



RESEARCH ARTICLE

Quality Culture As A Prerequisite For Certification: the Case Of Moroccan Agri-Food Companies

Imad Benlamlih^{1*}, Samya Mensouri², Yasmine Benhoussa³, Karima Mohtadi⁴, Rachid Saïle⁵, Anass Kettani⁶

Biology and Health Laboratory, Faculty of Sciences Ben Msick, Hassan II University of Casablanca, Morocco. Avenue Cdt Driss EL Harti B.P 7955, Sidi Othmane, Casablanca, Morocco.

ARTICLE INFO	ABSTRACT
<p>Received: Oct 27, 2024</p> <p>Accepted: Dec 18, 2024</p> <p>Keywords</p> <p>Quality, quality management system Quality culture Organizational values Linguistic worldview</p> <p>*Corresponding Author imad.benlamlih@gmail.com</p>	<p>This article studies the implementation of a quality culture as a prerequisite for the certification of Moroccan agri-food companies to the ISO9001:2015 standard. It explores the perception of quality culture among the employees of these companies, as well as the key factors and obstacles to the implementation of this quality culture. Exploratory qualitative study on a sample of 60 agri-food companies in Morocco. The results of this paper show that the implementation of a performance-oriented organization, continuous training, remuneration, motivation and shared values among employees are the key success factors for developing a quality culture in the companies surveyed. Whereas employee resistance to change. Lack of time and lack of understanding of the management system are the main obstacles to implementing a quality culture in agri-food companies in Morocco. Measuring the implementation of quality culture, especially ISO 9001:2015 in agri-food companies in Morocco.</p>

INTRODUCTION

According to the EFQM model (2021), an organization's culture is defined as a set of shared values and norms that shape the way its members interact with each other and with external stakeholders over time (EFQM, 2021).

In 2009, Godelier identified four characteristics of organizational culture. These are the effect of history, material elements (techniques, practices and languages), ideal elements (representations, values) and culture as a collective phenomenon that is inscribed in the unconscious of the members of a social group (Godelier, 2009).

According to Wolniak (2017), organizational culture has a major impact on the quality culture in companies. It can promote the implementation of the quality management system or be an obstacle to its implementation (Wolniak, 2017).

For their part, Kanji and Wallace (2000) assert that the quality culture is a dynamic enterprise in perpetual change. This culture evolves and goes through stages that correspond to the maturity of the organization and the assimilation of this culture by employees (Kenji and Wallace, 2000).

The perception of the quality culture in companies is therefore essential for assessing the starting point of any continuous improvement approach (Benlamlih et al., 2024). This culture is not only a documented process, but also an improvement project and a process aimed at influencing the values, beliefs and behaviors of employees.

This paper explores the implementation of quality culture in Moroccan companies.

It first presents the theoretical context of quality culture in companies, then explores the key success factors for implementing quality culture in Moroccan companies, and concludes with the obstacles and barriers to implementing this culture.

1. Quality culture in companies: theoretical background

Quality is an ideal which translates into a set of business management principles and methods for anticipating and responding to customer needs by complying with standards (Benlamlih et al., 2024).

According to Walkstein (2011), the quality paradigm marks people emotionally and cognitively. It is an unexpected label for a source of latent anxiety, which itself ends up feeding its own constructs through a largely negative emotional and perceptual halo (Walkstein, 2011).

Establishing a quality-oriented culture is one of three performance stages of ISO9000 implementation (Kim and Kumar, 2011), they state that companies should focus on topics like leadership, training, involvement of all employees, provision of resources, customer orientation and quality-oriented culture (Ingason, 2015)

Faced with a competitive environment, companies implement QMSs to standardize their processes in order to provide the right service or product with the right quality, on time and at the right price (Benlamlih et al., 2024).

Thus, Wolniak (2012) presents quality culture as a whole by being a particularly quality-focused section. He stresses that to succeed in the quality approach, company managers must believe in quality approaches and disseminate values related to quality (Benlamlih et al., 2024).

The quality culture must be included in the company's strategic orientations. It is a key element of the quality policy, which must be broken down into key performance indicators and a clear action plan for its implementation (Benlamlih et al., 2024).

Quality culture comprises several factors, including participation, employee empowerment, leadership, incentives (Forbes insight, 2014) and the spirit of quality (Abraham et al., 1997); (Campos et al., 2014); (Zgodavova et al., 2017).

