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Key Factors Shaping the Implementation of a Quality Management Systems at ACIS Technology SDN. BHD

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Abstract

Quality Management Systems (QMS) are vital for enhancing organizational performance, competitiveness, and market share. In Malaysia, the Construction Industry Development Board (CIDB) promotes efficiency and safety through initiatives such as employee registration, skill verification, and materials quality assurance. While the Malaysian construction industry is tasked with upholding governance, integrity, professionalism, innovation and sustainability, individual firms like ACIS Technology Sdn. Bhd. (ACIS) can leverage a QMS to improve management effectiveness and efficiency, leading to significant savings in cost, time, and resources. Despite extensive literature, gaps remain in understanding the specific factors that influence QMS implementation. This study addresses these gaps by examining the key factors shaping QMS implementation at ACIS. The research employed a qualitative methodology, utilizing (1) primary data from face-to-face interviews with eleven company informants and (2) secondary data from official documents. Data analysis involved time-series analysis and explanatory building to interpret findings within a theoretical context. The study identified seven key factors influencing the decision to adopt a QMS, particularly ISO 9001:2015. Internal factors include the pursuit of productivity improvements, enhanced quality management, and increased profit margins. External factors encompass reduced customer complaints, a better ability to meet client requirements, increased customer satisfaction, and an improved corporate image. While all factors contribute to successful implementation, the internal drivers of improved quality management and productivity, which subsequently enhance customer satisfaction, were found to be the most significant.

Keywords: Quality Management System, ISO 9001:2015, Construction Industry, Malaysia, Organizational Performance

Introduction

In the contemporary business landscape, a robust Quality Management System (QMS) is essential for enhancing organizational performance, increasing market share, and gaining a competitive advantage (Ahmed, 2017). Indeed, QMS implementation is a recognized strategy for improving competitiveness (Priede, 2012). In Malaysia, the quality and growth of the service industry are key indicators of national progress. This progress is demonstrated by how effectively service providers, including those in construction and maintenance, manage resources and inputs. The private sector's commitment to quality is evidenced by the pursuit of certifications like ISO 9000, which for G7 contractor firms involves a comprehensive auditing process and strict adherence to regulations.

The ISO 9001 standard, a key component of the ISO 9000 family, outlines the requirements for a QMS that controls processes impacting an organization's products or services (Alič, 2018; Walaszczyk and Polak-Sopinska, 2019; Helmold, 2022; Uğurlu and Özçalışkan, 2023). This emphasis on quality is reinforced in Malaysia by legislative measures, such as the establishment of the Construction Industry Development Board (CIDB).

Founded under the CIDB Act 520 (Akta520, 2015), the CIDB oversees the local construction industry. An amendment to the Act, announced on June 1, 2015, identified building efficiency and safety as its primary pillars, CIDB focusing on three key aspects:

i. Enhancing construction efficiency by registering employees and verifying their skills and competencies,
ii. Ensuring the quality of building materials by establishing and enforcing specifications, and,
iii. Assigning management and safety responsibilities for buildings and construction projects to contractors and site managers.

The Malaysian construction industry is thus entrusted with upholding good governance, integrity, and a focus on professionalism, innovation, and knowledge for a sustainable future. This mandate is achieved by building the industry's capacity and capability with an emphasis on increasing quality and productivity. As Muzaimi et al. (2017) report, a QMS not only improves management effectiveness and efficiency but also offers significant savings in cost, time, and resources.

Therefore, it is crucial for organizations to address systemic problems by implementing a QMS. For instance, Bureau Veritas Sdn. Bhd., a Malaysian certification firm, has begun incorporating standards like ISO 9001 into its operations by providing relevant training and audits. Such developments indicate a growing trend among Malaysian businesses towards establishing formal quality management systems.

