Issues of Harmonization of ISO 9001 Standard and the Law 09-08. Protection of Personal Data in Morocco: Potentials and Risks

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Abstract
Since 2009, Morocco has had a law governing the processing of personal data, the law 09-08, and a supervisory authority, the CNDP (National Commission for the Protection of Personal Data). Since May 2018, the European General Regulation on the Protection of Personal Data (GDPR) entered into force, which applies outside the EU in certain cases and therefore to certain Moroccan companies. The question of the protection of personal data is primarily addressed to the customer. The latter may not only be a victim of crime linked to ICT, but also have to face risks linked to the collection and abusive processing of his personal data by the private and public sectors. Often the customer does not really know how their data is stored, nor for how long and for what purpose. This fact raises the question of satisfying customer requirements, in particular for organizations that have adopted a quality approach based on ISO 9001 standard.In order to master these constraints, Moroccan companies have to adopt strategies based on modern quality management techniques, especially the adoption of principles issued from the international standard ISO 9001 while being confirmed by the law 09-08. It is through ISO 9001 and the law 09-08 that these companies can refer to recognized approaches in terms of quality and compliance. The major challenge for these companies is to have a Quality approach that allows the coexistence between the law 09-08 and ISO 9001 standard and this article deals within this specific context.

Keywords:
ISO 9001, personal data, Law 09-08, Quality management, Risk

1. Introduction

Faced with the digitalization of the economy, the protection of personal data has become an important issue. Morocco has tried to respond to the problem with the law 09-08, a law aimed at making companies accountable for their handling of customer personal data. Where some will see an obstacle to profitability, the new regulations are an opportunity that the best companies will know how to seize to make a competitive advantage.

Morocco has planned heavy penalties for companies that do not comply with the law 09-08. Any non-compliance with the obligations imposed by the regulations will be penalized by significant fines. The Moroccan company therefore has a high interest in being in good standing so as not to suffer the disastrous consequences of a violation of the new legislation. This company can guarantee the continuity of its activities provided that it is oriented towards the principles of a QMS (Quality Management System) certified according to a benchmark of good managerial practices. Nowadays ISO 9001 standard is recognized worldwide as the "generic standard of quality management systems", it provides the managerial framework to promote the continuous improvement of the company's quality management system. In this regard, the company has to certify its QMS according to ISO 9001 standard as well as ensuring its conformity according to the 09-08 regulation. To this end, our contribution consists in highlighting the existing possibilities of integrating ISO 9001 standard and the law 09-08 to ensure an integrated QMS that aims to satisfy the stakeholders

2. Literature review

As part of this study, we carried out several bibliographic searches aimed at finding a theoretical framework for the coexistence of ISO 9001 and the law 19-08 within a management system.
After having systematically launched a research on Integrated Management, we have found several studies and books that deal with Integrated Quality Management or highlight the correspondence between requirements belonging to different models. So:

- Several researchers like Jean-Marc Gey and Fabrice Bonnifet (2010) discussed the Integrated Quality-Safety-Environment management and explained, with practical examples, how to evolve towards a global management system, in integrating management standards and reference documents ISO 9001, ISO 14001, OHSAS 18001, SA 8000 [1].

- Research around the harmonization of different models:

Manuscript received October 5, 2023
Manuscript revised October 20, 2023
https://doi.org/10.22937/IJCSNS.2023.23.10.8

- ✓ Suggests a model that allows the contents of CMMI and ISO and to be unified. [2].
- ✓ Introduces an ontology that provides the most important concepts linked to the harmonization of different models, this ontology is supported by a web tool and has been applied for the harmonization of Basel II, VAL IT, COBIT 4.1, RISK IT, ITIL and ISO 27002 [3].

- Some studies show a harmonization between agile approaches and ISO 9001:
  - ✓ A study describes how Primavera Systems, a company that is specialized in developing enterprise project management software, established a Quality Management System (QMS) that was aligned with ISO 9001 while it has still maintained all of the benefits of its Scrum / XP agile practices [4])
  - ✓ Another study deals with the ways to reconcile effective development's focus on speed and lean development with ISO 9001's need for documentation, control and traceability [5].
  - ✓ A research about PCI-DSS integration with the ISO 27001 standard:
    - ➢ A study describes and discusses the interoperability of PCI-DSS and ISO 27001 standards [6]
    - ➢ A document, issued by the PCI Security Standards Council (PCI SSC), maps PCI DSS to the NIST Framework and provides a resource that stakeholders may use in order to understand how to align security efforts to meet the goals in both PCI-DSS and the NIST Framework [7].

