quality Management System strongly supported in their administrative and technical structure, taking full advantage of the hierarchical-functional relationships of a traditional organization. In particular, as with doctors, teachers would be the most difficult elements to mobilize for the "cause". Any pretense of meeting a short deadline for certification of QMS implied a more "interventionist" (most autocratic) and less participatory strategy.

The system focused initially on administrative issues and not directly involved pedagogical and scientific questions, like they did many similar organizations that started the certification process by central support services aspects. There was clearly an option to avoid an approach that requires the presence of teachers. Remember that when the process started the accrediting agency A3ES was not yet in full operation and therefore the requirements for a quality assurance system for higher education were still in preparation.

You can establish a parallel with what has happened in the area of health, where there are notorious difficulties of involvement of those who could be called the main actors, taking into account the duplicity of command. As doctors in hospitals, teachers respond on the one hand, the Scientific and Pedagogical Councils, in its pure teaching function, and on the other hand, are accountable to the Director and the administrative organization regarding compliance with standards as employees of a public institution.

This option of structuring the system from the non-teaching sector has been clearly linked to the need to comply with a set timetable to certification and corresponded to the common practice in similar cases. In the case of IPP, as found in other institutions, had the opportunity to begin the process of structuring the quality management system by administrative areas, limiting it to Central Services and Social Services.

It was intended to broaden the scope of certification throughout the Institute, considering the fact that it will be the first institution of the polytechnic sector to be certified by the NP EN ISO 9001 as a whole.

The fact of having chosen the path of global certification but taking as its starting point, the administrative structure had very positive aspects but delayed treatment or the structuring of nuclear processes such as Training Offer and Curricular Activity. This is important to understand some of nonconformities that will repeat throughout the first three external audits (see later reference).

The aspect that adds greater value to the organization was undoubtedly related to the Files and Documentation responding to two of the most important requirements of the standard: Control of Documents and Control of Records. Without the priority given to this aspect and the work within the respective process, would be impossible to move forward with a system involving four schools, the services of Social Action and the Central Services.

Another element of added value, that indicates a strategy based on the mandatory requirements of the standard, was to bet, from the beginning, in internal audits. This was perhaps the greatest contribution to enhancing the learning capacity of the organization, with clear qualitative leap from the aggregation of numerous teachers and responsibles of scientific and educational staff to the internal auditors bourse that enlarged over the years, having more than thirty auditors representing all schools and all liability and professional groups today.

## 7. Subject Study

In this paper we intend to demonstrate that the Quality Management System is an essential tool for changing organizations and their strategic positioning, whose success depends fundamentally on the evolution of their learning ability, translated into a culture of quality that crosses the entire activity of IPP. This learning process has been made by people and with people, essentially by the integration of the system on a daily basis of their work and the enormous contribution of internal audits.

## 8. Methodology

The work focused on two aspects: the construction of a survey to all employees of the IPP (ongoing) and a detailed analysis of the results of audits of the Quality Management System of the IPP over the past seven years, highlighting internal audits.

### 8.1 Employee survey in IPP

Objective

We intend to develop a survey to all employees of the IPP (teachers and staff) who were somehow linked to the development of the system.

It is intended, primarily, to understand the positioning over the last seven years of all those who were somehow associated with the implementation and maturation of the quality management system of the Institute.

The universe to be surveyed was selected based on those that performed a direct job in the process, that is, members of working groups, from the structure of the QMS, internal auditors, etc ... In this sense we intend to know their experience as privileged participator on the vicissitudes of a process that made a route which was learning from its own mistakes. The survey is assumed as a basic tool to complete detailed analysis of the documentation and its successive revisions over the lifetime of the QMS.

Recognizing the difficulty of creating a questionnaire without a prior work of identifying closed-ended questions that allow results as reliable as possible, we chose a methodology in two phases:

- Structured inquire interview with a limited set of representative sample persons;
- Survey with closed questions constructed from the previous interviews.

