



RESEARCH ARTICLE

Analysis of Quality Management Systems in Moroccan Agri-Food Companies

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ARTICLE INFO	ABSTRACT
Received: Sep 16, 2024 Accepted: Nov 5, 2024	This paper presents an exploratory study of Moroccan agri-food companies' perceptions of Quality Management System (QMS) implementation. The study surveyed employees working in Moroccan companies to assess their perception of the concept of quality, the quality management system, success factors and obstacles to its implementation. It concludes that the establishment of a performance-driven organization, employee motivation and shared values are the key success factors for the implementation of this quality management system in Moroccan agri-food companies.
Keywords	
Quality Quality management systems Certification	
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ABBREVIATIONS

EFQM : European Foundation for Quality Management

ISO : International Organization for Standardization

SMQ : Quality Management system

KSF: Key success factors

INTRODUCTION

In Morocco, the implementation of quality management systems (QMS) goes back some 30 years from 2 certificates in 1994 (Badr Dakkak et al., 2012) to 1191 ISO 9001 certificates in 2021 (ISO survey, 2021). This development remains timid in relation to the number of active companies in Morocco, which stands at 317 057 active companies (OMTPME, 2023; Al-khresheh et al., 2023).

Often, the implementation of a QMS is seen as an imposition of company management on employees. Management often demands the implementation of this system, encountering resistance from

employees to engage in habitual change (Alain, 2008; Souabou, 2020; Riouch et al., 2024). This resistance leads to the failure of the entire QMS (Alain, 2008; Souabou, 2020), and generates a failure in its implementation (Benlamlih et al., 2024).

In the Moroccan food sector, only 30 Moroccan companies are certified to ISO 9001 (ISO survey, 2021) out of a total of around 2,000. This figure represents a rate of 1.5% of certified companies in 2021 in Morocco. This low rate prompts us to study certified food companies according to their perception of the Quality Management System (QMS), and to identify the success factors and obstacles to implementing this quality system.

In this context, the aim of this paper is to examine the reasons for QMS implementation in Moroccan food companies. It explores the success factors and obstacles to implementing an effective QMS in these companies. To achieve this objective, the 1st section of this paper presents the theoretical background of QMS and their impact on company performance, the 2nd section presents the methodology of the exploratory study carried out to examine the implementation of QMS in food companies in Morocco. The 3rd section of the paper presents the results of the exploratory study, concluding with a discussion of the findings

QMS and company performance: theoretical background

ISO 9001 standard is regarded as an important instrument that enables organizations to define procedures and processes to achieve performance (Andreas et al., 2018; Jam et al., 2016).

The first version of ISO 9001 was proposed in 1987. It aimed to provide guidelines for an international QMS model (ISO9001V2015). This version of the standard was revised in 1994, 2000, 2008 and 2015. This evolution emphasizes the importance of customer focus, process approach, context analysis, leadership and risk (ISO 9001, 2015).

According to ISO 9000 version 2015, the quality management system comprises the activities the organization uses to identify its objectives and determine its processes and resources needed to achieve the desired results (ISO9001V2015).

The QMS defines the processes and their interactions, as well as the resources needed to deliver value and achieve results for the stakeholders concerned (Benlamlih et al.,2024). It enables management to optimize the use of resources, taking into account the short- and long-term consequences of its decisions (Benlamlih et al.,2024).

Quality management system performance is mainly measured by indicators. These indicators are a tool for measuring the effectiveness and performance of the quality management system.

QMS performance depends on several factors. Carneiro et al (2021) highlight four key factors as key aspects of successful QMS performance. These are process management, top management, customer orientation and employee involvement, factors that will be questioned in the course of this research (Ilkay and Aslan, 2012). These factors are complemented by supply quality management and continuous improvement, according to Tari (2005).

The QMS performance axis is a criterion used in the model developed by the European Foundation for Quality Management (EFQM model, 2024). It is one of the pillars of QMS implementation results ((Psomas et al., 2015); (Ida et al., 2021)). Thus, the effectiveness of the QMS depends on the quality of the objectives defined and measured by process. It is seen as a tool for achieving organizational objectives (Gremyr et al., 2021; Al-khresheh et al., 2021).

In the same context, Lenning and Gremyr, (2017) specify that the QMS must add value to the organization and that the disadvantages for QMS implementation could be documentation requirements and process rigidity.

In addition, the 2015 version of ISO 9001 states that the quality of an organization's products and services is determined by its ability to satisfy customers. It is also measured by the intended and unintended impact on relevant stakeholders (Benlamlih et al.,2024).

Thus, product and service quality include not only intended function and performance, but also the value and benefit received by the customer. Quality is an ideal that encompasses a set of principles and methods for managing the company to anticipate and satisfy customer needs in compliance with standards (Benlamlih et al.,2024).