- Relations between the ISO family and GDPR regulations
  - ✓ An article analyzes the ISMS framework included in ISO 27001 and identifies synergies with the GDPR compliance efforts. This work describes the important additional actions that an organization is required to implement as they have already an ISMS in place to reach compliance with the GDPR [8].
  - ✓ Another study discusses the possibility of using ISO 27552 as the basis that allows the implementation and evaluation of the application of GDPR in organizations.
  - ✓ The mapping of ISO 27552 against GDPR demonstrates that Articles 5 to 49 of the General Regulation have been covered with the exception of Article 43, which can be used as a model for an inconsistency analysis in an organization trying to comply with the General Regulation [9]

The research carried out in this context did not lead us to a bibliographic reference directly dealing with the integration of the two models, ISO 9001 and the law 09-08. In this context we looked for the possible interactions between ISO 9001 and the law 09-08, thus:

- The ISO 27701 standard, published in August 2019, is a certification that allows the recognition of a management system for the protection of privacy in the context of risk management related to the processing of personal data

- The most explicit sign of ISO's desire to take root in the GDPR environment can be found in the recent ISO 27701 standard - which establishes an explicit link with GDPR and includes as an appendix a correlation table, mapping and matching the clauses of the standard with the relevant provisions of the GDPR [10].

- ISO 27701 is the extension of ISO 27001 that focuses on privacy [11].

- ISO 27001 and ISO 9001: we notice the presence of similarities in what the

documentation and procedures required to implement the system effectively. Given that both standards follow the Annex SL structure [12,13].

- The purpose of the law 09-08 converges towards the principles of RGPD: General Principles of Data Processing and the general principles for processing personal data in the Moroccan data protection law are nearly similar to those in the European Directive 95/46/EC [14].

So, we can assume that a synergy is possible between the law 09-08 and ISO 9001. However, before looking at this synergy, we must ask this question: are there any positive benefits from the adoption of these two ISO standards and the law 09-08?

The Benefits of a Quality Approach Based on ISO 9001 Standard

The ISO 9001 certification allows the company to gain a competitive advantage that sets it apart from the competition as well as winning customers' confidence by providing them with an analysis of the means used in order to respect the promise made to them, as well as giving them the possibility of verifying the conditions of compliance with this promise via certification [15]

In contrast, EVA GIESEN confirms that certification can help in keeping the system active and evolving through its pace of continuous improvement and audits for the follow-up [16].

The success of adopting the principles of quality management is explained by its purpose. Thus, the goals of a Quality Management System, according to S. Faucher, are stated in 3 points: increasing customer satisfaction, enhancing the efficiency of the system and the implemented processes and demonstrating the ability to regularly supply a product that complies with both customers and applicable regulatory requirements [17].

ISO 9001 has the ability to help any size or type of organisation that aims to improve the satisfaction of its customers, enhance its employees' efficiency and establish a framework that leads to an implementation of a long-term strategy which can help to improve security and profitability [18].

Law 09-08: Definition and Issues

A definition of the law 09-08 is necessary before starting its issues, thus: In Morocco, personal data protection is governed by the law 09-08 of 18 February 2009 and by its implementation Decree number 2-09-165 of 21 May 2009. This act defines the rights of the data subjects, the obligations of the data controller, as well as the rules governing the transfer of data abroad. Besides, it establishes the National Personal Data Control and Protection Commission (CNDP) which is the authority responsible for applying and ensuring compliance with the Act 09-08 [19].

Why Become Compliant?

The Moroccan company is required to comply with the law 09-08 to meet the certain challenges: Firstly, the legal sanctions: Legislation in Morocco provides a wide range of sanctions for non-compliance with the law, up to a fine of DH 300,000 and a sentence of 2 years imprisonment. These convictions can be doubled in case of a repeat offense. To this can finally be added damages in case of a complaint from the persons concerned. Secondly, the image impact: It is in the company's interest to avoid any critical damage to its reputation if non-compliance is detected. In addition, compliance is seen as a real lever for image management. Thirdly, the strategic issues: especially for organizations whose core business is handling personal data: telemarketing, call centres, third-party application maintenance, business subcontracting, etc. And fourthly, the compliance with the law 09-08 which will soon be a prerequisite for any business wishing to access data from a European business, whether as part of a trade agreement or as a subcontractor [20].

Thus, the entry into application of the European Regulation on the protection of personal data (GDPR) implies an adaptation on the part of Moroccan operators. Concretely, this new regulation will apply as soon as a European resident is the target of processing of personal data [21].

