

# Standards, Quality and Risks

Alcina de Sena Portugal Dias

[alcina@iscap.ipp.pt](mailto:alcina@iscap.ipp.pt); [alcinaportugaldias@gmail.com](mailto:alcinaportugaldias@gmail.com)

Instituto Superior de Contabilidade e Administração, Politécnico do Porto

## **Abstrat:**

Standards are applicable to any kind of activity and their objective is a kind of performance aiming to apply an ordered system to repetitive functions that take place in the context of industry, technology, science and economy. According to the WTO agreements (mainly TBT - Technical Barriers to Trade) standards can stimulate international comparability eliminating obstacles arising from some different national practices. In a global economy, having so different expectations from all stakeholders, without standardization, it would be too difficult to manage their different perspectives. Objective: This study considers standardization related either to the financial statements through IFRS and ISA, or to the product/service through ISO 9001 or to the risk of companies through ISO 31000. From this quality management system implemented under ISO 9001 an entity can as well use an ISO 31000– responsible for the risk management. Methodology: empirical evidence and qualitative analysis. A case study - about ISO 31000 associated to ISO 9001, in a municipality of Maia in Porto, Portugal, will be achieved, describing the main steps of its implementation. Results: as a final issue the main guidelines of ISO 31000 implementation are displayed. As to the other referred standards one may conclude as well that they are a sound and good management tool.

**Keywords:** global market, standards on financial statements, standard on quality, standard on risk management

---

## **1. Introduction**

Standardization has been crucial for the development of the industrial society (Blind, 2004). At its origins, in the early 20th century, standardization was introduced in order to curb an uneconomical divergence of components, parts and supplies and to foster their interchangeability so as to facilitate mass production and the repair and maintenance of products and services.

However, along time standardization has gone further than this and comes to be applied to the very management processes and systems by which products and services are produced (Antonelli, 1999; Brunson & Jacobsson, 2000; Nadvi, 2004; Heras, 2006; Dias, 2014). There are authors that speak about standards as a new form of social contract (Giovannucci, 2005). Standards-based management is a research field that has received considerable attention in recent years, due to the great success experienced by management standards all over the world. Therefore, it is important to review the different approaches of the study of standardization in

a management context, in order to try to synthesize and, thus, improve the academic knowledge about these interesting management tools, within the interest of the various different stakeholders involved.

Over the last few years an acceleration of the process of standardization concerning business management has taken place in an economic context characterized by a marked process of globalization and economic integration of markets.

In parallel many other standards apply to the internal environment of the organization and particularly under an Audit function. It is well known that audit means the analysis, inspection and validation of some issues done and achieved along a process that complies (or not) with a defined benchmark of performance. These benchmark tools are called standards that may be, among others, applied on accounting, on auditing and particularly as to the risk management in the organizations they should prevent risks happening. To be attained this level of compliance preventing the risks companies should use an ISO 31000 what seems much easier to implement after an ISO 9001 having been got.

#### SOME EXAMPLES OF Standards

Speaking about standards in a company we can say that when developing a financial audit process, we can face the following standards:

**Table 1 Examples of standards application and aim**

Standards	Aim
<b>IFRS</b> – International Financial Reporting Standards (issued by IASB – International Accounting Standards Board – UK)	<b>Harmonization:</b> global comparability of the Financial Statements
<b>ISA</b> – International Standards on Audit (issued by IAASB – International Auditing and Assurance Standards Board /IFAC – International Federation of Accountants – USA)	<b>Transparency:</b> process of audit globally achieved according to the same benchmark
<b>ISO 9001</b> – Quality Management System	<b>Quality:</b> process of quality applied on the product/service
<b>ERM</b> - Enterprise Risk Management, COSO 2017 or <b>ISO 31000</b> – Risk Management	<b>Risk Minimization:</b> in the companies

As to the financial statements of any organization one can register the use of many standards that really help their management. It is important to note that organisations display different functions that if they are undertaken according to these tools their management will be facilitated (Blanco, 2004; Blind 2004). Some of them, having the aim of registering accounting

transactions are already compulsory almost all around the world like the IFRS - International Financial Reporting Standards and IAS - International Accounting Standards.