Indeed, quality culture is a struggle within the quality management system (Ross, 2021). In this sense, top management must understand the benefits, keys to success and obstacles to implementing the QMS in order to promote this system within the company. This understanding is not guaranteed, and could explain the small number of certified companies in Morocco.

With this in mind, the following section presents an exploratory study of the success factors and obstacles to QMS implementation in agri-food companies in Morocco.

METHODOLOGY OF THE EXPLORATORY STUDY

With the aim of analyzing the key success factors and obstacles to QMS implementation within agri-food companies in Morocco, we have carried out a qualitative empirical study based on the Barometer of Quality in Organizations as confirmed by the literature ((PyX4,2018); (Ismail et al.,2020); (Souabou, 2020); (Napitupulu,2018)).

This exploratory study is carried out by means of a questionnaire divided into four main themes. These are:

- Respondent profiles and company certification status
- Perceptions of quality management systems
- Obstacles to implementing management systems
- Key factors in QMS implementation

This exploratory study is being carried out among Moroccan agri-food companies. We targeted 100 agri-food companies over a 9-month period from January to September 2022 in the Greater Casablanca region. Out of 100 questionnaires distributed, we received responses from 60 companies, including small and medium-sized enterprises as well as large multinationals.

RESULTS AND DISCUSSIONS

Respondent profiles and company certification status

Organization size

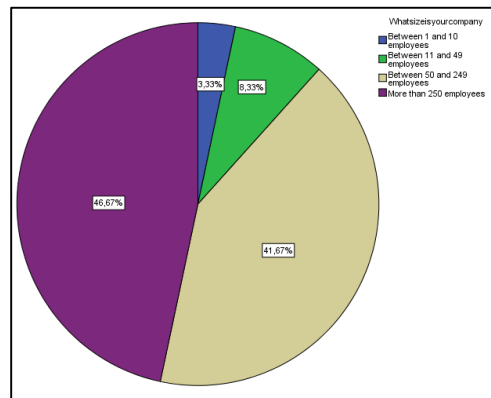


Figure 1 : Company size

Figure 1 shows that 46.6% of companies surveyed have more than 250 employees, followed by 41.67% with between 50 and 249 employees, 8.33% with between 11 and 49 employees and 3.33% with fewer than 10 employees.

Interviewee's affiliation department

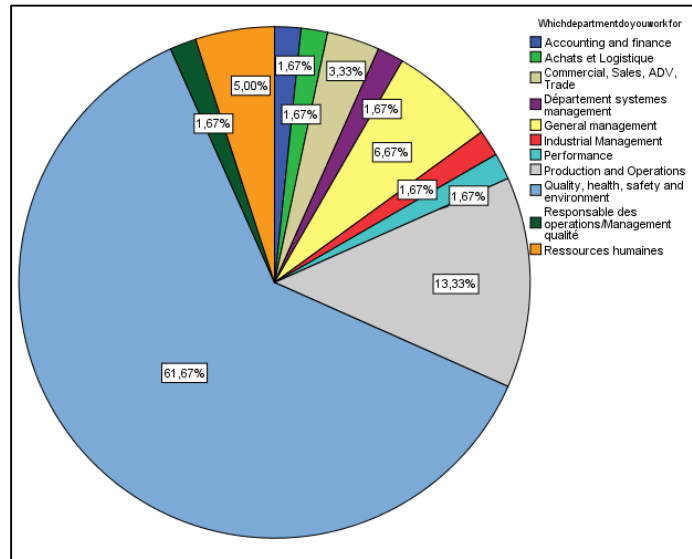


Figure 2 : Interviewee's affiliation department

The results in Figure 2 show that 61.67% of respondents are affiliated with the quality, safety, health and environment department, followed by 13.33% with the production and operations department, 6.67% with general management and 5% with the human resources department.

Type of position in the quality department

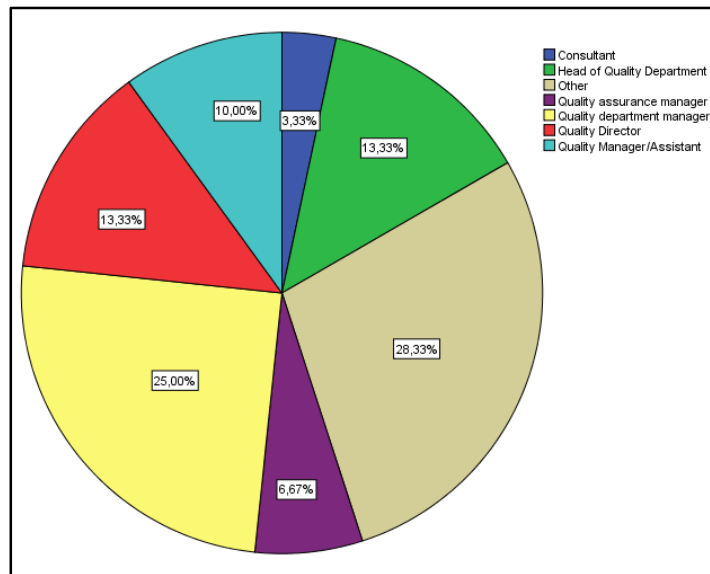


Figure 3 : Type of position in the quality department

As for the type of position in the quality department, Figure 3 shows that 25% of those interviewed are quality department managers, followed by 13.33% who are quality directors or quality department managers, 6.67% are quality assurance managers and 3.33% are consultants.