According to these findings, ISO 9001 standard and the law 09-08 have common objectives:

- ✓ Strengthen the trust of customers (citizens)
- ✓ Improve the performance of the organization

So, the integration of the two models in the QMS can strengthen the performance of the Moroccan company. After these observations we can deduce the following hypothesis: ISO 9001 standard and the law 09-08 present a synergy allowing their integration within the framework of a QMS.

3. Methodology of research

To discuss this approach, we will introduce the development of different personal data protection systems in Morocco in terms of changes and figures while focusing on risks related to the non-compliance. Then we will discuss the development of ISO 9001 certifications and CNDP compliance in order to focus on the level of support of institutions in terms of quality and compliance. Finally, we will discuss some examples of the synergies that exist between the law 09-08 and ISO 9001 standard and that allow the establishment of a system that integrates the requirements of both standards. We used the method of comparative analysis to illustrate this synergy because it plays a fundamental role in the formation of concepts as it allows us to focus on similarities and contrasts among the studied cases [22]. Thus, this comparative analysis is based on an in-depth reading of the latest versions of the law 09-08 and ISO 9001 standards published by their institutional bodies. By extracting the differences and points of convergence between the two standards we can illustrate the existing synergies. In this context, the selected points of convergence presenting a synergy between Law 09-08 and the ISO 9001 standard are brought together with a total quality assessment model in order to ensure that they make it possible to prepare an integrated QMS.

4. Result

Development of ISO 9001 Certification and Compliance with the Law 09-08 in Morocco

One of the most important methods of reassuring customers that their personal data is secure is to have certificates or labels. However, implementing a management system to improve their satisfaction is, correlatively, necessary.

Development of ISO 9001 Certification in Morocco

Any organization has to deal with different market requirements in order to meet the expectations of its customers and partners in order to survive. Establishing an ISO 9001 compliant QMS is considered a pledge of confidence, and to achieve this goal the number of issued ISO 9001 certificates reached 1 056 855 in 2017 according to the study published on the portal of the ISO body.

In a constantly changing market, standardization is considered as one of the crucial tools to establish a continuous improvement approach in an ever-changing market, this approach covers the quality of the services of all the organization's activities. The next two figures show that Moroccan companies focus also on strengthening the notoriety of their products and services by adopting the approach aimed at ISO 9001 certification.

Most recent results of the ISO Study are for 2019. They show an estimate of the number of certificates valid as of December 31st, 2019. Figure 1 shows the development of the number of the issued certificates from 1993 to 2019 [23].

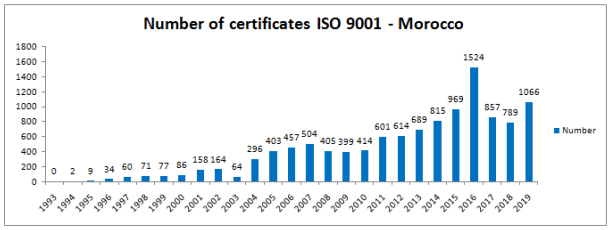

Figure 1: Evolution in number of certificates issued from 1993 to 2019

We notice that there is a constant evolution in the period 1993-2019 except a decline in 2003, 2008, 2009, 2010, 2017 and 2018. From 2010 a steady

evolution allows to reach the peak in 2016 with 1524 certificates. In 2017, we note a significant decrease in Morocco (and also in several countries) the ISO body explains this decrease by the change in the method how data is reported from certain suppliers. However, 2019 witnessed a significant improvement.

In figure 2 the evolution of the number of ISO 9001 certificates in Morocco is illustrated according to the sector of activity, we may note that quality certification concerns especially the service sector [23].

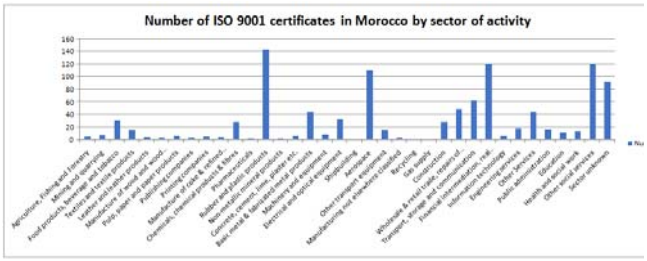

Figure 2: Number of ISO 9001 certificates in Morocco by business sector.