## **2. IFRS – International Financial Reporting Standards**

(issued by IASB – International Accounting Standards Board – UK). The aim of these standards is to create the global harmonization and comparability of the Financial Statements once they are applied worldwide. Many articles have been written about the application of IFRS because some organizations were not very interested in advancing its application. It is interesting to note that there are very diverse opinions. Hans, Edward, Martin, Cheng (2015), in Germany, decided to measure the impact that the early application of these standards would have on the quality of management reports. They took as reference previous studies that measured the accounting quality through the management of the results, the timely recognition of losses and the relevance of value. While the literature showed that IFRS contribute to the improvement of accounting quality, these authors considered that these improvements were confined to companies that had incentives for their adoption. In this way, this study showed that companies that resist the adoption of IFRS have closer links with banks and internal shareholders, which are consistent with lower incentives for the use of more comprehensive accounting standards. They concluded from evidence gathered that they could not infer about changes in the quality of accounting around the voluntary adoption of the early application of IFRS. With similar conclusions, another study (Lourenço & Castelo Branco, 2015) elaborated in the analysis of a set of 67 articles published in the accounting journals that integrate the Social Sciences Citation Index (SSCI), published between 2000 and 2013, refers as a consequence of the application of IFRS has a positive effect on the quality of information, capital markets, analysts' predictability, comparability and use of information. But this effect is also related to other factors, such as the characteristics of both countries and companies. They result from factors such as the socio-cultural framework of the country. The authors conclude this is not sufficient to create a common business language and only with management incentives and institutional factors playing an important role in framing the characteristics of financial reporting, can it be really achieved. However regardless of getting an advantage with their application, IFRS and IAS (International Accounting Standards) are a global reality. What is important is that the comparability and harmonization of financial information - the great motive inherent to these standards – become useful for all the stakeholders. So, for this to happen, it must be ensured that all the transactions registered are according to them correctly and in accordance with the appropriate and applicable references. This analysis and inspection of what is done about the

accounting, is achieved through audit whose process activity development is also ruled by standards on audit.

### **3. ISA - International Standards on Audit**

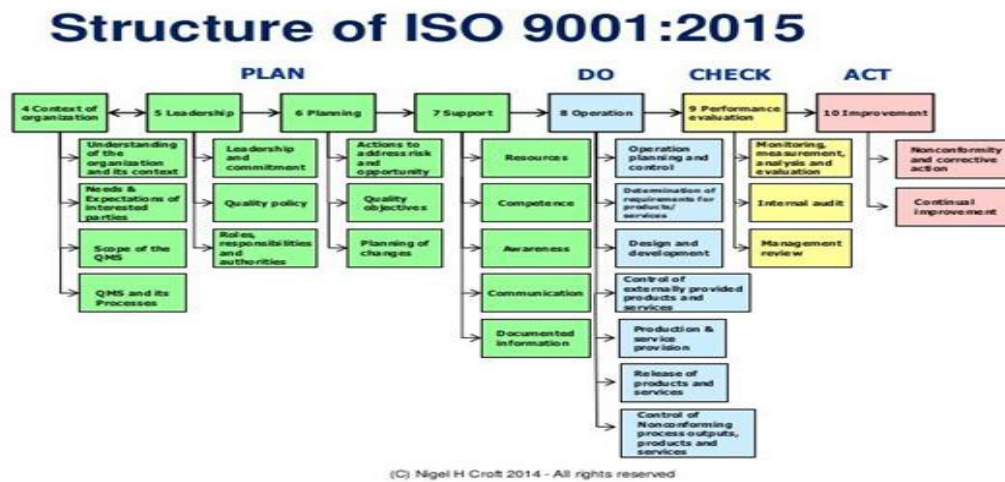
The financial statements of an organization include transactions register whose adequacy and display must be confirmed. In order to reach this, aim an audit process will be achieved according to ISA – International Standards on Audit (issued by IAASB – International Auditing and Assurance Standards Board /IFAC – International Federation of Accountants – USA). Up to now, and so far, one can see under a financial statement perspective, that the global market is embedded in standards. As a curiosity and just considering the above mentioned issues one can register that the mix of these standards – being at the same time from Europe and from the USA – thus having a different geographical positioning of their issuing bodies (and having the power to implement them worldwide) they contribute to the so named global financial harmonization.

BooLaky and Soobaroyen (2017) study about the application of ISA's and the advantages that may follow, uses the neo-institutional perspective, and seeks, for the first time, to investigate empirically the determinants of adoption of ISA and the commitment to harmonization on a cross-national basis (89 countries). The results show that protection of minority interests, law enforcement, creditor and borrower rights, foreign aid, the prevalence of foreign ownership, educational level, and particular forms of political system (level of democracy), prevailing in a country, are observed as significant predictors. The degree of commitment to the adoption and harmonization of ISA Statistical analysis shows that coercive, mimetic and normative pressure have a significant impact on their adoption in relation to economic factors (led by efficiency). The findings of the study reveal that the current efforts of IFAC and other international agencies are directed to the use of ISAs and should encompass a broad range of institutional rather than economic factors. These are, in fact, relevant reasons in the development of audit policies around the world. It seems that the installed power in the organization is something quite relevant that must be fitted to each organization depending on the activity, placement and socio cultural environment. Yet to travel around the world, organizations must exhibit some quality associated either as to their product or as to their service.