In the same sense Boris et al. (2021) define determinants of quality culture as follows:

- How companies view their customers as a fundamental priority for business success.
- The requirement that the quality culture be part of the company's strategy and that it be supported by the company's values; these values are the foundation of employees' beliefs and behaviors.
- Management's responsibility to define the vision and direction of its improvement plans (Forbes Insights, 2014; Tomic et al., 2017).
- The inclusion of employee motivation in the quality culture project in order to obtain their involvement.

2. METHODOLOGY OF THE EXPLORATORY STUDY

With the aim of exploring the key factors and obstacles to the implementation of a quality culture in Moroccan agri-food companies, we have drawn up an exploratory study using a questionnaire based on a literature review including Schwartz's universal value theory (2006), publications from the sage encyclopedia (2015), the quality barometer, the lever for performance in organizations (Pyx4, 2018) and the EFQM model (2021).

This exploratory study is being conducted 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.

The questionnaire responses were divided into seven sections, including

- Respondents' characteristics
- Definition of quality culture
- The contribution of ISO9001 certification to the establishment of a quality culture.
- The implementation and communication of the quality culture in the companies surveyed.
- The key success factors for implementing a quality culture in companies.
- Obstacles to implementing a quality culture in companies
- Quality culture and values in companies

3. RESULTS AND INTERPRETATION

3.1 Characteristics of respondents

a. Companies size

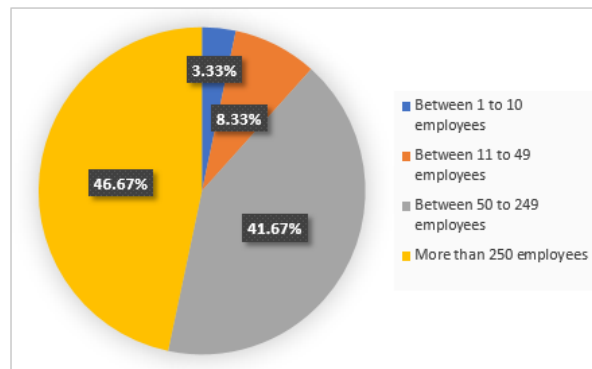


Figure 1. Companies size

Figure 1 shows that 46.6% of the 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.

b. Interviewees affiliation department

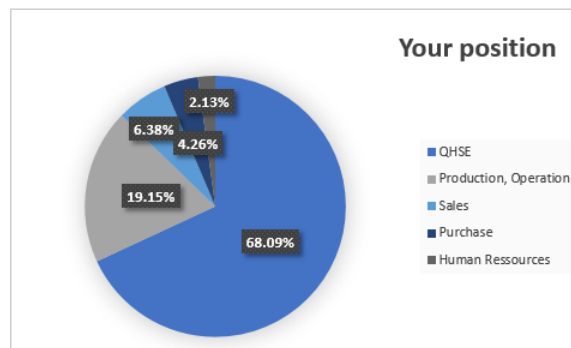


Figure 2. Type of position within the company

The results in Figure 2 show that 68% of respondents were in the quality, safety, health and environment department, followed by 19% in production and operations, 6% in sales, 4% in purchasing and 2% in human resources.

c. Type of quality position

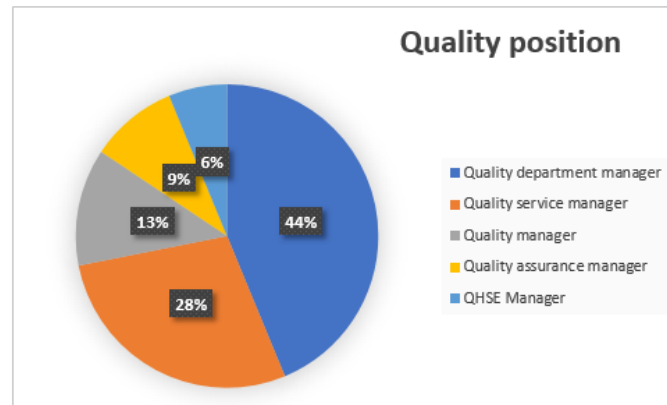


Figure 3. Type of quality position

Figure 3 shows that 44% of respondents were quality department managers, followed by 28% quality department managers, 13% quality directors, 9% quality assurance managers and 6.67% QHSE officers.