Through these figures we can understand that in Morocco the quality has become more and more a reality and that its evolution is now certain in the most important economic sectors. That's why a question arises about the companies' interest in projects of personal data protection in accordance with the law 09-08.

Evolution of Compliance with the Law 09-08

In Morocco, there are two notification regimes depending on the sensitivity of personal data and their categorization: a declaration regime and a prior authorization request regime. The only source of information belongs to CNDP through its activity reports and newsletters published on its institutional portal. The following figure therefore combines the two regimes [21]:

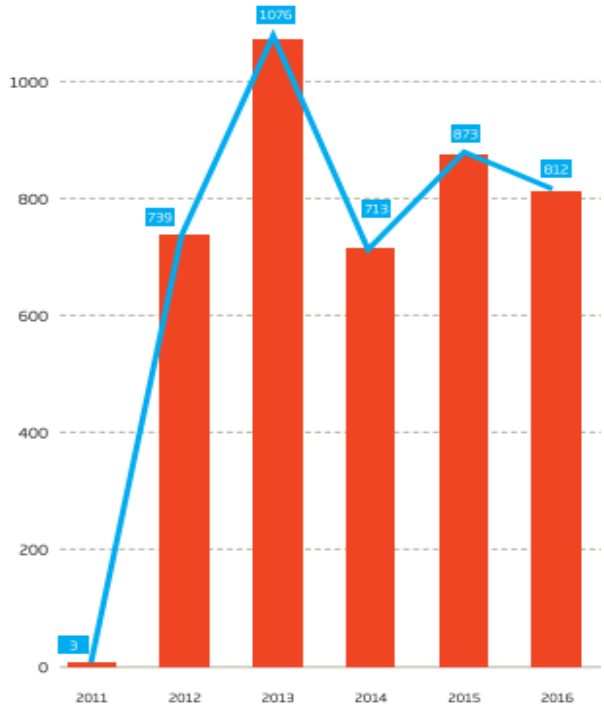

Figure 3: Number of notifications during the period 2011 - 2016

During the period 2011 and 2016, the evolution of notifications peaked in 2013, reaching the record of 1,076 after having posted a discreet figure of 3 in 2011 and having remained under the bar of 800 in 2014. Then the overall number of notifications rose to 812 after reaching 873 in 2015

In 2016, the private sector alone represented 85% of the total number of treatments authorized in 2016. Half of these treatments concerned banks and insurance companies (15%), industrial units (11%), research and consulting firms (10%), IT operators (8%) and the pharmaceutical industry (6%). Regarding the public sector (15% of the total), the authorized treatments benefited public bodies and establishments as well as ministerial departments [21].

The portal does not present the number of notifications in 2017 and 2018, however the year 2019 shows the highest number which reaches 1675 notifications [24]

After 10 years of application, the law 09-08 on the protection of personal data is about to undergo a major improvement. This action is necessary in view

of the emergence of the "digital citizen" and the difficulties linked to its protection. According to the president of CNDP, a review of the law 09-08 has been launched in order to sweep away the necessary constitutive principles and enrich them with feedback from the Commission and with the orientations and inspirations of international standards (in Europe, North America…).
Hence the results of our research highlight the synergy between ISO 9001 Standard and the law 09-08.

Comparative Analysis of ISO 9001 Standard and the Law 09-08

The next tables introduce the results of the comparative analysis based on an in-depth reading and study of the law 09-08 [25] and ISO 9001 [26]. Through these two tables we can point out the differences and points of convergence between ISO 9001 standard and the law 09-08. Then we will be able to state the existing synergies between ISO 9001 standard and the law 09-08.

Table 1: A comparison between the purposes of the Law 09-08 and ISO 9001 standard

	Law 09-08	ISO 9001
Application	This law applies to the processing of personal data, automated in whole or in part, as well as to the non-automated processing of personal data contained or called to appear in manual files	All the requirements of this International Standard are generic and intended to apply to any organization, regardless of its type or size, or the products and services it provides.
Goal	The goal is thus both: - To protect the citizen in the face of practices, some of which already exist (telemarketing, etc.) and which risk is developing at the same time as the use of these IT. - To increase the level of confidence of international partners, in particular European ones, in order to facilitate the influx of foreign investment and the transfer of services to Moroccan territory.	This International Standard specifies the requirements for the quality management system when an organization: a) must demonstrate its ability to consistently provide products and services in accordance with customer requirements and applicable legal and regulatory requirements, and b) aims to increase customer satisfaction through the effective application of the system, including processes for improving the system and ensuring compliance with customer requirements and applicable legal and regulatory requirements.