This is a study that is not included in scientific studies but from experimental nature, observing reality through personal experience and knowledge.

The interviews aimed at identifying hypotheses to consider the questionnaire to be developed in the second phase. Accordingly where established a set of very simple and direct questions that helped to identify common factors and unique elements, with particular focus on the approach that each experienced. It was intended to meet the starting point of each, the form of "entry" in Quality, the route developed and finally the current position regarding the operating model.

8.2 Interviews

Were accomplished 15 interviews that identified key strengths and gains of the Quality Management System and situations that are preventing the system to fulfill better and more fully its objectives.

We list the words and phrases that have been repeated throughout the interviews:

1. Change
2. Transversality
3. Involvement
4. Monitorization (we have bad conscience)
5. Standardization of procedures, documents and practices

6. Student-centered working in the IPP
7. Handle the error, handle evaluation, share opinions, trust the others
8. Team Working (feel the IPP and its problems)
9. Respect rules and procedures, accountability, give feed-back
10. Cross Culture, IPP platform
11. Balance the past vs future, controlled transition
12. The manager of the process as central and pivotal figure to the articulation between the QMS and formal functional organization
13. Accountability and transparency
14. High degree of interpersonal relation s
15. Quality Culture
16. Find solution and seek improvement
17. Stop separate quality from current work (new paradigm)
18. Permanent challenges

*"As with people the QMS is a kind of identity card to the IPP, creating a personality and an own character, incrementing a new culture. Clearly a culture of participation, lifelong learning, learning with others, continuous improvement (organizational culture). I am the most transformed in the middle of it all "*- the words of Dr Joaquim Mourato, president of IPP during the interview.

Five priorities were identified during the interviews:

1. Reinforcement communication skills
2. Practices improvement and solving problems
3. Recognition of what is not working properly and find solutions
4. Development projects that unite people - two or three flags
5. Give authority to Process Managers

From the interviews the questionnaire will be the basis for the survey to all employees and participants in the QMS.

## 9. Audits history in recent years

During the year 2006 were held the first audits of internal nature, developed by the consultant himself that accompanied the implementation of the QMS. These audits were

focused on social activity, particularly at the level of the Residences of Portalegre (seats, Secondary Street and Elvas) and Elvas services.

The audits took place in July, in the days 6, 12 and 18 and the overall result was as follows:

Residence of seats - 12 NC 1 and OBS

Secondary Residence - 7 NC and 1 OBS

Street residence of Elvas - NC 7 and 1 OBS

Residence of Elvas - 12 NC

Most of the findings were related to the lack of records and controls imposed by the standard.

In 2007, just in the month of January is held the first internal audit of the entire system, on days 19, 25 and 26, a total of 2.5 days with the collaboration of four internal auditors and four external auditors. The audit included all four schools. The 46-page report did not identify nonconformities by the auditor coordinator choice. Summary of the results of this audit:

- System Management - 30 notifications;
- Agricultural School at Elvas (ESAE) - 21 notifications;
- Health School (ESS) - 39 notifications;
- Technology School (ESTG) - 13 notifications;
- Educational School (ESE) - 13 notifications;
- Central Services of Institute - 9 notifications;
- Social Services - 24 notifications;
- Chemical Laboratory - 6 notifications

On days 13, 14 and 15 June of the same year a second internal audit, lasting three days, this time with only external auditors associated with the consulting firm was helded. 72 findings of which were 25 observations and 47 non-compliances were identified.

The audit concession 1st stage, occurred on 8 and 9 November 2007, which concluded that the organization was prepared for the 2nd phase, ie, audit certification system. The report, signed by two auditors did not identify any nonconformance.

The audit concession 2nd phase took place on 6 and 7 February 2008 and was performed by three auditors who recorded 7 Nonconformances.

Between 20 and 24 October 2008, a team of four internal auditors coordinated by external consultant, audit the entire system and identify 29 non-compliance and 21 observations.