#### 4. ISO 9001 – ISO 9000 series

This is the standard that organizations must apply to have their product or service certified and this way have associated a guarantee to and from the transaction, in the global market. In schematic terms its composition is as follows:

Figure 1. Structure of ISO 9001



Source: TCA GLOBAL

To implement this standard for quality certification any organization needs to meet the most relevant points next described (points from 4 to 10):

4. Context: definition of stakeholders in the Quality Management System
5. Leadership: an understanding of the distribution of power throughout the organization's hierarchy
6. Planning: how the organization predicts or estimates the future in all areas of the business
7. Support: operational structure to support the organization's core business
8. Operations: process related to obtaining the entity's product or service
9. Performance Evaluation: evaluation schemes implemented in the organization
10. Improvement: definition of indicators and performance targets in the areas covered by the Quality Management System

Studies about the "quality" factor show that its process can contribute to a change in the structure of organizations (Deming, 1989, Heras, 2002, Johana, 2007). The way the hierarchy is established or positioned can be altered to better serve the purposes of quality and finally the management goals embodied in the organization's mission. It is common knowledge that any

organization to work efficiently and effectively needs to have leadership (Mintzberg, 1987; Zahirul, 2003) but this leadership, too, is now changing. It will be the good leadership that will make the organization's Mission-Oriented objectives guided by strategies (Drucker, 1986, Kaplan, 1992, Ortiz et al., 2006: Oakland and Tanner, 2007) that can and should be understood through cultural factors (Schein, 1999).

The global market is increasingly in need of this understanding, and attention must be paid to an academic example of application of ISO in Universities studied in Malaysia. Basir et al. (2017), based on the literature review and considering only the academic culture classified according to four elements - academic freedom, individualism, professionalism and collegiality - have elaborated two case studies carried out in Malaysian universities. These were ISO 9001 certified for 5 years. At the time of this research, these two were the only universities that had certification for the entire organization (most organizations obtain certification only for specific departments). The results showed that academic freedom, individualism and collegiality worked against the maintenance of ISO 9001, while professionalism had influenced the maintenance of ISO 9001 both positively and negatively. The opposites of individualism (teamwork) and collegiality supported the maintenance of ISO 9001 in one case.

Undoubtedly, a Quality Management System in any organization shall obey to the procedures established in its scope of action and these constitute a kind of limitation to the rapid and creative changes within it. However, it has to be that way in order to be able to manage. The procedures are fundamental to help to manage the organization because this way everyone knows who is who, who does what and how production can be monitored and measured (Heras 2002; Dias 2009; Dias 2010; Dias; 2013). These indicators are usually known as KPI - key process indicators and are fundamental for a spirit of continuous improvement that is this standard ultimate goal.

## **5. ERM– Enterprise Risk Management**

Risk management is something crucial for every organization and it is important to identify some of the tools available among which ERM (Enterprise Risk Management) (last review from 2017). This risk perspective is most important presently because the global market is proactive and dynamic and has embedded some new important features like the “process” idea and the cultural dimension. ERM considers the life of organizations just like a process where inputs are the core values of the company translated in its Mission and Vision; then a set of risk procedures should be implemented inside the organization in order to comply with both the mission and

vision, so that, an enhanced performance may be ERM final outcome (ERM was issued by COSO – Committee of Sponsoring Organizations from the Treadway Commission, USA). So, Enterprise Risk Management (COSO, 2017) is a tool – a benchmark, a standard – that if well applied in the organization will contribute to a better performance.

As before mentioned the inputs of this process are a clear definition of the organization's Mission and Vision. The first has to do with the development of the activity of the organization and the second has to do with its future placement in the market. The core values are related to the history tradition, beliefs and stories related to the organization what means its cultural aspects what is a real innovation of ERM 2017 when compared to the previous Cube COSO.