3.2 Quality culture definition

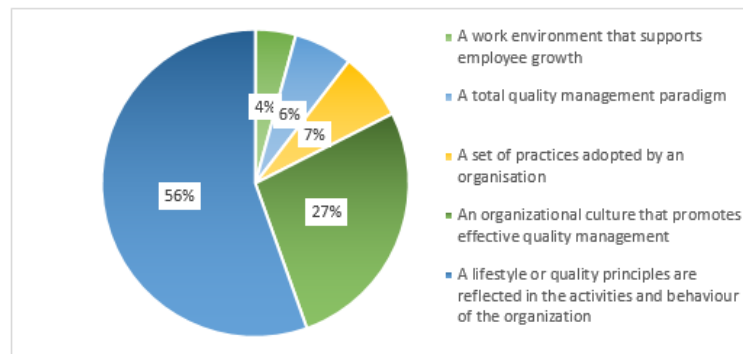


Figure 4. Quality culture definition

Figure 4 shows that 56% of respondents define quality culture as a lifestyle where an organization's actions and behaviors are consistent with its quality ideals, a result that confirms the definition of Berings et al, (2010).

The same figure shows that 27% of respondents define quality culture as an organizational culture that promotes effective quality management. This is in line with the definition of the European University Association (EUA, 2006), which states that quality culture is part of a company's organizational culture and is aimed at continuous improvement. The EUA (2006) explains that quality culture is a psychological component that includes shared values, beliefs, expectations and a commitment to quality on the part of the organization. It is thus concluded that quality culture is a subjective concept involving the representations and beliefs of employees (Benlamlih et al., 2024). In the same context, Malhi (2013) defines quality culture as a system of shared values, beliefs and guides, designed to delight customers and improve the quality of goods (Malhi, 2013).

3.3 The contribution of ISO9001 certification to establishing a quality culture

The fundamental contribution of ISO9001 to the establishment of a quality culture is shown in Figure 5.

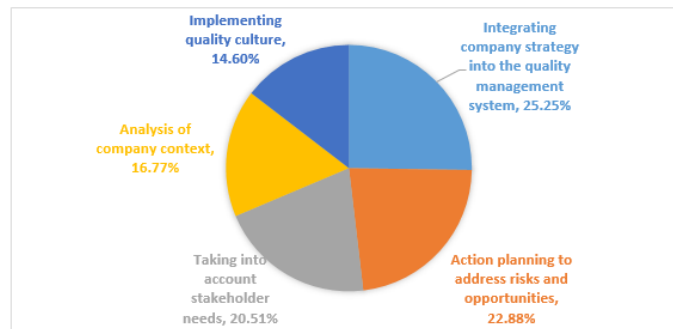


Figure 5. Key contribution of ISO 9001 V2015

From Figure 5, it can be seen that 25.25% of respondents stated that the fundamental contribution of ISO9001 V2015 implementation is the integration of business strategy into the QMS, followed by 22.88% of respondents who considered that the fundamental contribution of ISO 9001 V2015 is the implementation of a quality culture in the company. Figure 4 also shows that 20.51% of respondents stated that the basic contribution of ISO9001V2015 is the planning of actions to deal with risks and opportunities, while 16.77% of respondents felt that the basic contribution is that companies take into account the needs and expectations of interested parties.

The results in Figure 5 confirm the changes made to ISO 9001 in 2015. Indeed, the main change made by this version is the introduction of new clauses such as context analysis and action planning to deal with risks and opportunities (ISO9001, 2015). These contributions also include the introduction of the company's strategy into the quality management system.

In this context Fonseca et al, (2019) reveal that the adoption of risk-based thinking, alignment with other management systems, strengthening of top management commitment, identification of risks and opportunities, and knowledge management are the main recognized benefits of implementing ISO 9001:2015. This supports the results shown in Figure 5.