Table 2: Summary of results about the synergy between the law 09-08 and ISO 9001 standard

Criterion	Synergy with ISO 9001 chapters
Definition of the scope of application	The scope of application required by ISO 9001 may include the treatments to be declared to CNDP.
Records and documentation management	Detected synergy: - Point (b) can be dealt with under chapter 7.5.1 b) - Point (c) can be dealt with under chapter 7.5.2 - c) - Points (d) and (e) can be dealt with under chapter 7.5.3
The risk-based approach	Actions associated with putting in place appropriate technical and organizational measures to protect personal data may be processed under 6.1.2 b) 1) The actions to assess the appropriate level of safety with regard to the risks

	presented can be dealt with under 6.1.2 b) 2)
The logic of control and audit	Plan and execute the controls defined in Article 24 in accordance with the requirements of 9.2
The logic of continuous improvement	The logic of continuous improvement that manifests itself indirectly in the periodic review required by Article 24 converges on the PDCA model.
Roles, responsibilities and authorities	The obligations of data controllers can be dealt with in the context of 5.3
Communication	Communication to data subjects can be dealt with under 7.4
Service provider management	Point 1 can be dealt with under 8.4.1 Point 2 can be dealt with under 8.4.2

5. Discussion

Based on the data put forward, we see that Morocco is at the dawn of an important change which manifests itself in the following aspects:

- ✓ Accelerated change for the protection of personal data: this change is demonstrated by the figures presented, particularly in terms of the number of notifications
- ✓ The law 08-09 converges with the European GDPR regulation. This is an opportunity for companies targeting the European market
- ✓ Morocco has experienced very significant development in terms of the acquisition of ISO 9001 certificates. The rate of progress is positive despite a few periods of decline.

Through all of these facts, we can detect questions that may affect negatively customers satisfaction or rather their confidence in the products and services offered by companies, mostly in terms of personal data protection. That's why companies should give more satisfaction and confidence to their customers by setting up an efficient QMS that ensures the quality and security of customer data. It is through ISO 9001 certification and compliance with the law 09-08 that the latter can refer to recognized rules in terms of quality and compliance.

Thus, when we compare the data in Table 1, we can notice that the law 09-08 and ISO 9001 standard are created by different organizations for different purposes, thus:

- The law 09-08 is presented as a law aimed at strengthening the protection of personal data in Morocco
- ISO 9001 standard is international. It constitutes a guide for the management and organizing an organization, but without providing a rigid solution. So, it is up to the organization to adapt it to its best practices and business requirements and its own culture as well

Nevertheless, the hypothesis is verified as Table 2 highlights the synergy sought which manifests itself in the following criteria:

- Determination of the scope of application
- Records and documentation management
- The risk-based approach
- The logic of control and audit
- The logic of continuous improvement
- Roles, responsibilities and authorities
- Communication
- Provider management

In this context, and in order to ensure that the 8 selected criteria make allow to prepare an integrated QMS, we propose to compare them with a total quality assessment model. This reflection is justified by the fact that it is commonly accepted that the implementation of total quality management (TQM) is the main factor for the long-term success of an organization and that the TQM forms the system of quality management, the implementation of which is the most appropriate, making it possible for companies to build a competitive advantage. We have chosen the EFQM model because it is based on the principles of TQM and implies a desire for constant progress. Thus, the name "TQM models" evolved after the creation and distribution of the Malcolm Baldrige model and then the EEM. The term "TQM models" has become "models of excellence". The goal of this gradual name change is for many researchers to use the terms as if they were interchangeable, which has sparked a discussion in academia about whether models of excellence share

the same philosophy as models. TQM and, ultimately, whether they are the same. [27].

In this context, we have prepared a correspondence of the selected criteria with the sub-criteria of the EFQM excellence model [28] based on the ISO 9001 chapters

EFQM	Leadership		Strategy			People	Partnerships & Resources		
	1a	1b	2a	2c	2d	3d	4a	4b	4e
Determination of the scope of application	4.3	4.3	4.3		4.3				
Records and documentation management				7.5	7.5	7.5			
The risk- based approach		6.1		6.1			6.1		
The logic of control and audit		9.2		9.2		9.2		9.2	9.2
The logic of continuous improvement		10.3		10.3					10.3
Roles, responsibilities and authorities		5.3			5.3				
Communication					7.4	7.4			
provider management									8.4