**Figure 2. ERM 2017**



Source: 2017-COSO-ERM-Integrating-with-Strategy-and-Performance-Executive-Summary.pdf

The operational process consists of identifying the following aspects related to the organization's business strategy and objectives:

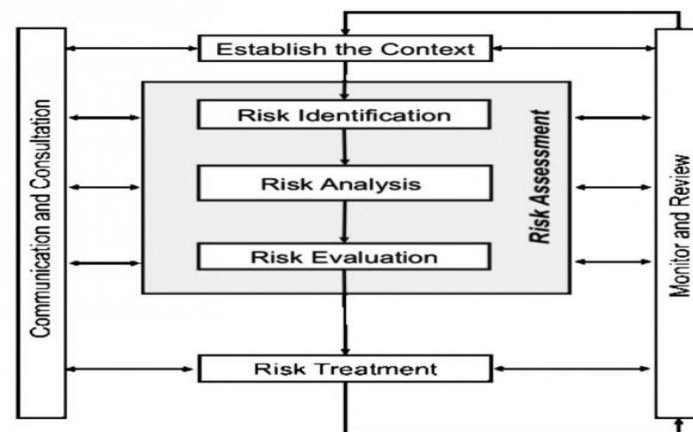
- Risk Governance and culture, that is, how the organization identifies the risk and the relevance of the organization's culture in terms of risk;
- Risk strategy and objectives has to do with the guidelines defined to identify risk situations;
- Risk in execution has to do with the implementation of the risk;
- Risk Information and reporting means how and to whom the risk environment is communicated;
- Monitoring Enterprise Risk Management, that is the ways found in order to test the risk in the organizations.

This new COSO (2017) assumes that if these procedures are undertaken in order to match the Organizations Mission and Vision the attainment of the goals of the organization will be reached and an enhanced performance will be displayed. Furthermore, besides ERM, and still as to risk management one can also apply for ISO 31000 (Figure 3) whose last revision occurred in March, 2018.

## 6. ISO 31000 - Risk management

One must refer that whenever a company has dealt with ISO 9001 it will be much easier to understand the issues of another ISO. This leads us to associate the implementation of ISO 31000 about risk management to a previous usage of ISO 9001 concerning quality management.

**Figure 3. Risk management and ISO 31000 standard**



Source: ISO 31000 – risk management – flowchart

In terms of input communication and consultation are the first to be mentioned and concerns risk position in the organization, the definition of a framework and assessing the risk in three distinct phases: identification, analysis, evaluation. Finally, the risk treatment will emerge. An output called monitoring and review ends the process. Yet, this is an interactive process leading to continuous improvement what means that after monitoring and reviewing, one enters in the first phase again by communication and consultation because the non-conformities must be divulged and treated.

An application of ISO 31000 was considered by the authors Oliveira, Marins, Rocha, & Solomon (2017) regarding the supply chain. The authors say that breaks and interruptions in supply chains (SC – supply chains) can cause huge financial losses and damage the reputation of companies. Thus, Supply Chain Risk Management (SCRM) is considered to involve a multi-



step process analysis. However, researchers differ on the number and content of these steps. The objective of this study was to analyse the applicability of ISO 31000 as a systematic procedure for the SCRM. And, if so, how the standard can be implemented in the context of SCRM, with a structure and in a specific company. Through the literature review, the risk management steps proposed by SCRM surveys were compared and harmonized. In addition, a way has been developed to identify and prioritize the risk assessment tools and techniques in ISO 31000: 2009 that should integrate a procedure for SCRM, based on the Analytic Hierarchy Process (AHP), exemplified in an industry supply chain car. Based on the results of the research (Dias, 2017), the authors concluded that ISO 31000 can be used in a beneficial way as a standardized method to execute the SCRM, provided that the tools and techniques are selected according to the needs of the company and characteristics of the business.

To see and grasp completely ISO 31000 real and practical use, a case study, was achieved in a municipality – the Town Hall of Maia, Porto district, Portugal, which is going to be described next.

## **7. Case study**

### ***Objectives***

According to literature suggestions and taking into account the needed policy and business requirements for the public sector in Portugal, a project, based on ISO 31000, was achieved (in a Town Hall belonging to Maia, District of Oporto, in Portugal). It is well known that municipalities have a quite different organisation environment and positioning as to the hierarchical distribution of functions and related management process. It was both a challenge and a deep interest research to develop the following case study on a risk management perspective. The objective was to have a formal institution coordinating the anti-corruption model. Until that date only agencies acting on a repressive scope of analysis were provided (Central Directorate for Investigation of Corruption and Economic and Financial Crime – Judicial Police and the Central Investigation Department and Criminal Action – Attorney General’s Office). Since then, the Corruption Prevention Council has been working close to the Court of Accounting (*Tribunal de Contas*) and has assumed a leading role in the adoption of new risk management practices issuing recommendations with a binding and compulsory application. The overall objective is to design an integrated risk management model comprehending:

**Table 2. Aims of the project**

Check the existence of mechanisms and instruments of Risk Management implemented in the municipality.	Quality Management System – already applied in the municipality.
Develop a risk management model based on ISO 31000 – Risk Management – Integrating it into the Management System based on ISO 9001.	To assess the operationalization of the Risk Management Plan designed for corruption and Related Infractions and ascertain its contribution to management.