3.4 Implementing and communication the quality culture

a. Implementing a quality culture

Figure 6 illustrates the state of implementation of the quality culture in companies

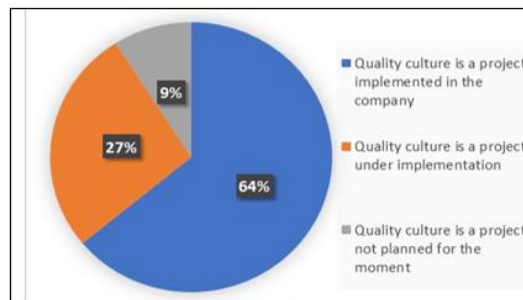


Figure 6. Implementing the quality culture project

Figure 6 shows that 64% of respondents say that quality culture is a project being implemented in their company, followed by 27% of respondents who say that quality culture is a project being implemented in their company. Only 9% say that the quality culture project is not currently planned.

These results confirm that over 90% of employees are aware of the quality culture and that this culture is included in the company's projects.

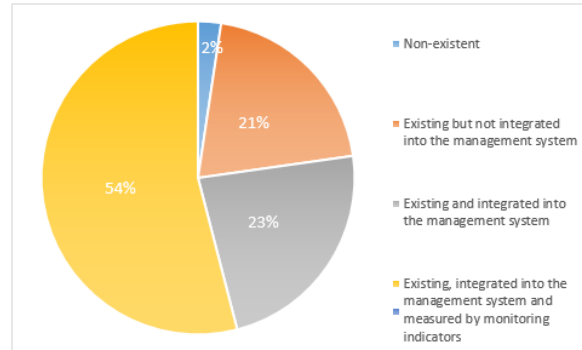


Figure 7. Quality culture diagnosis

Figure 7 shows that 97% of respondents say that a quality culture exists in the company, followed by 77% who confirm that the quality culture is integrated into the QMS, while 54% indicate that the quality culture is measured using indicators. These results are conclusive, as only 3% of employees state that there is no quality culture in the company.

Another important result is that 20% of respondents say that the quality culture exists but is not anchored in the management system. This constitutes a lack of effectiveness during the implementation of the QMS as stated by Bounabri et al. (2017) who consider quality culture as one of the main problems of QMS implementation in Moroccan companies.

In this sense, Kim and Kumar (2011) identify a process for implementing ISO 9001. The first step in this process is conversion, which means building a foundation based on the quality system.

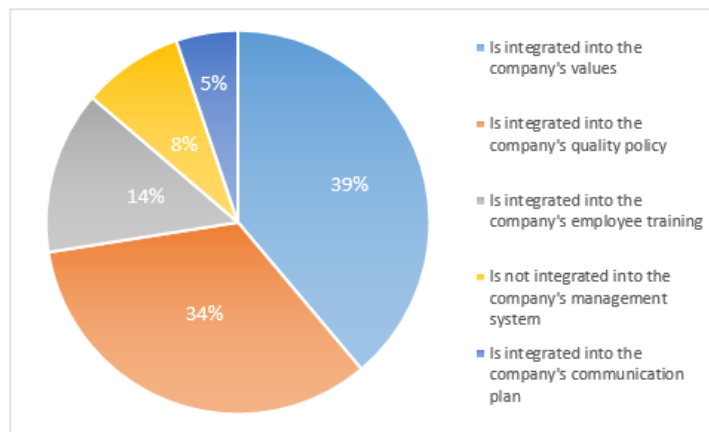


Figure 8. Implementing quality culture

To further refine the results, Figure 8 shows the level of implementation of quality culture. According to this figure, 39% of respondents say that quality culture is included in the company's values, 34% of respondents say that quality culture is included in the quality policy, 14% say that quality culture is implemented through training, 8% think that quality culture is not included in the QMS and only 5% say that quality culture is included in the communication plan.

b. Communication on quality culture

Quality culture is an organizational project which must be organized, planned, implemented and improved as the project progresses. The company must communicate about this project. Figure 9 shows how the companies surveyed promote a quality culture.