ISO9001 Certification

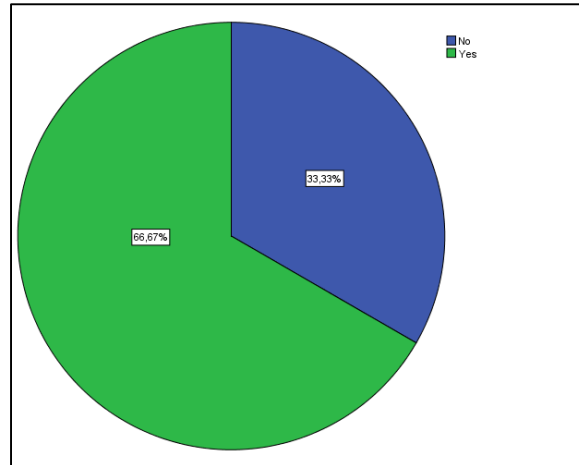


Figure 4 : ISO9001 certification

Figure 4 shows that 66.67% of the agri-food companies surveyed are ISO 9001 certified, compared with 33.33% of those who are not.

Type of certification within the company

Table 1: ISO 9001 and ISO45 000 certification

Cross table				
		ISO 9001		Total
		No	Yes	
ISO 45001	No	20	34	54
	Yes	0	6	6
Total		20	40	60

Table 1 shows that only 10% of companies surveyed hold both ISO 9001 and ISO 45000 certification, while 66.66% are certified to ISO 9001 only

Tableau 1 : ISO 9001 and ISO14 000 certification

Cross table				
		ISO 9001		Total
		No	Yes	
ISO 14001	No	19	32	51
	Yes	1	8	9
Total		20	40	60

Table 2 shows that only 13.33% of the companies interviewed have both ISO 9001 and ISO 14000 certification, compared with 53.33% of companies that are only ISO 9001 certified.

Table 2 : ISO 9001 and ISO22 000 certification

Cross table				
		ISO 9001		Total
		No	Yes	
ISO 22000	No	2	4	6
	Yes	18	36	54
Total		20	40	60

Table 3 shows that 60% of the companies surveyed are both ISO 9001 and ISO 22000 certified, compared with 30% who are only ISO 22000 certified

Perceptions of quality management systems

Quality concept

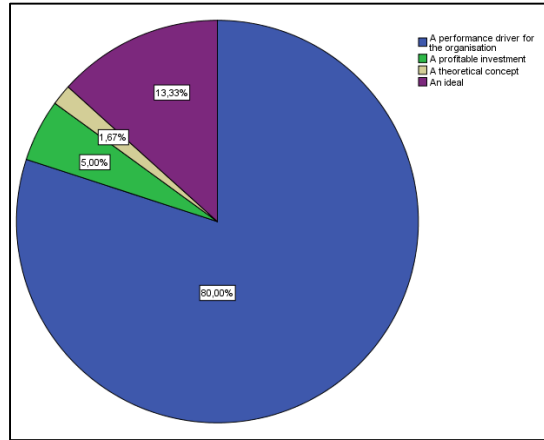


Figure 5 : Quality concept

Figure 5 shows that 80% of respondents unanimously agreed that the concept of quality is a lever for organizational performance, 13% felt that the concept of quality is an ideal, 5% of respondents considered it a profitable investment, while the rest regarded it as a theoretical concept.

In this context, Souabou (2020) points out that quality is the area of search for a managerial ideal that requires sacrifices on the part of workers (Souabou, 2020).

This result demonstrates that respondents are aware of the importance of quality in their day-to-day work as a performance lever par excellence. Furthermore, Souabou (2020) points out that quality is the domain of the search for a managerial ideal that requires sacrifices on the part of workers (Souabou,2020). As for the 5% who consider quality to be a profitable investment, this result is significantly and positively related to employee and company performance measures (Sadikoglu and Zehir, 2010).