The first audit Monitoring takes place on 16 and 17 February 2009 and was helded by three auditors. Four Non-compliances were identified with the particularity of the de fact that all of them refer nonconformities recorded in the audit of concession, all related to Curricular Activity:

NC2 - Criteria for acceptance of service, criteria of educational quality;

NC3 - While in the process Formative Offer, matrix relate verification and validation activities of the Scientific courses, by IPP Councils and by the authority itself, these activities do not correspond to the concept of validation of the reference standard, which is not applied;

NC5 - Was not evidenced to EA the treatment data for indicators of process performance Curricular Activity, that fact does not allow to evaluate the effectiveness of this process;

NC6 - Surveys have been conducted to the satisfaction of current students, promoted by CP from each school and reports of each discipline and teaching, but in some cases the data has not been subjected to analysis in CC or CP (ESE and ESS). Yet this information was used to evaluate the effectiveness of the process Curricular Activity.

The annual internal audit took place between 2 and November 6, 2009, maintaining the coordination of external consultant and extending the internal team to 6 auditors. There is a remark in the audit which identifies 34 non-compliances and 14 Observations:

"However, there are also processes that by their importance within the scope of certification, are far from being / be consistent / *rotinados* within the IPP."

In 2010 the external audit of renovation takes place 24 and 25 February, maintaining the audit team of the last external audit and identifying 4 Nonconformances, two of which correspond to the NC1 and NC2 contained in the audit report of 2008 and NC2 and NC3 in the previous audit, considered not fully resolved. Some weaknesses are identified, namely:

- The disconnection of the QMS from the actual power structures of the IPP and the main process of IPP - Curricular Activity;
- The lack of definition of the supplied services judge by the IPP itself (and not only by the students).

In October of the same year (2010), between days 18 and 22, was held the annual internal audit of the QMS, the last having the support of the external auditor and the methodology of maintaining a single global audit by a reduced group (three auditors). Were registered 35 Nonconformances and 9 Observations.

The renovation external audit in 2011 brings a new auditor team and occurs between 14 and 17 February. Team was composed of only two auditors but with a deeper understanding of higher education problems. Were noted, in the report, 6 Nonconformances, 13 Opportunities for Improvement and 1 Sensitive Area. Transcribe is a small extract from the report:

> "However, the IPP recognizes it needs to continue to develop the procedures of creation, revision and termination of their courses, balancing the requirements of ISO 9001 and the Accreditation Agency ..."

The importance of this audit can be seen by the change which introduced for the effective resolution of some issues identified in the 6 Nonconformances marked:

NC1 - Control activities of documents are not provided in a systematic manner;

NC2 - The IPP has not established a documented procedure for control of records of the QMS;

NC3 - Identification of training needs is not performed in a useful way to improve performance;

NC4 - Training sessions are not evaluated for their effectiveness;

NC5 - The procedures for control, research and treatment of events and procedures for complaints, are not being followed;

NC6 - Treatment of incidents, problems and complaints not originate in a systematic way, the identification of the first causes of nonconformities, make it difficult or impossible to define corrective and preventive actions.

In May 2011 the concession audit of the Social Responsibility Management System took place, having as reference the NP 4469-1: 2008. The audit was developed between 18 and 20 and was conducted by a single auditor and identified 4 Opportunities for Improvement and 13 Sensitive Areas.

In late 2011, specifically in November, begins a new phase of the IPP QMS, after a massive formation of new internal auditors which corresponded to greater autonomy of the system and a new philosophy of implementation of the Annual Internal Audit Plan. The internal audit is carried out following the training course and developed in two phases, involving 17 internal auditors who audited the whole system. Constituted, in fact, a qualitative leap in the evaluation and monitoring of QMS translated by an internal training with the involvement of new employees. Curricular Activity (NC 4 and

8 OBS), Research and Development (NC 2 and 3 OBS), Training Offer (3 NC and 5 OBS), and External Relations (NC 2). Again there is no specific reference to the resolution of a NC: "The EA found that is still in the process of resolution resulting from the NC3 last renewal audit performed by the certification agency (February 2011)".