EFQM	Processes, Products & Services			Customer Results		Business Results	
	5a	5b	5c	6a	6b	9a.	9b
Determination of the scope of application		4.3					
The logic of control and audit				9.2	9.2	9.2	9.2
The logic of continuous improvement		10.3		10.3	10.3	10.3	10.3
provider management	8.4	8.4	8.4				

Hence, we can say that the selected criteria converge towards the Principles of Total Quality. So these criteria help the manager to design an integrated QMS that meets the requirements of ISO 9001 and law 09-08

We conclude that even the purposes between the law 09-08 and ISO 9001 are distinct there are some existing synergies. Thus, having a QMS based on the law 09-08 and ISO 9001 is crucial given that ISO 9001 standard provides a valuable guide for the organization and governance of any company or institution including those interested in the protection of personal data, it allows to emerge a governance model that includes all the measures of data protection considered necessary by an organization for its compliance with the law 09-08.

6. Conclusion

Like all countries in the world, Moroccan small and medium-sized enterprises (SMEs) contribute to Morocco's productive dynamic, constitute the core of the national industry and participate positively in economic growth, job creation and regional and local development. However, the health crisis and the exceptional measures imposed as a result have negatively impacted the Moroccan economy. Thus, 72% and 26% respectively of production units temporarily or permanently shut down in April were VSB (very small businesses and SMEs) [29]. Beyond this regression, the Covid-19 pandemic has greatly changed the situation. In view of the social distancing and confinement measures imposed, the use of digital has reached unprecedented proportions. In addition, the disruptive changes linked to digitization offer still unexplored opportunities for industrial and economic development. To accelerate the digital transformation, Morocco has adopted a user-centred approach (citizen and company), the vision of Digital development aims to establish Morocco as a reference Digital & Technological Hub at the African level, with in particular a significant evolution in the United Nations Online Service Index ranking (objective to be part of the top 3 in Africa and to be among the top 40 globally); and the installation of more than 2,500 start-ups over the next five years [30]. In this perspective, digital transformation can be an accelerator of economic growth and economic competitiveness in Morocco,

especially among SMEs and VSB. With this in mind, Casablanca has switched to Big Data to improve services to citizens, with the establishment of "Casa Urban Platform", a technological platform that will allow the city to acquire, ingest, standardize and data analysis of different types.

Thus, to the countless benefits of information and communication technologies, the challenge of protecting privacy and in particular personal data is now opposed. This challenge has a correlative impact on the confidence and satisfaction of customers who have indirectly activated the progressive adherence of Moroccan companies to the ISO 9001 certification process. Nevertheless, the Moroccan company is upset to confirm itself with the law 09-08 which imposes heavy sanctions in case of non-compliance with the applicable requirements, which has involved changes in the processing operations declared to CNDP, particularly in 2019. To this end, a good manager is required to certify his company according to the ISO 9001 standard in order to demonstrate his ability to respond to the requirements of its customers while taking advantage of this law to establish the brand image of its company and conquer the European market, since this law presents a convergence towards the GDPR regulation. The implementation of these two projects proves to be cumbersome for managers of SMEs given the limited capacity of these types of companies, hence our contribution which aims to demonstrate to the manager of the company that even if the purposes between Law 09-08 and the ISO 9001 standard are distinct but synergies exist, so he can consider a QMS integrating their requirements simultaneously. This synergy manifests itself in the following criteria:

- Determination of the scope of application
- Records and documentation management
- The risk-based approach
- The logic of control and audit
- The logic of continuous improvement
- Roles, responsibilities and authorities
- Communication
- Service provider management

Thus, the evolving figures in terms of ISO 9001 certification and compliance with Law 09-08 clearly demonstrate that managers are aware of the positive benefits offered by ISO 9001 and Law 09-08, which are considered a competitive advantage which helps establish the brand image and constitutes the entry point to the European market. The ISO 9001 standard constitutes a guide for the management and organization of bodies including those interested in the protection of personal data, without defining ready-made solutions. So, everyone can adapt it to their culture and their own good practices. In this context, the ISO 9001 standard allows a governance model to emerge that includes the data protection measures deemed necessary by an organization for its compliance with Law 09-08. In this regard, the company is required to adopt a strategy aimed at having a QMS compliant with ISO 9001 and Law 09-08 in order to reflect the guarantee of the quality and security of customers' personal data, which positively impacts their level of confidence and satisfaction. In this context, our contribution will be reinforced by our next study which will aim to develop a system integrating the requirements of the ISO 9001 standard and the 09-08 law in order to facilitate the development of an integrated QMS oriented towards compliance and stakeholder satisfaction, especially customers.

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