This study aims to contribute to the continuous improvement of the Management System of the organization placing it above the peer level (Magalhães, 2017, Dias 2017).

### ***Methodology***

According to the proposed objectives, a case study of exploratory and descriptive nature was developed. The qualitative approach was based in indirect observation, through the use of documentary research and direct observation through the interview techniques. The consultation of documentary sources (documents generated in the transversal applicability across the organisation) consisted in:

1. Risk Management practices existing in the organization
2. Dynamics of the Management System (having a ISO 9001)
3. Implementation and monitoring of the Risk Management Plan

It was considered appropriate, for the objectives of this case study, to do semi-structured interviews, under previously studied specific objectives. The interviewees were chosen according to the organizational hierarchy (mainly, Managers of Quality, related staff and Top management). A Content Analysis and data Triangulation were the methods used for the analysis of the collected information. So, a content analysis grid was used, in which, the interviewees' perceptions were characterized in an individualized way. Each issue asked to the interviewees corresponded to each study objective. After performing this content analysis, data was compared to the previously referenced document sources. The aim of this study can be defined by the respective formulated assertions (Table 3):

**Table 3. Assertions**

The existence and contribution of Risk Management practices for the municipal management.	The contribution of the Internal Audit for the management of the risks of the organization.
Integration of ISO 31000 – Risk Management – in the Quality Management Systems.	The effectiveness of the Risk Management Plan as an instrument to support the management of the municipality.

**Project**

The Integrated Risk Management Model for the Portuguese Public Sector take into consideration ISO 31000 – Risk Management – Principles and Guidelines for the management practices of the organization. The Municipality of Maia had already been quality certified by ISO 9001 – Quality Management Systems (updated 2015). This last version provides a new approach for a Risk-Based Thinking which announces a facilitator for the integration of the ISO 31000 within organization management practices. Thus, the risk model to be constructed has the following objectives (see Table 4):

**Table 4. Objectives of the Risk Model**

Orientation for the implementation of the process of Risk Management.	Integrate the risk culture into the organization culture.
Establish a structured and systematic risk management.	Contribute to improve organization image and reputation.

A Risk Management Policy must be formally created. This will contribute to the consolidation of the risk management practices already instituted and consequently to the improvement of the Organization Management System. In this context, the elaboration of a Manual of Risk Management became a reality. It will allow to standardize concepts, to institute in the organization the adequate practices for managing the risks and consequently to keep a systematic follow-up procedure. It also considers all the involved stakeholders in the process and contributes to the transparency of the organization risk management.

In short the content of the Manual is the following (see Table 5):

**Table 5. Risk Management Manual**

<b>MANUAL</b>
Applicable legal and regulatory imperatives and risk management procedures.
Concept of risk, description of level of risks and synthesis of the control and reporting systems that integrate and support the process.
Responsible people and their interaction in the process.
Procedures to be followed in the evaluation of the risks and periodicity of realization.
Criteria considered in the implementation of measures to mitigate risks and responsibilities in this area.
Graduation methodologies and quantification of risks (inherent and residual risk).
Methods of monitoring, responsible and periodicity. Measures to be implemented when risk limits are exceeded.
Model of risk report to be prepared.
Parameters to follow in the evaluation of the risk management process.

So the Risk Management scope of analysis within all the processes of the municipality will include different paths:

- Identification of the risks taking into account the strategic objectives;
- Detailed characterization of the organization: vision, mission and strategic objectives; articulation of the Internal Audit and Risk Management process; organizational macro-structure and data about human and financial resources;
- Presentation of the methodology underlying the plan and the report;
- Introduction of data analysis concerning the execution of the plan (partial and global results of the management of the organizational risks);
- Insertion of a chapter for final considerations (inquiries regarding recommendations issued by the Corruption Prevention Council or changes to the International Organization for Standardization referential);
- Adequacy of the schedules and annexes attached to the plan and report (identification of processes and objectives, articulation between strategic guidelines and objectives of each process, identification of risk factors, expected dates for carrying out risk management actions and evaluation of effectiveness).