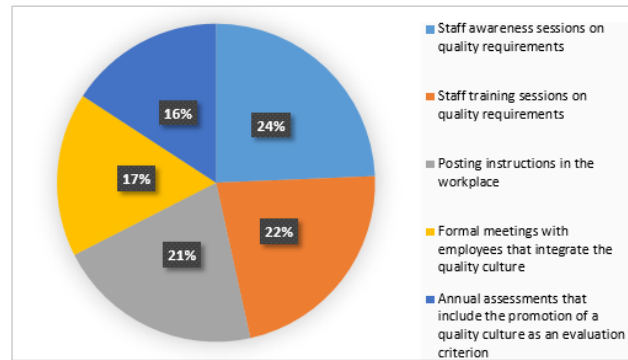


Figure 9. Promoting quality culture

Figure 9 shows that the quality culture in the companies surveyed is promoted in a number of ways. In fact, 24% of respondents said that quality is promoted through awareness-raising sessions on quality requirements, 22% said that the company organizes training sessions on quality requirements, 21% said that the quality culture is promoted through instructions posted in the workplace, 17% of employees said that the quality culture is included in certain formal meetings organized by the company and finally 16% said that the promotion of the quality culture is an evaluation criterion in annual appraisals.

Figure 10 shows how companies are spreading the quality culture:

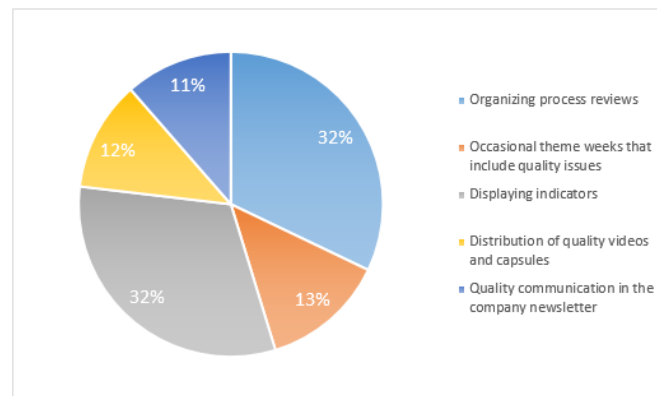


Figure 10. Spreading quality culture

The spread of the quality culture in the companies surveyed is illustrated in Figure 10. From this figure, we can see that 32% of respondents say that they organize process reviews where the quality culture is discussed. The same percentage stated that the quality culture is communicated through the display of indicators. This display enables the company to communicate the latest results of indicators relating to the QMS and to inform all employees of the progress of the system.

Figure 10 also shows that 13% of respondents say that communication on quality is achieved by organizing themed weeks that include quality from time to time; these meetings are like a reminder of the concept of quality and the quality culture. Lastly, 12% of respondents said that videos are shown in the company to communicate about quality culture and 11% said that quality culture is included in the company's internal newsletter.

In this context, the literature confirms that process review is one of the best practices implemented by companies to control processes and evaluate the performance of the quality management system (Benlamlih et al., 2024).

Similarly, Ehlers (2009) confirms that participation, communication and a combination of top-down and bottom-up interactions are essential for a successful quality culture. The author also confirms that no quality culture project can be successful without communication about it (Ehlers, 2009).

In the same context of quality culture communication, Ingason (2015) notes that communication about the QMS is essential for the successful implementation of this system, and is also identified as a key success factor by Napitupulu (2018).

3.5 Key success factors for quality culture

Any project needs levers to be properly implemented and rolled out within the company; these levers will help employees to cope with and overcome resistance to change. Figure 11 illustrates the key success factors for quality culture in the companies surveyed.

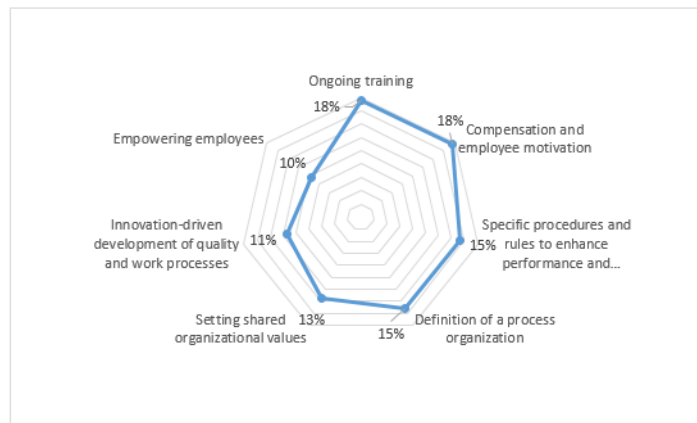


Figure 11. Key success factors for quality culture

Figure 11 shows that the first key success factors for developing a quality culture are continuous training and employee remuneration and motivation, each accounting for 18%. The second key success factor is defining the organization in terms of performance and customer service, with a percentage of 15%. In the same rank and with the same percentage, we also find the definition of a process-based organization as the key to a successful quality culture.