While the existing literature on quality management is extensive, many studies focus on evaluating QMS from the customer's perspective or analyzing the system through the views of managers and employees. This study seeks to address a gap in the literature by exploring factors that have not been sufficiently understood. Consequently, it aims to answer the following research question: "What are the key factors that influenced ACIS Technology Sdn. Bhd.'s implementation of ISO 9001:2015?"

The remainder of this paper is structured as follows. The first section provides a literature review on ISO 9001:2015, with a specific focus on the Malaysian construction industry. The second section discusses the research methodology. The third section presents the findings and discussion, and the final section offers the conclusion.

Literature Review

Quality Management System

Quality management encompasses all activities aimed at achieving and sustaining quality within an organization. It includes a wide range of criteria, such as quality control in development and manufacturing, as well as failure prevention. Despite its importance, quality management is often not prioritized. A well-designed quality management system should be a core managerial responsibility, assigned to top management and given the same strategic importance as finance, personnel, marketing, and purchasing (Mokhtar et al., 2013; Conde et al., 2013; Giacomarra et al., 2016).

Management systems consist of objectives and methods for carrying out tasks such as goal setting, planning, and supervision. A successful quality management system requires a comprehensive understanding of quality that permeates all levels of the organization, making it a critical aspect of corporate policy and culture. An effective system is a planned and structured model with documented operational and organizational frameworks to ensure product and process quality. It provides a structure for organizational design, methodologies, processes, and resource planning to achieve quality outputs, while also defining responsibilities and competencies.

Overview of ISO 9001

The International Organization for Standardization (ISO) is a worldwide standard-setting body established on 23 February 1947 (Sanchez-Lizarraga et al., 2020). It promotes proprietary industrial and commercial standards across a vast range of sectors, from manufacturing and technology to food safety, agriculture, and healthcare. One of its most recognized standards is ISO 9001 for quality management, which helps ensure that products and services consistently meet customer requirements. Each member country is represented by its own national ISO body.

The implementation of international standards assures consumers of product quality, reliability, and safety (Sanchez-Lizarraga et al., 2020; Murmura and Bravi, 2018). These standards help businesses increase productivity and reduce waste (Bravi et al., 2019) while also protecting consumers. They ensure that certified products meet minimum requirements, and in some industries, ISO certification may be a legal or contractual prerequisite.

Adherence to ISO standards offers numerous benefits, including the identification and resolution of recurring problems, enhanced system and process efficiency, increased customer satisfaction, improved competitiveness for contracts, optimized resource utilization, a reinforced perception of capability, and improvements in environmental and business health (López-Rodríguez et al., 2018).

ISO 9001 is widely employed across various sectors. In manufacturing, it ensures high-quality products and standardized procedures, enabling outputs to meet global demands. Its

application has expanded to the service sector—including hospitals, educational institutions, and shipping—due to industrial growth. Non-profit and government institutions, such as health and social services, also use ISO 9001 to enhance performance in public service delivery, with the goal of increasing public satisfaction.

Most businesses reap considerable advantages from obtaining ISO 9001 accreditation, which can be categorized into three areas:

i. Internal Enhancements
ISO 9001 establishes a strong foundation for best practices and efficient business processes (Behnam and Juanzon, 2018; Matorera, 2018). It is beneficial for integrating business systems (Gremyr et al., 2021; Lahidji and Tucker, 2016) and can significantly impact a company's performance and growth. By aligning processes with ISO 9001:2015 criteria, companies often experience quality improvements, reductions in waste and costly rework, and increased satisfaction among customers and suppliers. The standard's ultimate goal is to provide a practical tool for enhancing real-world operations.

ii. Marketing
Achieving ISO 9001 certification serves as a powerful marketing tool, being the most widely recognized quality standard globally. It signals to consumers that an organization is dedicated to quality, is proactive, and emphasizes customer satisfaction. Some businesses pursue certification primarily to bolster their marketing initiatives.

iii. Customer Requirements
Customers increasingly prefer to work with ISO 9001-certified organizations. For large corporations and government bodies, certification is often a prerequisite for doing business. Consequently, many firms feel pressured to implement the system and obtain certification to avoid losing clients.