Quality management system definition

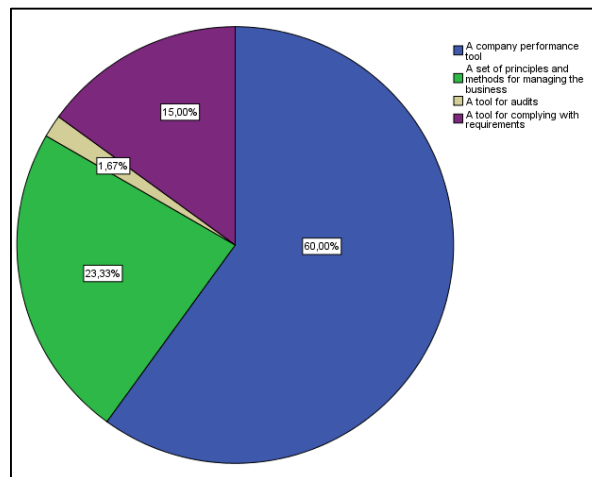


Figure 6 : Quality management system definition

From Figure 6, we can see that 60% of the companies surveyed consider the QMS to be a company performance tool, 23.33% consider it to be a set of principles and methods for company management, and 15% consider it to be a tool for compliance with requirements.

According to the results of this exploration, we can formulate the definition of the quality management system as follows: “The Quality Management system is an organizational performance tool based on a set of principles and methods for managing the company to comply with the requirements of standards” (Benlamlih et al.,2024).

Reasons of QMS certification

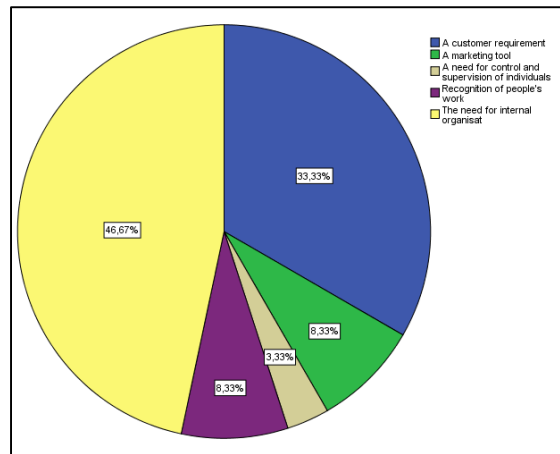


Figure 7 : Reasons of QMS certification

Figure 7 shows that 46.67% of companies surveyed consider certification to be an internal organizational requirement, followed by 33.33% who see it as a customer requirement, and 8.33% who see it as recognition of people's work or as a marketing tool.

Scope of company's certification

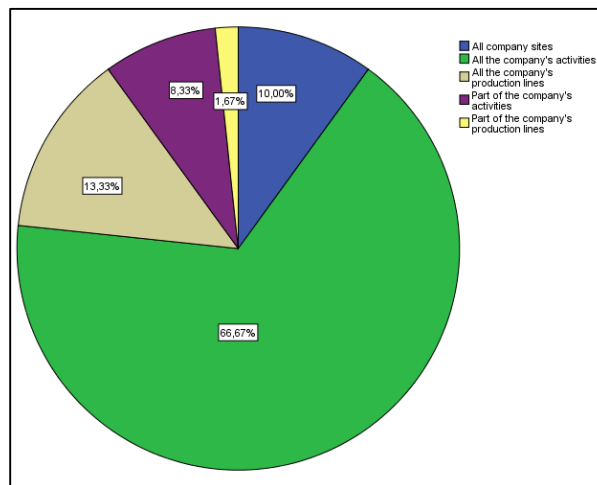


Figure 8 : Scope of company's certification

Figure 8 shows that 66.67% of companies apply ISO 9001 for all company activities, followed by 13.33% for all company production lines, 10% for all company sites and 8.33% for all company production lines.

Obstacles to the implementation of management system

Main obstacles to implement QMS

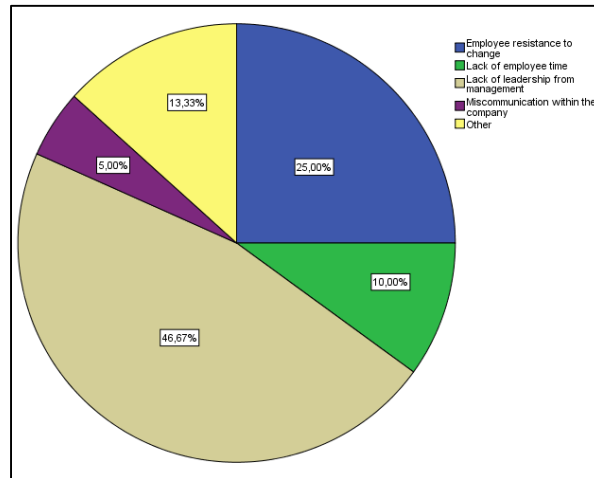


Figure 9 : Main obstacles to implement QMS

With regard to the obstacles to QMS implementation in the companies surveyed, Figure 9 shows that 46.67% of obstacles are due to a lack of management leadership, followed by 25% due to employee resistance to change. This obstacle attracts the attention of several researchers, who state that management must raise and communicate its awareness of the objective of implementing the QMS (Zelnik et al.,2012). In this sense, Coo and Verna (2002) note that employee perception of the QMS has an impact on service quality. The authors also point out that strong managerial leadership plays a part in promoting quality management as a success factor for improving employee perception of the QMS (Coo and Verna, 2002). Thus, managers need to Accepts the opportunity to act as a leader to influence employee’s behaviours and demonstrate what can be achieved through the quality management (EFQM model, 2024).