In 4th place we find the implementation of shared organizational values with a percentage of 13% of respondents who want the implementation of shared organizational values, followed by 11% of respondents who say that the development of quality and innovation-driven work processes are the key factors in the success of the quality culture in companies.

Indeed, continuous employee awareness is a prerequisite for the development of a quality culture (Juran and Godfrey, 1998).

In the same context, Malhi (2013) considers that continuous training and remuneration of employees are one of the factors in a quality culture.

On the part of Campos et al, (2014), the authors suggest that the development of a quality culture is a strategic issue to achieve customer satisfaction and company competitiveness.

However, these elements are still not well defined or respected by the hierarchy, while employees need stability combined with an internal focus using the competing values framework model (Dobrin et al., 2020).

3.6 Obstacles linked to quality culture



Figure 12. Barriers to quality culture

Figure 12 shows that 18% of respondents say that the main obstacle to implementing a quality culture is employee resistance to change. This result confirms that employees are resistant to change when it comes to implementing a quality culture. This resistance to change could be explained by the second obstacle. Indeed, 16% of employees say that they don't have much time to focus on quality.

The third obstacle is also significant: 11% of employees say they do not understand the purpose of the management system, 11% lack involvement, 9% are not sufficiently trained and 8% do not consider the rigor imposed by the requirements of the standards.

The absence of an internal process for implementing a quality culture is also an obstacle to the development of a quality culture, with 8% stating that this is the case. This was followed by 7% who said that external activities were detrimental to quality culture. Management's lack of commitment to quality (6% of responses) is another obstacle to a quality culture. According to several authors, senior management commitment and support are identified as key success factors for ISO9001 implementation (Psoma et al., 2010); (Al-Najjar and Jawad, 2011); (Ismyrlis et al., 2015). The unfavorable social climate in the company (6% of responses) is also an obstacle to the implementation of a quality culture.

Indeed, Bounabri et al, (2017) state that the number one barrier to implementing quality management is resistance to change. Al-Najjar and Jawad (2011) identify employee resistance as significant barriers to ISO9001 implementation. Sadikoglu and Olcay (2015) identify managerial resistance to learning and change as barriers to TQM practices.

Boris et al (2021) state that quality culture depends on quality objectives. The development of each project requires a sense of unity of purpose in order to unite employees around the QMS. For Bounabri et al, (2017), they identify the lack of training as one of the most important obstacles.

We conclude from these results that quality culture is an organizational culture influenced by the context of the company. Thus, managing the issues linked to the company's context will enable a good understanding of the purpose of the QMS and the removal of resistance to change.

3.7 Quality culture and values

Organizational culture has a substantial impact on company quality (Dobrin et al., 2020), the interaction between 'organizational culture' and 'quality management' is a key factor in achieving excellent organizational performance. Lapina et al, (2015) stated that quality culture is a social construct, a set of values, beliefs and behaviors regarding quality within the organization, values are important elements in the implementation of quality culture, the table below shows the results of the respondents according to the matrix identified by (Schwartz, 2006).

Table 1 illustrates the profile of work values preferred by respondents

Personal focus	Personal improvement		Openness to change	
Regulating the way in which each person expresses their interests and personal characteristics	Success	14%	Hedonism	4%
	Power	6%	Stimulation	11%
	Total	20%	Self-determination	14%
	Total	29%	Total	29%
Focus on social	Conservation		Auto-transcendence	
Regulating the way, we are connected to others and the impact we have on them.	Security	13%	Universalism	8%
	Conformity	11%	Benevolence	14%
	Tradition	5%		
	Total	29%	Total	22%

Table 1. Values profile of respondents

Table 1 shows that 14% of respondents opted for the values of self-determination, success and volunteering. 13% of respondents say that safety is an important value for establishing a quality culture in companies, while 11% say that the values of stimulation or compliance can ensure this culture.

Table 1 also shows that only 6% want power to be a value at work. This shows that the majority of respondents are not looking for prestigious social status, control of resources or domination of people.

Similarly, we find that only 5% of respondents wish to have the value of tradition to establish a quality culture in companies.

Finally, only 4% of those interviewed would like to see the value of hedonism in the company, confirming that the majority are not interested in personal sensual pleasure or gratification.

