

Review

The elements of organizational culture which influence the maintenance of ISO 9001: A theoretical framework

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ISO 9001 is a quality management system that was employed world wide by manufacturing and government entities. There were a massive number of ISO 9001 certifications that had been issued to organizations which successfully implemented ISO 9001. ISO 9001 certified organization should maintain its certification effectively because it can help organizations improve their performance. Despite the massive number of ISO 9001 certifications, the guideline or framework for ISO 9001 maintenance is yet to be developed. At the same time, a most previous study in regard to ISO 9001 focuses only on the technical facet. Apparently, the cultural facet of ISO 9001 has been neglected. This paper elaborates the framework of the elements of organizational culture which influences the maintenance of ISO 9001. The model not merely elaborates the need for technical requirements, but also the need of cultural requirements in ISO 9001 maintenance. The model could be employed as a guideline for managers in certified ISO 9001 organizations in their endeavour to maintain ISO 9001 certification effectively.

Key words: ISO 9001 maintenance, ISO 9001 requirements, organizational performance, organizational culture.

INTRODUCTION

ISO 9000 is a series of quality system standards (ISO, 2008) and these have been in place for a considerable time. They were developed from the military standard, the Allied Quality Assurance Publications (AQAPs) and ISO 9000 was first published in 1987. The standards have been reviewed in 1994, 2000 and 2008 (Van et al., 2005; ISO, 2009). Upon strong criticism to ISO 9001:1994, a major revision to ISO 9000 standards had been made in 2000. The revision involves major changes in which focus has been given to process approach, effective quality management, continual quality improvement, customer satisfaction and senior management commitment (Bhuiyan and Alam, 2005; Hoyle, 2001; Kartha, 2004; Tsim et al., 2002). The ISO 9001:2000 version consists

of 5 requirements namely; quality management system, resource management, management responsibility, product realization and measurement, analysis and improvement (Biazzo and Benardi, 2003; Seaver, 2001; Tsim et al., 2003). In 2008, the ISO 9000 standards were revised but it only involves minor changes. ISO 9001:2008 does not change the aim of the ISO 9001:2000 and does not introduce new requirements. It's only to initiate clarifications to the existing ISO 9001:2001 requirements. ISO 9001:2008 also introduces changes that are intended to improve compatibility with ISO 14001:2004 (ISO, 2009).

Up to the end of December 2008, 982,832 ISO 9000 certificates had been issued in 176 countries and economies. In 2008 the total represented an increase of 31,346 certificates (+3%) as compared to 2007, when the total was 951,486 in 175 countries and economies (ISO, 2010). ISO 9000 and its implementation has been the focus of much debate among academics. The

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research has focused mainly on the motives (Lipovatz et al., 1999; Chan and Leung, 1999; Gotzamani and Tsiotras, 2002; Williams, 2004; Bhuiyan and Alam, 2005; Magd, 2008; Jang and Lin, 2009; Fotopoulos et al., 2010), the barriers (Brown et al., 1998; Douglas et al., 2003; Yahya and Goh, 2001; Bhatti and Awan, 2003; Bhuiyan and Awan, 2004; Magd, 2008; White et al., 2009; Alhatmi, 2010) and the enablers (Mo and Chan, 1997; Fuentes et al., 2000; Curry and Kadasah, 2002; Antoni et al., 2002; Sharp et al., 2004; Bhuiyan and Alam, 2005; Wahid and Corner, 2009) of ISO 9000 implementation throughout the world. Since ISO 9000 implementation incurs organizational resources, most of the research focuses on the effectiveness of ISO implementation, in which they look at the implementation process, benefits and barriers.

Researchers have studied to what extent ISO 9000 certification has helped organizations to improve their performance. The growth of ISO 9000 certification suggests that there is widespread belief in the business and organizational benefits of ISO 9000 certification. However, many researchers found that ISO 9000 certification does not help improve organizational performance (Chelsom, 1997; Terziovski et al., 1997; Jeng, 1998; Dick, 2000; Singles et al., 2001; Aarts and Vos, 2001; Douglas et al., 2003; Tsiotras et al., 2006, Martinez-Costa and Martinez-Lorente, 2007; Dick et al., 2008). According to Magd et al. (2003), failure to realise organizational performance could have a negative impact on the credibility of the standard. In order to avoid such failure, it is helpful to develop a framework that guides the maintenance of ISO 9001 certification. The aim of this paper is to develop a theoretical framework that describes the influence of the elements of organizational culture on the maintenance of ISO 9001.