Main obstacles to company management system certification

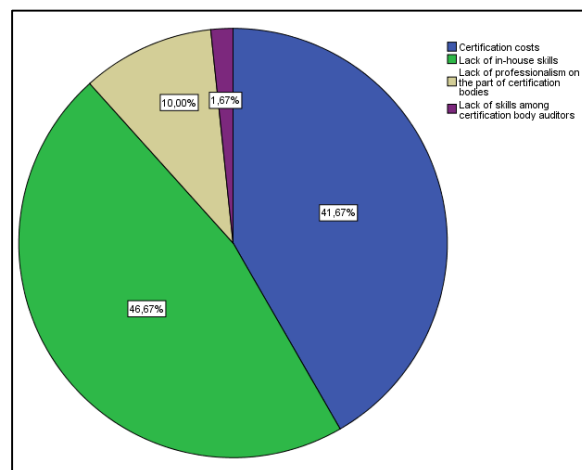


Figure 10 : The obstacles to ISO 9001 certification

Figure 10 shows that 46.67% of the obstacles to ISO9001 certification costs are due to a lack of in-house expertise, followed by 41.76% to the cost of certification, 10% to the lack of professionalism of the certification bodies, and the remainder to the lack of expertise of the certification bodies' auditors.

The failure of management systems

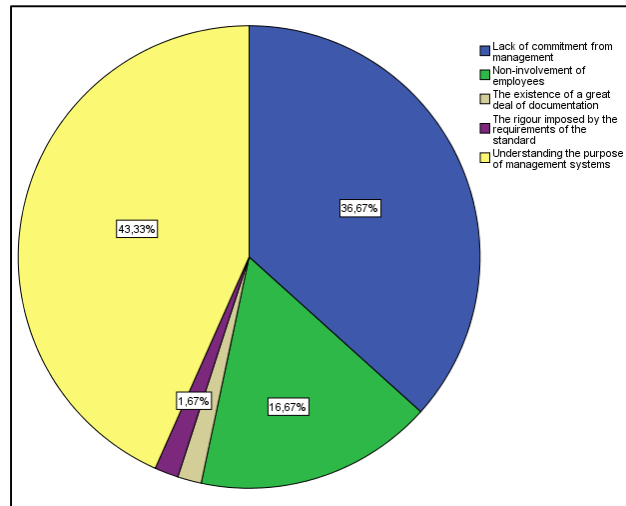


Figure 11 : causes of QMS failure

Figure 11 shows that 43.33% of the causes of QMS failure in companies are due to a lack of understanding of the purpose of management systems, followed by 36.67% due to a lack of management commitment, 16.67% due to the non-involvement of employees and 1.67% due to the large amount of documentation required to implement the QMS. In this sense, Lenning and Gremyr (2017) assert that documentation negatively influences the way management views the QMS, and that simplifying documentation could involve employees more in the QMS and make their involvement more effective.

Quality culture within the company

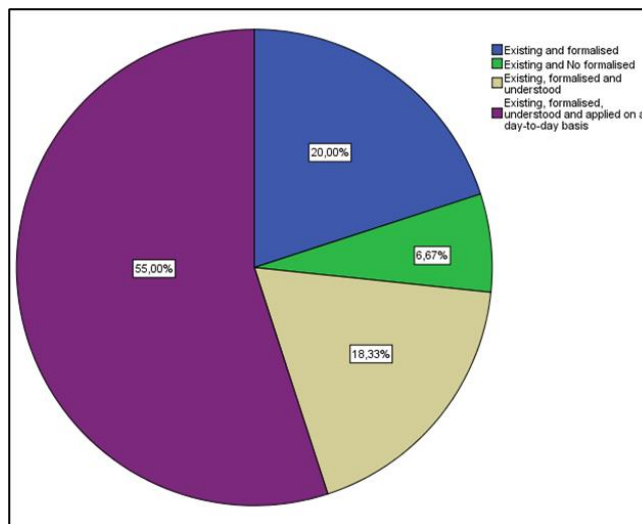


Figure 12 : Quality culture within the company

According to Figure 12, 55% of companies surveyed affirm the existence, formalization and daily application of this culture, followed by 20% who declare that the quality culture is only existing and formalized, while 18.33% affirm that the quality culture is existing, formalized and understood without daily involvement.