In the context of these results, Boris et al (2021) state that the quality mindset has both a vision of quality and quality values. Thus, the norms and values of the organization based on different cultures influence the management of employees (Awadh and Saad, 2013). In this sense quality values must be related to employee values and organizational values to develop quality culture.

4. CONCLUSION

From the results of this study, we can see that the quality culture is directly linked to the company's organizational approach, where the principles of quality are integrated into the values of every employee in the company in order to achieve its performance.

Implementing a quality culture is a prerequisite for the success of a quality management system, but there are a number of obstacles to its implementation.

Among the obstacles to implementing a quality culture in the company, the lack of time employees have to devote to quality leads to resistance to change, which explains why employees need individual support in setting up a quality management system. These obstacles confirm that companies need to implement a quality culture to get employees on board with the quality approach and ensure the company's performance.

The successful implementation of a quality management system is also linked to a clear definition of roles and responsibilities within the company. This definition will enable employees to focus on their activities with a quality mindset.

Another important factor in the success of the quality management system is the implementation of shared values between employees and their companies, which will strengthen their involvement in the quality management system.

The conclusion is that the quality culture is part of the corporate culture and includes different values for each company. This is why identifying employees' values and matching them with the company's values is essential if the components of the quality culture project are to be clearly defined.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

REFERENCES

- Abraham, M., Fisher, T., & Crawford, J. (1997). Quality culture and the management of organization change, *International Journal of Quality & Reliability Management*.
- Al-Najjar, S. M., & Jawad, M. K. (2011). ISO 9001 Implementation Barriers and Misconceptions: An Empirical Study. *International Journal of Business Administration*, 2(3).
- Awadh, A.M., Saad, A.M., (2013, Marsh). Impact of organizational culture on employee performance *International Review of Management and Business Research*, Vol. 2, Issue. 1, Marsh 2013.
- Benlamlih, I, Mensouri, S, Kettani, A. Analysis of quality management systems in Moroccan agri-food companies, *Pakistan Journal of Life and Social Sciences*, Pak. j. life soc. Sci. (2024), 22(2): 11418-11433
- Berings, Dries, ZjefBeerten, VeerleHulpiau and Piet Verhesschen. (2010). Quality culture in higher education: from theory to practice.
- Bounabri, N., EL Oumri, A. A., Elmadani, S., Zerrouk, L., IBNLFASSI, A. (2017). Barriers to ISO 9001 Implementation in Moroccan Organizations: Empirical Study, *Journal of Industrial Engineering and Management*.
- Boris Christian, Herbas Torrico and Jarin Canaza Fernandez. (2021). The determinants of a culture of quality for Bolivian firms, *Proceedings of the 2nd South American International Conference on Industrial Engineering and Operations Management*, Sao Paulo, Brazil, 05-08 Apr., 2021
- Campos, A.C., Mendes, J.C., Silva, J.A., & Valle, P.O. (2014). Critical success. factors for a total quality culture: A structural model. *Tourism & Management, Studies*, 10(1), 7-15.
- Dobrin, C., Dinulescu, R., Dima, C., (2020). Evaluating the organizational culture from Romanian private companies using the organizational culture assessment instrument (OCAI), *studies in Business, and Economics*, n°.x (Y)/2020, Sciendo.
- Ehlers, U.-D. (2009). Understanding quality culture. In: *international journal of quality assurance in education*. Emerald.
- EFQM Model. (2021), The EFQM model, european foundation for quality management an overview, www.efqm.org.
- Esin Sadikoglu and Hilal Olcay., (2014). The Effects of Total Quality Management Practices on Performance and the Reasons of and the Barriers to TQM Practices in Turkey, *Hindawi Publishing Corporation Advances in Decision Sciences Volume 2014*, Article ID 537605, 17 Pages, <http://dx.doi.org/10.1155/2014/537605>
- Fonseca, L.M., Domingues, J.P., Baylina-Machado, P., & Harder, D. (2019). ISO 9001:2015 adoption: A multicountry empirical research. *Journal of Industrial Engineering and Management*, 12(1), 27-50.
- Forbes Insight, Culture of Quality – Accelerating growth and performance in the enterprise, Forbes Insight in association with ASQ, New York, 2014.
- European University Association. (EUA, 2006). Quality Culture in European Universities: A Bottom-Up Approach, Report on the Three Rounds of the Quality Culture Project 2002 – 2006.