MAINTENANCE OF ISO 9001

Once the initial registration is achieved, the same system must be followed and the controls must be routinely implemented. If the system is practical and beneficial, the surveillance process can be done without much difficulty. If the difficulties are not worth the benefit, it shows that the system needs corrective action (Seaver, 2001). The ISO 9000:2000 adaptations emphasized customer satisfaction and the continuous improvement of the Quality Management System (QMS). Continuous improvement refers to the process of increasing the effectiveness of the organization to fulfil the quality policy and quality objectives. Thus, ISO 9000 requires the managers to manage the process necessary for the QMS (ISO, 2008).

As registration is dependent on periodic follow-up audits, a company should always maintain its quality system compliance to ISO standards if it wishes to remain registered (Abraham et al., 2000). The maintenance phase is imperative as it involves mechanism

necessary to facilitate continuous improvement of the quality management system in order to make it sustainable (Wahid and Corner, 2009). Hoyle (2003) defines maintenance as meaning the action of retaining something in a serviceable or proper condition.

Low and Omar (1997) pointed out that a QMS must constantly be dynamic to improve the quality of both the company's internal and external services. In line with this, they called for proper maintenance which includes constant monitoring, controlling, assessing and improving through both the technical and non-technical (behavioural) approaches. In the same vein, Wahid and Corner (2009) said that human/social-cultural aspects and technical aspects as two of the most important factors for ISO 9001 maintenance.

IMPACT OF ISO MAINTENANCE ON ORGANIZATIONAL PERFORMANCE

In brief, two main contradictory results can be highlighted in the areas of i) the organizational benefits and ii) the organizational performance. Many researchers conclude that ISO 9000 adoption offers benefits for organizations (Buttle, 1997; Chan et al., 1999; Gotzamani and Tsiotras, 2001; Antoni et al., 2002; Williams, 2004; Bhuiyan and Alam, 2005; Magd, 2008; Martinez-Caro and Martinez-Garcia, 2009; Balague and Saarti, 2009; Helbig et al., 2010; Srivastav, 2010). However, ISO 9000 certification also has its disadvantages for organizations (Seddon, 1997; Najmi and Kehoe, 2000; Singles et al., 2001, Escanciano and Santos, 2002; Douglas et al., 2003; White et al., 2009). Some of the previous research depicts that ISO 9000 certification has helped organizations improve their performance (Haversjo, 2000; Heras et al., 2002, Magd et al., 2003; Mokhtar et al., 2004; Quazi and Jacobs, 2004; Zaramdini, 2007; Bhayati and Thagavi, 2007; Tari et al., 2009; Wu and Liu, 2010). However, many researchers argue that ISO 9000 certification does not help to improve organizational performance (Chelsom, 1997; Terziovski et al., 1997; Jeng, 1998; Dick, 2000; Singles et al., 2001; Aarts and Vos., 2001; Magd et al., 2003; Douglas et al., 2003; Tsiotras et al., 2006; Martinez-Costa and Martinez-Lorente, 2007; Dick et al., 2008).

MOTIVATION FOR ISO 9001 IMPLEMENTATION

Some authors believe that certified organizations did not improve their performance due to their motives in seeking ISO 9001 registration (Lipovatz, 1999; Singles et al., 2001; Gotzamani and Tsiotras, 2002; Fuentes et al., 2000; Williams, 2004). The drive of ISO registration is divided into external and internal motives. The external motive means organizations gain ISO certification out of

external pressure, such as pressures from customers and competitors. The internal motives means the organizations want to become certified because they feel the need to do so that is there is the real need of the company for improvement (Singles et al., 2001; Fotopolous et al., 2010).