Promoting a quality culture in your company

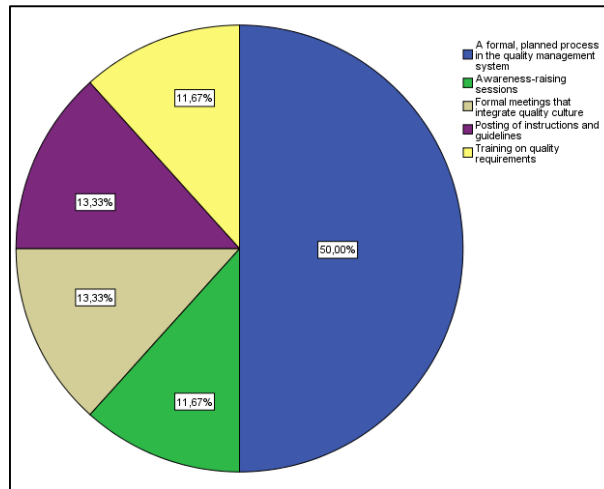


Figure 13 : Promoting a quality culture in your company

Figure 13 shows that 50% of companies surveyed promote quality as a formal, planned process in the quality management system, while 13.33% promote quality culture by posting instructions or formal meetings incorporating quality culture, and 11.67% use quality training or awareness-raising sessions.

Effects of QMS implementation

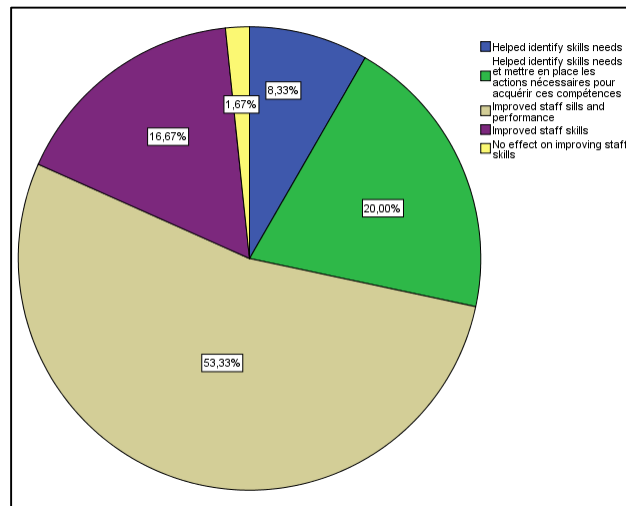


Figure 14 : Effects of QMS implementation

With regard to the effects of QMS implementation in the companies surveyed, we find that 53.33% of companies claim that the implementation of a QMS helps to improve staff skills and performance, and only 1.67% of companies claim that the implementation of a QMS has no effect in improving the skills of the company's staff. Indeed, Carneiro et al (2021) and Lenning and Gremyr (2017) report that most companies perceive a positive relationship between ISO 9001 certification and employee learning growth. The authors state that QMS adds values to organizations, and that employee development skills are one of these values.

Keys to successful QMS implementation in companies

Commitment to quality

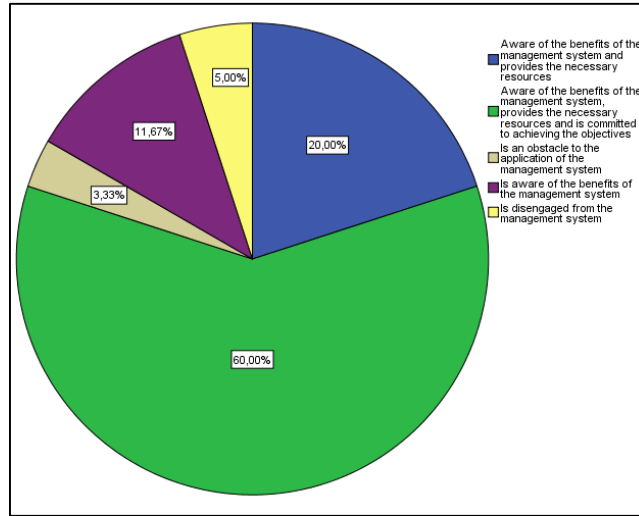


Figure 155 : Commitment to quality

Figure 15 shows that 60% of the companies interviewed provide the necessary resources and are involved in achieving objectives, 20% are aware of the benefits of the management system and provide the necessary resources. 11.67% are aware of the benefits of the quality management system, and the remainder are disengaged or have reservations about implementing the QMS.