- Godelier, E. (2009). La culture d'entreprise: Source de pérennité ou source d'inertie?, *Lavoisier, Revue Française de gestion*, 2009/2 n°192.
- Helgi Thor Ingason (2015) Best Project Management Practices in the Implementation of an ISO 9001 Quality Management System, 28th IPMA World Congress, IPMA 2014, 29 September– 1 October 2014, Rotterdam, The Netherlands, *Procedia - Social and Behavioral Sciences* 194 (2015) 192 – 200
- Inga Lapina, Ilze Kairiša, Daira Aramina, (2015). Role of Organizational Culture in the Quality Management of University, 20th International Scientific Conference Economics and Management – 2015 (ICEM-2015), *Procedia - Social and Behavioral Sciences* 213 (2015) 770 – 774
- Ismyrlis, V., Moschidis, O. and Tsiotras, G. (2015) 'Critical success factors examined in iso 9001:2008-certified greek companies using multidimensional statistics', *International Journal of Quality and Reliability Management*, 32(2), pp. 114–131. doi: 10.1108/IJQRM-07-2013-0117.
- ISO 9001:2015, *Système de management de la qualité-Exigences, international standardization organization*, 2015
- Juran, J.M., & Godfrey, A.B. (1998). *Juran's Quality Handbook*. 5th Edition. McGraw Hill Professional.
- Kanji, G.K., & Wallace, W. (2000). Business excellence through customer satisfaction. *Total Quality Management*, 11(7), 979-998.
- Kim, D. Y., Kumar, V., & Kumar, U. (2011). A performance realization framework for implementing ISO 9000. *International Journal of Quality & Reliability Management*, 28(4), 383-404
- Malhi RS (2013) *Creating and Sustaining: A Quality Culture*. *J Def Manag* S3: 002. doi:10.4172/2167-0374.S3-002
- Napitupulu.D (2018). Key Success Factors of ISO 9001 Implementation for Small Medium Enterprise: Systematic Literature Review, DOI: 10.5220/0009491300050012, DOI: 0.5220/0009491300050012 In *Proceedings of the 1st Unimed International Conference on Economics Education and Social Science (UNICEES 2018)*, pages 5-12, ISBN: 978-989-758-432-9
- Psomas, E. L., Fotopoulos, C. V. and Kafetzopoulos, D. P. (2010) 'Critical factors for effective implementation of ISO 9001 in SME service companies', *Managing Service Quality*, 20(5), pp. 440– 457. doi: 10.1108/09604521011073731.
- PyX4, barometer lever of performance in organizations, 2018, www.pyx4.com.
- Shalom H. Schwartz, (2006). Les valeurs de base de la personne: théorie, mesures et applications, *Revue française de sociologie*, 2006/4 Vol. 47 | pages 929 à 968.
- The SAGE Encyclopedia of Quality and the Service Economy Quality Culture, 2015, Su Mi Dahlgard Park, Su Mi Dahlgard-Park Book, SAGE Publications, Print pages: 575-579.
- Tomic, B., Spasojević Brkić, V., Karapetrovic, S., Pokrajac, S., Milanović, D. D., Babić, B., And Djurdjevic, T. (2017). Organizational culture, quality improvement tools and methodologies, and business performance of a supply chain, *Journal of Engineering Manufacture*, vol. 231, no. 13, pp. 2430-2442, 2017.
- Walkstein Claus (2011), *Adhérer à la démarche qualité : de la prise en compte des théories subjectives*, researchgate.
- Wolniak, R. (2012). Cultural dimensions of Polish organizations and the improvement of Quality management. monograph, CeDeWu Publishing House, Warszawa, Poland.
- Wolniak, R. (2017). Analysis of saturation indicators with ISO 9001, ISO 14001 certificates and ISO / TS 16949 and the relationships between them. *Scientific Journals of the University of Technology Śląska. Organization and Management Series*, Gliwice, 108, 421-430.
- Zgodavova, K., Hudec, O., and Palfy, P., Culture of quality: Insight into foreign organizations in Slovakia. (2017). *Total Quality Management & Business Excellence*, vol. 28, no. 9, pp. 1054-1075.