Fuentes et al. (2000) claimed that external motives predominate over external ones. Gotzamani and Tsiotras (2002) claimed that the "true motive" of certification is the possession of the certificate itself, not quality improvement. Consequently, Fuentes et al. (2000) and Williams (2004) argued that senior management and the workforce see that they are forced to implement the standard and therefore are unlikely to be fully committed to the process. This would make implementation difficult as Yeung et al. (2003) stressed that the commitment of senior management would significantly affect the development of a QMS and, subsequently, organizational performance.

Gotzamani and Tsiotras (2002) revealed that those organizations which put emphasis on external reasons have failed to gain benefits due to their narrow focus on the short term advantageous of certification.

In comparison, organizations which focus on the development of the standard to improve quality and increase customer satisfaction, have significantly improved their performance. In association with this, Tari et al. (2010) suggested that quality certification may be important for competitiveness, but it is the way such certification is obtained that makes it possible to derive the benefits expected.

The authors added that when certification is used in daily practice and as a catalyst for change, the organization could achieve a distinct operating advantage from its implementation.

Hence, ISO 9001 should be implemented strategically, in which the emphasis should be on internal motives (Fuentes et al., 2000). Likewise, its implementation should focus on continuous improvement and involve all employees (Williams, 2004).

ISO 9001 REQUIREMENTS

The QMS should be adopted strategically in which consideration must be given to varying needs, particular objectives, the products provided, the process employed and the size and structure of the organization (ISO, 2008).

The QMS describes the interaction of all processes in the organization in which the main activity is to identify customer requirements and end with their satisfaction. Specifically, ISO 9001 describes a QMS as the integration of major areas: management responsibility, resource management, product realization and measurement, analysis and improvement (Oakland, 2003).

Quality management system

ISO (2008) states that

"the organization should establish, document, implement and maintain a QMS and continually improve its effectiveness in accordance with the requirements of this standard".

Seaver (2001) contends that there are two requirements in the QMS; general and documentation requirements. With regard to general requirements, ISO 9001:2000 contains the concept of Deming's cycle of continuous improvement - Plan, Do, Check, Act (PDCA) (Oakland, 2003). Meanwhile, Seaver (2001) states that there are three documentation requirements in the QMS; the quality manual, control of documents and control of records.

Management responsibility

Top management should show its commitment to the QMS development and implementation and continually improve its effectiveness (ISO, 2008). According to Biazzo and Bernardi (2003), the 'management responsibility' element comprises the requirements for developing and improving the quality system, listening to customers, formulating quality policy and planning, and defining responsibilities, authorities and communication processes to facilitate effective quality management.

Resources management

The organization should provide the resources required to implement and maintain the QMS and continually improve its effectiveness. It also needs to enhance customer satisfaction by meeting customer requirements (ISO, 2008). According to Seaver (2001), there are three elements of resources; human resources, infrastructure and work environment.

Product realization

According to Seaver (2001), the term product realization refers to the day-to-day productive business whether they produce a tangible product or provide a service or combination of both. To be specific, Biazzo and Bernardi (2003) state that the 'product realization' elements include identifying customer requirements, reviewing product requirements, communicating with customers, designing and developing products, purchasing, producing (and/or delivering) services, and controlling measurement and monitoring devices.

Measurement, analysis and improvement

According to ISO (2008), Biazzo and Bernardi (2003), this part contains the requirements for monitoring information on customer satisfaction, measuring and monitoring products and processes, and managing internal audits, non-conformity detection and improvement actions.

THE LINKS BETWEEN ISO 9001 AND ORGANIZATIONAL CULTURE

Kehoe (1996) suggested that quality development involves systems, techniques and people, and the most critical to develop are the people. This is echoed by Low and Alfelor (2000) who stressed two approaches in ISO 9000; the technical and non-technical (behavioural) approaches. Culture serves as a foundation for an organization's management system; hence, a good idea of management will not work if it does not fit the culture (Schneider and Barsoux, 2000). Lees and Sadri (2001) quoted Goffee and Jones (1996) who stated that for the culture to be effective, it should be consistent with the business environment in which the organization operates.