Involving people in the quality management system

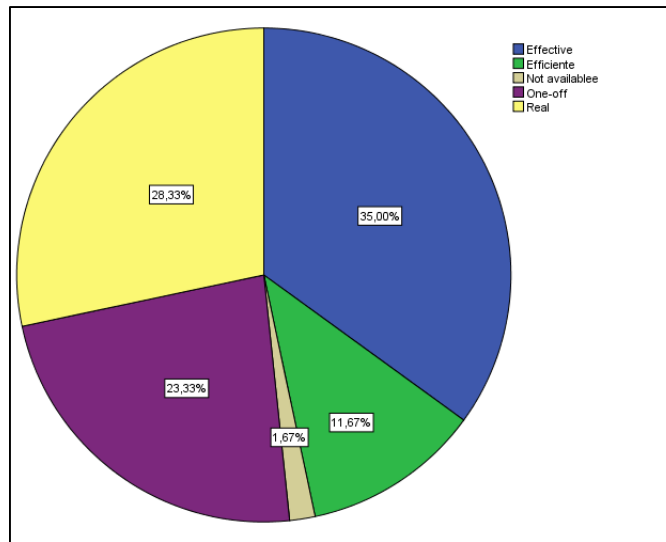


Figure 16 : Involving people in the quality management system

Figure 16 shows that 35% of companies surveyed are effectively involved in the QMS, 28.33% are actually involved in the QMS, 23.33% are involved on an ad hoc basis and 11.66 are involved in an effective manner.

The company's quality policy

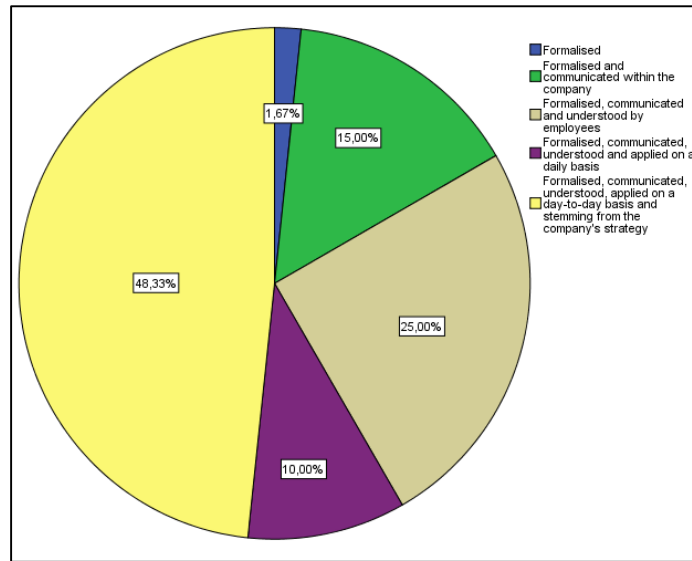


Figure 167 : The company's quality policy

Figure 17 shows that 48.33% of companies have a quality policy that is formalized, communicated, understood, applied on a daily basis and emanates from the company's strategy, followed by 25% of companies whose quality policy is only formalized, communicated and understood by employees, then 15% of companies whose quality policy is formalized and communicated by the company, and 10% of companies whose quality policy is only formalized, communicated, understood and applied on a daily basis.

Quality objectives defined in the management system

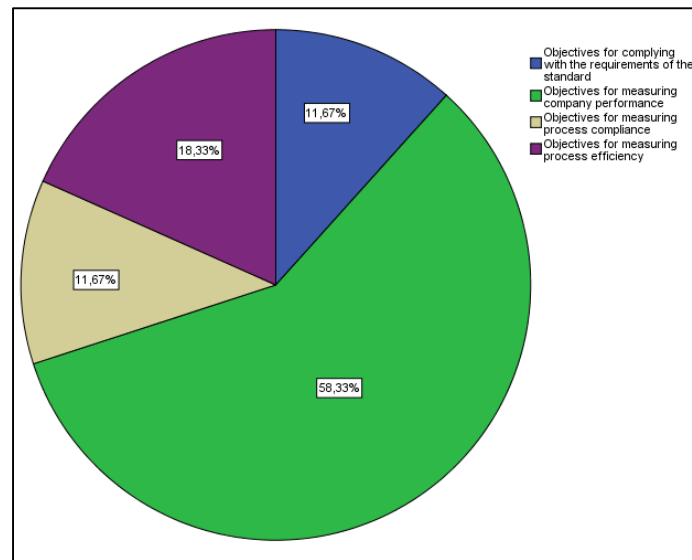


Figure 178 : Quality objectives defined in the management system

From Figure 18, we can see that 58.33% of companies apply quality policy for the purpose of measuring company performance, followed by 18.33% of companies who use quality policy for the purpose of measuring process efficiency, and 11.67% of companies who apply quality policy for the purpose of measuring process conformity or complying with ISO 9001 requirements.