Besides the preparation of this Manual, the Risk Execution Plan happened too.

To reach it some complementary supports were done:

- i. a Checklist for the Independent Evaluation of the Risk Management Process

- ii. a Risk Management Implementation Schedule
- iii. a Communication Report

The Manual is closely linked to the Risk Management Plan and to the Implementation Report: it establishes the methodology to be followed for the management of the organization as to the risks, and in this sense, the Plan and the Report are the tools that will shape this methodology.

Looking at ISO 31000 content above described in this paper (Figure 3) this standard is fully used in this case. From establishing the context within the municipality till the moment of assessing the risk and treating it. For the integration of these documents in the organization's Management System (that is depending on ISO 9001) it was suggested to implement the following actions:

**ACTION 1:** Adapt all the processes to the new approach of Risk Based Thinking, including strategic and change management. This approach is, in fact, one of the most important changes in ISO 9001. Being present in practically all the requirements of this conceptual structure, it alerts to the necessity of establishing a cause-effect thought. So, municipal management should be developed taking into account the risks, their causes and their impact (both positive and negative) on all projects, programs and organizational plans;

**ACTION 2:** Quarterly monitoring of actions defined for the treatment of risks. The organization has an internal event registration system. Under a logic of continuous improvement, the actions to be implemented, the responsible parties, the execution dates of the actions undertaken and the evaluation of their effectiveness, all of them are identified. This internal event registration system should include risk management strategies in order to direct the organization to possible changes to the risk profile and to the definition of measures to be implemented when the risk limits are exceeded;

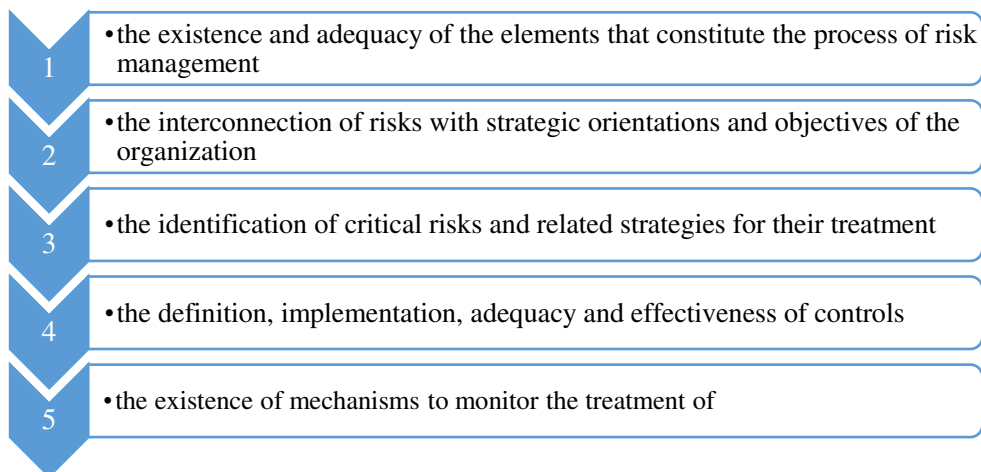
**ACTION 3** Integration in the annual review of the organizational performance information as concerns risk management activity and its analysis by the top management. The municipality maintains an annual cycle of revision of the organisation system. Monitoring the evolution of the risk management strategies implementation may be a valid indicator of process performance.

### *Internal process*

Risk Management process should be kept along with the approaches established in the organization (under PDCA - Plan-Do-Check-Act - Cycle, under the Process Approach and a Risk Based Thinking) and according to the organization strategy. For the implementation of this model, the municipality will consider an analysis of the risks related to the already established processes and whenever there are expected changes the adequate provision of services should be used.

On the other hand, planning the actions needed to treat the risks and considering the usual factors and their impact, all these steps will happen. This task will take into account not only the rate of risk implementation but also the evaluation of the actions undertaken, which shall be divulgated to all stakeholders once they are quite relevant for the Quality Management System. As concerns the role of Internal Audit within the process, and taking into account that the new paradigm is based on a vision focused on risk management, the Internal Audit is closely related. When internal auditors assess the Internal Control, they question whether the controls are appropriate for the risks. Thus and finally some guidelines were undertaken in order to frame this issue (Figure 4):

**Figure 4. Guidelines for the evaluation of Risk Management**



#### ***Some conclusions about ISO 31000 implementation project***

- The improvement opportunities suggested by the Integrated Risk Management Model for the Portuguese Public Sector are numerous. We can highlight the positive view of risk in the organization's culture. Although it is associated with future and uncertainty, it can be exploited and managed in the sense of getting the most of it. It seems that if well seized risk may also become an opportunity.