While there is a link between supportive culture and ISO 9001 certification, inappropriate organizational culture would undermine these efforts (Mallak et al., 1997). Several authors (Mallak et al., 1997; Gore, 1999; Maull et al., 2001) have listed the elements of organizational culture required in quality efforts such as customer focus, continuous improvement, employee involvement, advocating challenging work, open communication, trust, empowerment, appropriate leadership, being decisive, and paying attention to detail. Lees and Sadri (2001) have suggested that organizations should assess and categorize their organizational culture and look at how it impacts on employee productivity and morale.

THE LINKS BETWEEN ISO 9001 MAINTENANCE AND ORGANIZATIONAL CULTURE

Berggren et al. (2001) suggested that there is less research performed within certified organizations than in those seeking certification. Supporting this, Wahid and Corner (2009) pointed out that not much literature can be found on the maintenance of ISO 9001 and the post-certification period. There is an increasing need to understand the critical issues for ISO 9000 maintenance and improvement (Chin et al., 2000). This is echoed by Sharif (2005) who called for doing research to identify the critical issues in certified organizations. Chin et al. (2000) suggest the need for organizational factors such as teamwork, commitment and recognition in ISO 9000 maintenance.

Although an organization might have successfully renewed their ISO 9001 certification, this does not mean that ISO 9000 is maintained effectively. ISO 9001 is effectively maintained if there is quality improvement and enhancement of clients' satisfaction (Low and Omar, 1997). Maull et al. (2001) concluded that culture is the catalyst for effectively maintaining quality management in organizations, however there are authors like Torre et al. (2001), Boon et al. (2003), Sharif (2005) and, Wahid and Corner (2009) who have listed many barriers in ISO 9000 maintenance which can be classified as the elements of organizational culture. These barriers are lack of teamwork, lack of top management commitment, a negative response from managers, ignorance on the part of employees on the quality management system itself, lack of quality awareness, lack of participation from staff, lack of training, lack of reward, lack of motivation programmes, lack of the understanding and misinterpretation of the standard, lack of coordination between departments and lack of communication.

The literature on ISO 9000 mainly focuses on its implementation and ignores cultural issues. Meanwhile, the literature on organizational culture is not often linked to the quality management system ISO 9000. Mallak et al. (1997) contended that most efforts focus on quality improvement without a linkage to culture change. So far, no significant research has been done regarding how organizational culture influences ISO 9000 maintenance. Mallak et al. (1997) have suggested carrying out research on cultures that work towards the maintenance of ISO 9001 certification. According to Sharp et al. (2004), although the soft issues appear to be significant in ISO 9000 process-based management system adoption, much more research is required to conclude these findings as generic.

The literature points to the need for appropriate organizational culture in ISO 9000 programmes and the growing concern about why many certified organizations fail to gain benefits and improve their performance. Hence, understanding the impact of the elements of organizational culture on ISO 9000 maintenance can provide an insight into the ISO 9000 maintenance process.

The elements of organizational culture which influence ISO 9001 maintenance

So far, only a few authors have highlighted the elements of organizational culture which are required in ISO 9000 maintenance (Tang and Kam, 1999; Chin et al., 2000; Bhatti and Awan; 2003). The elements are; teamwork, recognition, incentive schemes, top management commitment, staff loyalty and strong motivation for continuous improvement.

In terms of a theoretical perspective, the elements of

organizational culture which are required in ISO 9000 maintenance can be extracted from the ISO 9000 requirements; ISO 9000 implementation process, internal audit, certification audit, surveillance, ISO 9000 maintenance and management review. For instance, ISO 9000 emphasises process-based management (Bhuiyan and Alam, 2005), which requires coordination and cooperation between different activities and departments (ISO, 2008). In this way, ISO 9000 maintenance requires teamwork as suggested by Chin et al. (2000) and, Wahid and Corner (2009).

Meanwhile, as the top management has a crucial role in ISO 9000 adoption, they have to embrace some elements of organizational culture which align with it. For example, they have to listen to customer needs and requirements. Their full commitment is also needed to ensure that the organizational quality policy is well communicated, understood, implemented and maintained (Oakland, 2003). The management also needs to frequently participate in the project activities such as meetings, briefings and training (Seaver, 2001).