A transition from ISO 9001:2008 to the updated ISO 9001:2015 standard is currently underway. The International Organization for Standardization released the 2015 edition to replace the 2008 version. Organizations were given a three-year transition period, with a deadline of September 2018 to update their certifications. This shift requires organizations to prepare for the latest challenges in quality management system implementation (Ahmed et al., 2020).

ISO 9001 promotes an effective quality management system using a process-oriented approach (Bravi et al., 2019). According to the standard, "effectiveness" is defined as the extent to which planned activities are realized and planned results achieved (ISO 9000:2015). The 2015 version exhibits several notable changes:

i. It places a stronger emphasis on leadership involvement, requiring top management to be accountable for the QMS's effectiveness.
ii. It introduces a new risk-based thinking component, requiring organizations to identify and address risks and opportunities.

iii. It features a new high-level structure (HLS) for better alignment with other ISO management standards, offers greater flexibility with fewer prescriptive requirements, and enhances compatibility with other standards like ISO 14001.

Over time, numerous quality standards have been devised, with the ISO family serving as an internationally recognized benchmark for effective management practices that guarantee the delivery of products or services meeting customer expectations (Ong et al., 2020).

ISO 9001:2015 does not stipulate specific objectives or the methods to achieve them. Instead, it is a versatile standard that enables any organization to determine its own goals and establish a system to meet them (Behnam and Juanzon, 2018; Matorera, 2018). It lays down fundamental principles for reducing expenses, enhancing opportunities, fulfilling regulatory requirements, and facilitating entry into new markets where clients prefer ISO 9001-certified suppliers. It is important to note that ISO itself does not provide certification (de Melo and de Medeiros, 2020; Sari et al., 2017). Instead, businesses engage independent certification bodies to evaluate their QMS. Companies of all sizes, including those without dedicated quality departments, can obtain certification.

ISO 9001:2015 is widely acknowledged as crucial for enhancing productivity, process efficiency, and customer satisfaction, while also reducing costs and ensuring product quality. The standard is revised regularly to maintain its industry relevance. Organizations are responsible for keeping their systems updated, and certification is subject to regular surveillance audits; companies risk losing certification if their performance deteriorates (Tomic and Spasojevic Brkic, 2019).

According to Melakakini (2019), contractors are required to provide quality and responsible services. Adopting a QMS is critical for organizations implementing ISO 9001:2015, as highlighted by Akta520 (2015). This is a recognized aspect of the standard's implementation in several countries, including Malaysia (Jusoh and Mohd Yatim, 2012), Greece (Iatridis and Kesidou, 2018), Pakistan (Akhund et al., 2018), the UAE (Zaramdini, 2007), the Philippines (Juanzon and Muhi, 2017), and Bulgaria (Georgiev and Georgiev, 2015). Improving work quality positively impacts a company, achievable through increased management understanding and staff involvement (Jusoh and Mohd Yatim, 2012). However, internal factors are not the only drivers; external variables also significantly influence the decision to implement ISO 9001:2015 (Georgiev and Georgiev, 2015).

The implementation of ISO 9001:2015 is typically guided by two main objectives: enhancing the quality system's efficiency and performance, and improving competitiveness (Georgiev and Georgiev, 2015; Zaramdini, 2007; Jusoh and Mohd Yatim, 2012; Iatridis and Kesidou, 2018; Akhund et al., 2018; Juanzon and Muhi, 2017). Research by Jusoh and Yatim (2012) revealed that the primary motivation for certification is often process improvement and profitability rather than marketing needs. Conversely, while some organizations claim their purpose is to increase quality and customer satisfaction, the genuine intention may be to fulfill customer demands, competitor pressure, and advertising requirements (Akhund et al., 2018). A study in Bulgaria found that external factors have a higher impact than internal factors (Georgiev and Georgiev, 2015). In a study in Pakistan, Akhund et al. (2018) delineated three primary factors for certification:

i. Quality Improvement: Geared towards enhancing internal processes and bolstering competitive standing.
ii. Marketing Needs: Concerned with fulfilling customer demands and trends, often used as a marketing tactic.
iii. Mixed Factors: Encompassing both quality improvement and marketing needs.