QMS process management

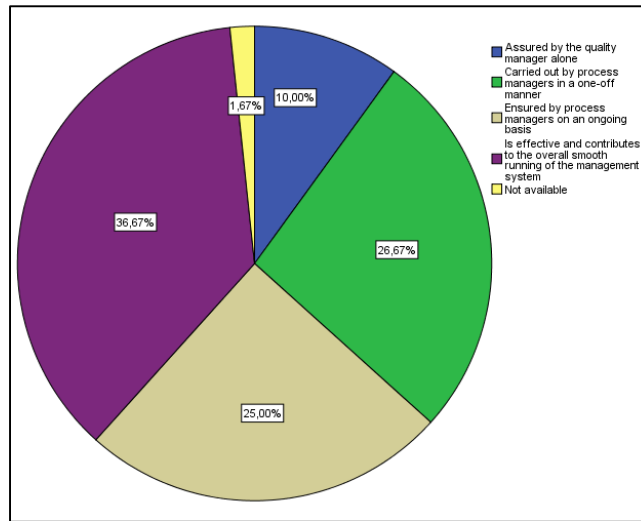


Figure 189 : QMS process management

Figure 19 shows that 36.67% of the companies surveyed stressed that process management is effective and contributes to the overall smooth running of the management system, followed by 26.67% of companies where process management is carried out by process pilots on an ad hoc basis, then 25% of companies affirmed that process management is carried out by process pilots on a permanent basis, 10% is carried out by the quality manager alone and 1.67% of companies where process management is non-existent.

The main benefit of certifying your company's management systems

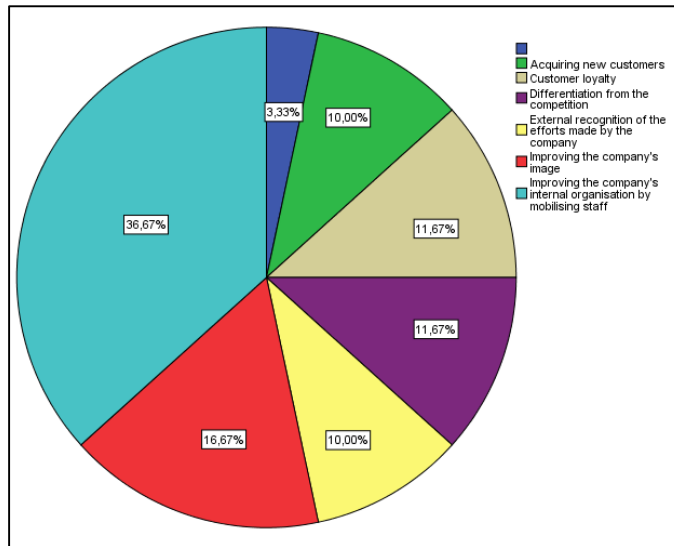


Figure 20 : Main benefits of QMS certification

Figure 20 shows that 36.67% of companies use certification to improve their internal organization through staff mobilization, followed by 16.67% whose certification helps improve their brand image, 10% whose certification helps them acquire new customers or external recognition of the company's efforts, while 11.6% of companies use certification to build customer loyalty or differentiate themselves from the competitors.

QMS success factors in companies

To identify the key success factors of Moroccan agri-food companies, we asked interviewees to rank the key success factors of their company's management system in order of importance. The choice was made out of ten key success factors, the results of which are shown in Table 4.

Table 3 : Key success factors for QMS implementation

Key success factor	Percentage
Demonstrated management leadership	91%
Employee involvement	88%
Clear definition of responsibilities and authorities	84%
Staff training and support on system requirements	82%
Clear, fluid communication within the company	82%
Regular internal audits	81%
Regular performance meetings	80%
Regular process reviews	77%
Digitizing the management system	69%
Existence of an integrated business management system that includes all standards	68%

From Table 4, we can see that the 1st key to success in implementing the QMS is the leadership shown by management, with a percentage of 91% of assertions, followed by employee involvement with 88% of assertions, then the clear definition of responsibilities and opportunities with 84% of assertions. In 3rd place, we find the factors of clear definition of responsibilities and opportunities and staff training and support on system requirements with a percentage of 82% affirmation. In 4th place were regular internal audits, followed by regular performance meetings. Regular process reviews, digitization of the management system and the existence of a business management system are also key factors in the successful implementation of QMS in companies. His findings concur with those of Ingason 2014, who identifies management support and direct employee involvement as key success factors for QMS implementation. This is reinforced by the findings of Yahya and Goh (2001), Zeng et al,(2007), Sampaio et al,(2009) and Alnajjar and jawad(2011).

CONCLUSION

Implementing a quality management system is a process of change in any company. The success of this process depends on the leadership adopted by management and employees.

The quality management system is an organizational performance tool based on a set of principles and methods for managing the company to comply with the requirements of standards.

In this context, this paper explains the concept of quality, the concept of the quality management system and compares these definitions with the essential principles and vocabulary of the ISO9001v2015 quality management system standard. In this paper, we analyze the benefits of QMS implementation, the obstacles to implementation and the main advantages of QMS certification, in order to identify the key factors for successful QMS implementation.

The quality management system is seen as a corporate performance tool, based on a set of principles and methods to ensure that company management complies with requirements.

The key success factors of the management system can be summed up in the leadership demonstrated by top management, the involvement of employees in the management system, and a management system builds on purpose, vision and strategy of the organization (EFQM model, 2024).

It should be noted that a clear explanation of the purpose of management systems will foster senior management commitment and employee involvement, and thus improve employee skills and organizational performance.

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