Personnel whose jobs affect product quality should be competent to deliver their task. They have to have appropriate education, training, skills and experience (ISO, 2008). In addition, Fuentes et al. (2000) and ISO Survey (2004) found that training should be given to top management as well as shop floor personnel. Training for shop floor personnel for instance, is essential to add to their skills and knowledge. This is a prerequisite before the management could assign them with tasks, responsibility and accountability. Based on the case study that was conducted in ISO 9001 certified Malaysian service organisation, Wahid and Corner (2009) found that employee training was conducted on a continuous basis to improve people's understanding of the ISO 9001.

The organization should also determine and manage the work environment needed to achieve conformity to product requirements (ISO, 2008). In this way, the organization should develop and maintain good housekeeping (Weallans, 2000). This requirement could be linked to the need for good leadership which has been emphasised in quality management principles. The leader should develop and maintain the internal environment which encourages people to get involved in achieving the organizational objectives. For instance, the leader should create and develop a spirit of trust and innovation in an organization. The employees' involvement and contribution for ISO 9000 adoption should be recognized (ISO, 2008). In line with this, Wahid and Corner (2009) argued that reward system is one of the critical success factors in ISO 9001 maintenance. The authors found that reward that were given to employees in ISO 9001 certified organization is in the form of company bonus, performance bonus, promotion and special increment.

Seaver (2001) suggests that product realization refers to the day-to-day productive business activities. These

activities especially need the full involvement of people to identify customer requirements and to communicate with them. In addition, ISO 9000 process-based management encourages the involvement of people and the clarification of their responsibilities. Besides this requirement, people need also to openly discuss problems and issues (ISO, 2008) on ISO 9000 adoption. For instance, they have to listen to suggestions from the management review committee. This is because the job of senior management is to review the QMS performance and to produce suggestions to improve it (Wealleans, 2000).

The principles of quality management which ISO 9000 is based on emphasize that decision making must be based on the analysis of data (ISO, 2008). This could be connected to the measurement, analysis and improvement requirements of ISO 9000. For instance, the organization needs to establish a process of obtaining and monitoring information and data on customer satisfaction. The result of internal audits should be communicated to the area audited, so that the management can take corrective action on the non-conformities recorded (Oakland, 2003). It appears that the decision for corrective action must be made after the facts have been gathered and analyzed. Transparency is also needed to communicate the audit results (ISO, 2008).

The objective of internal audit is to confirm compliance with the ISO 9001 requirements (ISO, 2008). It is also to identify whether the QMS is applicable to the overall objectives of the organizations (Wealleans, 2000). He further urges that the internal auditor embraces a professional approach and becomes familiar with how the organization works and its internal culture. Hence, the organization should recognize their suggestions for improvements.

Meanwhile, in order to gain ISO 9001 certification, a certification audit needs to be conducted by the third party assessor or accreditation body (Tricker and Sherring-Lucas, 2005). Its objective is to see whether the defined systems meet the requirements of ISO 9001 and whether the systems have been implemented effectively. In this way, organizations should listen to external auditors' recommendation to correct major or minor non-compliances (Wealleans, 2000).

The corrective action actually signifies the essential improvement agenda in ISO 9001. The organization needs to establish a process for eliminating the causes of non-conformities and preventing recurrence (Oakland, 2003). In regard to this, Wealleans (2000) argues that the company should avoid blame exercises in managing 'non-compliance' matters. Indeed, he calls for a positive culture to be promoted at all levels. Based on case study that was conducted in Oman, Alhatmi (2010) found that ISO 9001 certified hospital adopted the concept of transparency and continuously promotes a "no-blame" culture reducing the risk of spreading a negative and apprehensive approach to auditing and encourages process