The 17 and 18 November audit call our attention to important aspects that have come from previous audits linked with documentation and records, including the urgent need to review the procedures of IPP and adjust them to the requirements/demands of standards. In the same audit were also described some findings that address the responsibilities and the role of the Circle of Progress in the operation and improvement of the QMS and its Quality Manual. This audit was also very strict regarding the Financial Process in many aspects that have to do directly with the standard requirements, identifying a total of 5 Nonconformances. The same can be noted as the Maintenance Processes and laboratories with very sharpest findings. In the Computer Systems Process were identified 4 Nonconformances.

At the beginning of the year 2012, on 8 and 9 March, was carried out the follow-up audit having the same two auditors of renovation that took place in February 2011. The QMS scope changed: *Training, Research and Scientific and Technological Development, Community Service and Social Services, in all Business Units of the Polytechnic Institute of Portalegre.* It was identified only 1 Nonconformance and 13 Opportunities for Improvement. For the first time there is a reference to the recording and processing of claims for 2011.

This audit shows a set of recurring situations inherent in the overall functioning of the QMS:

- Better define the concepts of correction/resolution of nonconformities and corrective actions;
- Need to register all the improvements of the QMS;
- Information integration of Bologna reports;
- Need for more procedures and work instructions;
- Functions and responsibilities description;
- Training efficiency control;

As stated above and following the amendment in 2011, the internal audit of 2012 was performed in 4 phases.

The first phase occurred between 19 and 29 May and covered the following processes: Curricular Activity, Libraries, Financial, Social Services and Student Support. The final result detected 16 Nonconformances and 15 Opportunities for Improvement. Again it was found by the result that internal audits are characterized for being more comprehensive than the external and present aspects of the operation of the QMS and applicants that are linked to Progress Circle, its responsibilities and functions, as well as to follow the minimum requirements of standard: Control of Documents, Control of Records, Corrective Action, Preventive Action, Nonconformances and Internal Audits.

Phase 2 became a reality on 19 and 20 June and audited the Circle of Progress and Social Responsibility and is geared heavily to the QMS operation and document updates in general and, in particular, the Manual of Quality, Procedures and Work Instructions. Were identified 29 notifications, 13 Nonconformances and 16 Opportunities for Improvement.

The third phase took place between 9 and 13 July, having audited the following processes: Files and Documentation, Maintenance, Security and Risk Prevention, Human Resources, Academic Services and Grants and Computer Systems. There were 36 notifications of which 19 Nonconformances (2 Maintenance, 8 Human Resources and 6 of the Computing Services) and 17 Opportunities for Improvement. Many of the findings associated with the maintenance show that this process continues to be critical in terms of the system, due to their lack of continuity and implementation of actions. Again it identified a set of NC and OM of structural adjustment which becomes essential for the functioning of the QMS as a whole.

The last phase of the internal audit took place between 5 and 8 November, having audited the following processes: Communication (NC 3) Research and Development (2 NC) Laboratories (1 NC), Training Offer (1 NC) and External Relations and Cooperation. The result, in terms of findings, was 7 Nonconformances and 18 Opportunities for Improvement.

The need for a thorough review of the QMS led to delay slightly the external audit follow-up (which included Quality and Social Responsibility) that came to be held between 22 and 24 April 2012 by a different team audit of last two external audits. This has revealed, once again, that external audits are of great superficiality given the difficulty in knowing the system well (especially when changing the audit teams) and verify its effective functioning. There wasn’t any Nonconforming Quality recorded, only 3 Opportunities for Improvement and 4 Sensitive Areas. In the area of Social Responsibility were identified 4 Nonconformances, 2 Opportunities for Improvement and 8 Sensitive Areas.

In terms of internal audits the model followed in 2012 was replicated in 2013, with a very rough schedule and a certain stabilization of the internal auditing teams, revealing the maturity of the QMS and the responsiveness of the organization.