- Some internal information became crucial, like: monitoring stakeholders' expectations and objectives, enabling satisfaction assessment results, audit results, nonconformities and opportunities for improvement.
- The implementation of the Residual Risk Graduation practice emerged: the quantification and graduation of the remaining risk, the one that is left after the mitigation measures implementation, allows to assess, the levels of the exceeding risk and, consequently a proper decision making.
- Another important issue is that by defining KPI (Key Process Indicators something that is associated to the Quality Management System as well) the organization can regularly monitor the achievement of objectives and consequently do a direct planning.
- Furthermore, the activity of planning and training will contribute to the promotion of risk culture in the organization. The organization can report the risk decisions in the Management Report and in the Management Review Minutes. This process will benefit from the integration and get a synergy from the legal and regulatory requirements.
- The consolidation of the Risk Management process established in the Municipality of Maia proves to be an added value for the organization management. Managing risk can be named as a competitive advantage (Magalhães, 2017; Dias 2017). Yet one must stress a favourable corporate culture, which is characterized by a clear involvement of top management across all this process. This is something very innovative once the options and decisions about issues related to Risk Management in the Portuguese Public Sector, may, many times involve political options that stand somehow beyond the scope of the sole organization.

## **8. Conclusion**

At this moment after getting an example of the application of ISO in a municipality a brief summary of this study follows. A brief start considering the standards that the global market impels the companies to use as to their financial statements was done. Next the application of a standard - ISO 9001- was considered in order to name the quality management system within the organization approach. ISO 9001 grants a degree of certification that can be exhibited in the product/service of the company and this is something demanded by an important agreement - Technical Barriers to Trade belonging to WTO- World Trade Organization. After fulfilling this global transaction quality issue the business of any company may be done in any part of the world. Yet when speaking about business one must remember that it depends on many different variables which may reveal and display a risk that must be previously considered. In order to

face it the organizations have some tools that should be used namely ERM Enterprise Risk Management or ISO 31000 (Risk Management). A case study achieved in a municipality was described and enabled some relevant ideas:

- for the municipality of Maia the implementation of ISO 31000 was an accrued value for the management once the Management Report of the institution will be displaying all the procedures undertaken to overpass the risk plan
- it was very important and relevant to feel that the top management of this municipality was fully compromised in risk what enabled the dissemination of all this process
- it was very interesting to see that sometimes the risk factor, if well seized, may become a business opportunity.

## 9. Study limitations and future research paths

As a limitation of this case study one can refer the absence of numbers that can quantify the added value of the project; yet only within two or three years can it be quantified because it is well known that risk prevention evaluation is a long term run. As to the other standards herein referred only a few examples got from academic papers were named and no case studies or projects were presented. This way as future research paths it could be suggested to get some case studies about the remnant standards and calculate afterwards their accrued value as to the related business.

## 10. References

- Antonelli, C. (1999). *Localized technological change and the evolution of standards as economic institutions*. Oxford: Oxford University Press.
- Basir, S. A., Davies, J., Douglas, J., & Douglas, A. (2017). The influence of academic culture on quality management system ISO 9001 maintenance within Malaysian universities. *Journal of Higher Education Policy and Management*, 39(3), 320-340.
- Blanco, H., & Bustos, B. (2004). *Normalización y comercio sustentable en Sudamérica [Standardization and sustainable trade in South America]*. Santiago de Chile: RIDES.
- Blind, K. (2004). *The economics of standards: Theory, evidence, policy*. Massachusetts: Edward Elgar Publishing.
- Boolaky, P. K., & Soobaroyen, T. (2017). Adoption of International Standards on Auditing (ISA): Do institutional factors matter? *International Journal of Auditing*, 1(21), 59-81.
- Brunsson, N., & Jacobsson, B. (2000). The contemporary expansion of standardization. In N. Brunsson, & B. Jacobsson (Eds.), *A world of standards* (pp. 1-17). Oxford: Oxford University Press.
- COSO – Committee of Sponsoring Organizations of the Treadway Commission (2017). *Enterprise risk management integrating with strategy and performance*. Available at <https://www.coso.org/Documents/2017-COSO-ERM-Integrating-with-Strategy-and-Performance-Executive-Summary.pdf>.
- Deming, W. (1989). *Calidad, productividad y competitividad. La salida de la crisis [Quality, productivity and competitiveness. the way out of the crisis]*. Madrid: Díaz de Santos.