The study examined parameters of SME-based construction enterprises, such as business type, asset size, and years of operation. The two most significant motivators for these firms to implement ISO 9001:2008 were (1) client requirements and (2) the need to qualify for bidding. The need for more effective resource utilization to reduce waste was the least significant factor. The widespread deployment of QMS in construction projects, particularly in developing countries like the Philippines, can address issues like a lack of monitoring and standardization. An increase in firms using QMS may reduce project costs and increase contract opportunities for companies from developing nations.

Hence, the drivers for certification appear to vary among organizations, suggesting that implementation is influenced by business type and size, market trends, and competitive conditions. Previous research confirms that beyond quality factors, other drivers also motivate the pursuit of certification, which can bring substantial additional value to an organization.

Research Methods

This paper employs an exploratory qualitative study design, which is appropriate for investigating the "how" and "why" behind theoretical concepts, particularly when existing information is scarce. This approach facilitates a comprehensive understanding of the research topic. A systematic literature review was conducted, a method crucial for establishing evidence-based practice (Rousseau et al., 2008; Schmeisser et al., 2021; Wakibi et al., 2021). The exploratory nature of this study was beneficial as it allowed for the development of clear ideas as the investigation progressed. This was especially pertinent given that the adoption of the Quality Management System (QMS) by the organization under study is a recent development. Qualitative research is advocated as particularly effective for theory building, as it excels at interpreting meaning, contextualizing facts, and generating new ideas and concepts.

The primary objective of this study is to identify the key factors influencing the implementation of ISO 9001:2015 at ACIS Technology Sdn Bhd. To achieve this, a case study approach was adopted. This methodology is well-suited for documenting and analyzing implementation processes, aligning with Yin's (2003, 2012) recommendations for evaluation studies. After reviewing methodological literature, an in-depth case study was selected to yield rich, descriptive, and contextual data through the use of multiple data-gathering tools (Yin, 2011).

Data were collected using two qualitative methods: (1) primary data from face-to-face interviews with 11 informants from ACIS Technology Sdn Bhd (see Table 1), and (2) secondary data from official documents. The data analysis employed two distinct techniques: (1) time-series/historical analysis and (2) explanation building. These methods enabled the connection

of empirical data to theoretical frameworks and supported the interpretation of findings to develop a holistic understanding of the research topic.

The research was guided by the epistemological principle that there is a single "socio-logic" to research, which involves the integration of theory, concept formation, values, operationalization, observations, data analysis, and the derivation of insights and theories (Mann, 1981; Yin, 2003, 2018).

The interviews were designed to provide a meaningful contribution to the company's values and procedures by offering deep insight into employees' perspectives. Through this process, the research aimed to understand:

i. The rationale behind the organization's selection of the ISO standard for managing quality performance.
ii. The relationship and prevalence of various factors related to QMS (ISO 9001:2015).
iii. The deployment process of the Quality Management System itself.

Table 1
Informant Details

Role	**Description**
CEO	Chief Executive Officer
Director 1	Operation Director
Director 2	Sales Director
Manager 1	Account Manager
HOD 1	Head of Department (Project)
Executive 1	HR Executive
Executive 2	Purchasing Executive
Engineer 1	Sales Engineer (Technical & Sales)
Engineer 2	Project Engineer (Project)
Admin 1	Admin (Data Controller & Management Representative for ISO 9001:2015)
Lead Auditor 1	Senior Lead Auditor (Certification Department)

Summarized by the researchers (2021)

Discussion & Analysis

Overview of Case Study: ACIS Technology Sdn. Bhd.