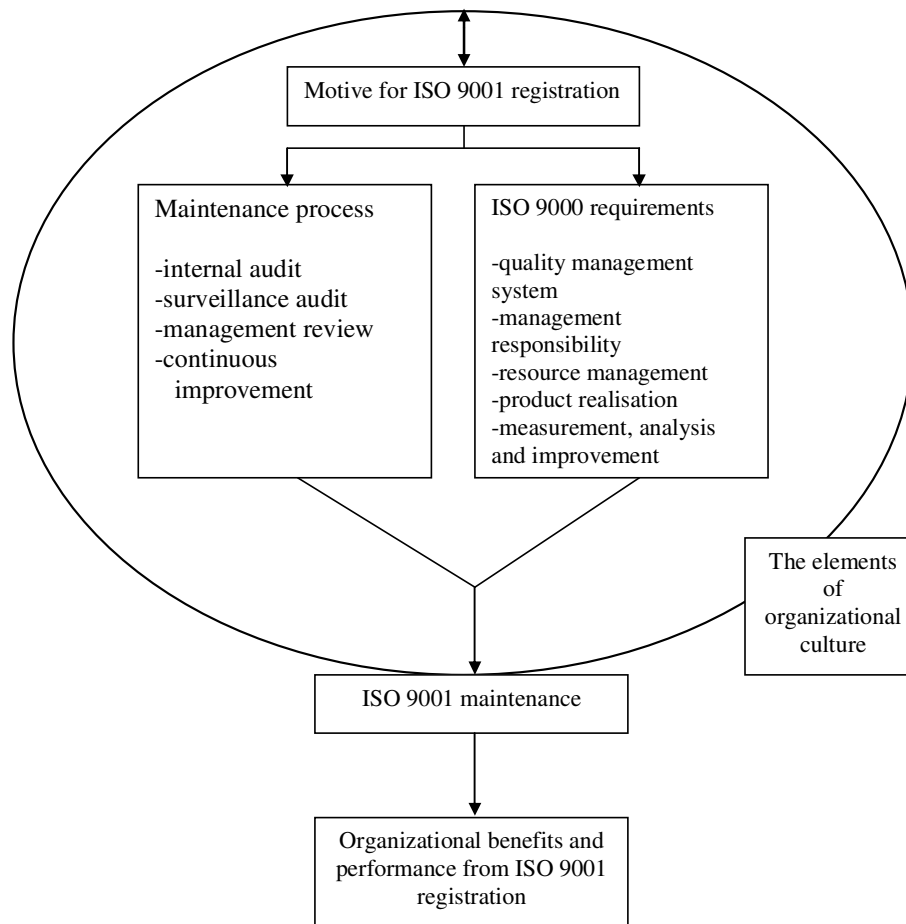


Figure 1. Theoretical framework which indicates the influence of elements of organizational culture on ISO 9001 maintenance

ownership.

In order to maintain ISO 9001 certification, it needs to be demonstrated to the certification body that the QMS continuously operates and incorporates appropriate improvements. In other words, it needs continual effort to keep everything together, complete records, track changes and continue the internal audit programme. Maintenance of the certificate means carrying out a regular surveillance audit which normally occurs every six months. The main difference between the initial audit and a surveillance audit is that, major non-compliance should be re-audited within a shorter time (six weeks), whereas in initial audit, the time given for corrective action is thirteen weeks (Wealleans, 2000).

From the aforementioned discussion, the elements of organizational culture which are required in ISO 9001 maintenance can be identified as follows; teamwork, top management commitment, continuous improvement, coordination, cooperation, competency, training, responsibility, accountability, good housekeeping, leadership,

people involvement, communication, listening to the customer, open discussion and effective decision making. Consequently, a theoretical framework which indicates the influence of elements of organizational culture on ISO 9001 maintenance is proposed in Figure 1.

CONCLUSION

The framework categorizes key components of ISO 9001 maintenance under six groups; motive for ISO 9001 registration, the elements of organizational culture, the maintenance process, ISO 9000 requirements, ISO 9001 maintenance and organizational benefits and performance. It provides possible explanations of how the components are linked when maintaining ISO 9001 registration. It also illustrates that organizational culture could have a significant impact on ISO 9000 maintenance. This framework is based on the idea that the ISO 9001 maintenance process is influenced by the continuous

dynamic interactions and relationships between its components. The ISO 9001 maintenance process should finally influence organizational benefits and performance from ISO 9001 registration.

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