The first phase, which ran from 4 to 8 May, audited the Social Services and Student Support process, Archives and Documentation and Academic Services and Scholarships and reported 11 Nonconformances distributed as follows: four in the process Social Services Student Support, 3 in the Archive and Documentation and 4 in Academic Services and Scholarships. Were also reported 8 Opportunities for Improvement.

In phase 2 the Circle of Progress, Social Responsibility, Libraries, Communication and Financial processes were audited, having lasted between 27 and 30 May, with the participation of four internal auditors teams. The only weakness pointed to the QMS was the lack of clear allocation of responsibilities and authorities across the board in the processes audited situation previously identified. The findings focus on structural issues of the quality system, with emphasis on the role of the Progress Circle and updating of the Quality Manual. Because of its importance the recommendations of Non Conformity nº8 are listed:

1. Standardize the organogram charts of IPP and Organic Unities;
2. Insert the organs in the organogram charts;
3. Clarify if Circle of Progress should be considered or not a Process;
4. Establish choice criteria for the elements of Circle of Progress;
5. Assign Responsibilities and Authorities;
6. Update and clarify the Matrix and Indicators;
7. Assess the legal compliance of the Process

In total 11 were identified Nonconformances (1 Library, 3 at Circle of Progress, 3 in Communication and 4 in Financial) and 13 Opportunities for Improvement (6 in the Library, 5 in Progress Circle, 1 in Communication and 1in Finance).

Between 1 and July 3 phase 3 of the internal audit having passed through Curricular Activity Maintenance (8 NC) Human Resources (4 NC), Safety and Risk Prevention (2 NC) and Computer Systems (5 NC) process was performed. The result was 19 Nonconformances and 20 Opportunities for Improvement.

For the 4th phase processes Research and Development Laboratories and External Relations and Cooperation were reserved.

## 10. Conclusions

This first phase of IPP case study allows some conclusions to be validated in the investigation to be made, but that appear to be important points for immediate discussion:

• The process of implementation of the Quality Management System has the obvious advantage of working with the entire organization, cutting the weight of teachers. This is particularly important in Polytechnics;

• The enlargement of the internal auditors bourse to all employees was the big factor in operation of the QMS, forcing teachers to leave outside your comfort zone;

• Management by Processes is the main counterpoint to the traditional hierarchical system and helps reduce levels of decision making, creating a misunderstood matrix organization. Requires, however, a strengthening of the authority of Processes managers;

• A Quality Management System must have a good foundation: Processes highly integrated functional organization; a good documental system enhanced from a Quality Manual much associated with processes and procedures; a good system of control documentation and records; continuous improvement based on systematic internal audits, action plans and a record of events participated; a system of indicators easy to keep updated and very easily to deal with;

• External audits should be revised in order to be able to create more value for the QMS;

**References**

Mazzucato, Mariana (2013), *The Entrepreneurial State, debunking Public vs. Private Sector Myths* , Anthem Press, London and New York;

Trilling, Bernie and Fadel, Charles (2009), *21 St Century Skills, Learning for life in our times* , Jossey-Bass, San Francisco, USA;

Gigerenzer, Gerd (2003), *Reckoning with risk, lerning to live with uncertainty* , Penguin Books, England;

Pires Ramos, Antonio (2009), *IWA2 (2007) -Quality Systems- Management guidelines for the application of ISO 9001: 2000 in education* , Polytechnic Institute of Setúbal, Unit for Quality and Evaluation;

Machado dos Santos, Sergio (2009), *Comparative Analysis of the European Process for Evaluation and Certification of Internal Quality Assurance Systems* , preaprado work for A3ES;

Manatos, Maria, Sarrico, Claudia and Rosa Maria (2014) *Perception of academics on ESG implementation in English Universities* , article recently (27 to 30 August 2014 onwards) presented at the Annual Forum in Essen (Germany)