- Dias, A., & Lima, L. (2009). Quality systems for global business as a competitive advantage. In T. Riihelä, & M. Mattila (eds.), *Many faces of Innovation – from literature synthesis to empirical studies* (pp. 78-103). Hyvinkaa, Finland: Laurea University of Applied Sciences.
- Dias, A. (2010) Quality management systems for globally competing. *Revista de Gestão e Sustentabilidade – Portuguese Review of Management and Sustainability*, 1, 79-96. IPL Centro de Investigação em Gestão.
- Dias, A. (2013) Diffusion and efficiency of ISO standards within the European Union: A qualitative and quantitative analysis in Portuguese organizations. PhD Thesis. Proquest LLC UMI 3570823 (USA).
- Dias, A. (2014) Diffusion and efficiency of ISO 9000 standards in EU. Germany: Lambert Academic Publishers. ISBN 978-3-659-20283-4.
- Dias, A. (2017). A more effective audit after COSO ERM 2017 or after ISO 31000:2009? *Perspectiva Empresarial*, 4(2), 73-82. Available at <http://dx.doi.org/10.16967/rpe.v4n2a7>.
- Drucker, P. (1986). *Managing for results*. New York: Harper & Row.
- Giovannucci, D., & Ponte, S. (2005). Standards as a new form of social contract? *Sustainability initiatives in the coffee industry*. *Food Policy*, 30, 284-301.
- Hans, C., Edward, L., Martin, W., Cheng, Z. (2015) Incentives or Standards: What Determines Accounting Quality Changes around IFRS Adoption? *Journal of European Accounting Review*, 24 (01)
- Henson, S., Loader, R. (2001). Barriers to agricultural exports from developing countries: The role of sanitary and phytosanitary requirements. *World Development*, 29(1), 85-102.
- Heras, I. (Coord.) (2006). *ISO 9000, ISO 14001 y otros estándares de gestión: Pasado, presente y futuro [ISO 9000, ISO 14001 and other management standards: Past, present and future]*. Madrid: Editorial Civitas.
- Heras, I., Dick, G., & Casadesús, M. (2002). ISO 9000 registration's impact on sales and profitability. A longitudinal analysis of performance before and after accreditation. *International Journal of Quality & Reliability Management*, 19(6), 774-791.
- Hyvönen, J. (2007). Strategy, performance, measurement techniques and information technology of the firm and their links to organizational performance. *Management Accounting Research*, 18(3), 343-366.
- Kaplan, R., & Norton, D. (1992). The balanced scorecard – Measures that drive performance. *Harvard Business Review*, 70(1), 71-79.
- Lourenço, I. M. E. C., & Branco, M. E. M. A. D. C. (2015). Principais consequências da adoção das IFRS: Análise da literatura existente e sugestões para investigação futura [Main consequences of adopting IFRS: Analysis of existing literature and suggestions for future research]. *Revista de Contabilidade e Finanças*, 26(68), 126-139.
- Magalhães, M., Dias, A. (2017). Modelo integrado de gestão do risco para o sector público português. Estudo de caso – O município da Maia [Integrated risk management model for the Portuguese public sector. Case study – The municipality of Maia]. Master's work project. Porto: Instituto Superior de Contabilidade e Administração do Politécnico do Porto.
- Mintzberg, H. (1987). The strategy concept II: Another look at why organizations need strategies. *California Management Review*, 30(1), Fall, 25-32.
- Nadvi, K., & Wältring, F. (2004). Making sense of global standards. In H. Schmitz (Ed.), *Local enterprises in the global economy* (pp. 53-94). Cheltenham: Edward Elgar Publishing.
- Oakland, J., & Tanner, S. (2007). A new framework for managing change: Total Quality Management & business excellence. *Journal of Quality & Reliability Management*, 18(1,2), January, 1-19.
- Oliveira, U. R., Marins, F. A. S., Rocha, H. M., & Salomon, V. A. P. (2017). The ISO 31000 standard in supply chain risk management. *Journal of Cleaner Production*, 151, 616-633.
- Ortiz, J., Benito, J., & Galende, J. (2006). Total quality management as a forerunner of business innovation capability. *Technovation*, 26(10), 1170-1185.
- Schein, E. (1999). *The corporate culture survival guide. Sense and nonsense about culture change* (1<sup>st</sup> Ed.). San Francisco: Jossey-Bass.
- Zahirul, H. (2003). Total Quality Management and the balanced scorecard approach: A critical analysis of their potential relationships and directions for research. *Critical Perspectives on Accounting*, 14(5), 553-566.