ACIS Technology Sdn Bhd is a Bumiputera service contractor and engineering provider founded in Melaka in June 2008, commencing full operations the following month. The company collaborates with various entities, including local higher learning institutions, industry players, and overseas product suppliers from China, Japan, the USA, Denmark, and Taiwan, to bolster its business strategy. ACIS also serves as the sole distributor and reseller for several highly sought-after industry product brands in Malaysia.

The company has established itself as a prominent provider of electrical contractor services, with a particular focus on data verification for TNB electrical substations. ACIS has successfully completed verification and data collection for over 60,000 substation units across Peninsular Malaysia. In recognition of its work, the company received the best contractor award for SCADA installation from TNB, an accolade that has enhanced its reputation among customers.

Furthermore, ACIS provides asset integrity consultancy within the Engineering, Procurement, and Construction (EPC) scope for projects such as the automatic LNG Petrol Station project under PETRONAS. With competent personnel possessing 15 years of experience in asset integrity, ACIS has become a top Bumiputera and local consulting firm in the oil and gas sector, both locally and internationally, showcasing exceptional performance.

Explanation Building Analysis Method

This study utilized an explanation-building technique for data analysis. Unlike quantitative data, qualitative data cannot be effectively depicted in tables and figures alone but must be described narratively (Shi, 2020). This analysis involved interpreting words from written documents and interview transcripts (Taylor and Bogdan, 2016), organizing them into themes while preserving the essence of the original language. To contextualize the data, a 'tell-show-tell' technique was employed, developing a narrative that connects the analytic results to existing theory and research. As Beatty et al. (2020) suggest, a compelling argument is built by:

i. highlighting prior research,
ii. emphasizing the present study's accomplishments, and
iii. demonstrating how the data complement each other.

The explanation-building approach integrated theory, empirical findings, and the researcher's synthesized perspective from the literature. The central research question—"What are the key factors that influenced ACIS Technology Sdn. Bhd. in implementing ISO 9001:2015?"—yielded both internal and external factors as primary influencers, consistent with existing literature (e.g., Bamford and Xystouri, 2005; Georgiev and Georgiev, 2015). The internal factors aim to improve productivity, enhance quality management, and increase profit margins. The external factors include customer requirements, customer satisfaction, company image, and reducing customer complaints. These factors are detailed below:

Internal Factors

The analysis identified three primary internal factors motivating the implementation of ISO 9001:2015 at ACIS.

Productivity Improvement

The adoption of ISO 9001:2015 can enhance productivity by establishing a systematic framework for business success and growth. A Quality Management System (QMS) provides the tools to maximize personnel potential, focusing on improvements in staff performance and productivity, as supported by various studies (Georgiev and Georgiev, 2015; Juanzon and Muhi, 2017).

The ACIS CEO commented that: "The successful implementation of ISO 9001:2015 in an organisation depends on its ability to function smoothly and automatically while performing tasks. The elements in the ISO assist employees in making decisions based on the procedures outlined in the Quality Manual and SOP."

This view was echoed by other informants. ACIS HOD 1 stated that the implementation "aims to improve the quality of its processes and products," while ACIS Executive 1 noted that it "can also strengthen processes by making them systematic and orderly."

The BV Lead Auditor added that a QMS can increase quality awareness and teamwork, reducing rejects, waste, and production costs, thereby increasing productivity. Most informants agreed that a QMS helps maintain comprehensive records, identify trends and weaknesses, and facilitate rapid response and improvement, ultimately enhancing employee performance and productivity.

Improved Quality Management

Quality management ensures consistency in an organization's products and services through quality assurance, planning, control, and improvement. Research indicates that implementing ISO 9001:2015 improves management processes (Akhund et al., 2018; Georgiev and Georgiev, 2015).

The majority of informants concurred that ISO 9001:2015 enhances quality management. ACIS Director 1 reported that it introduces "systematic procedures and guidelines" to address previously "chaotic" day-to-day management and execution.

ACIS Director 2, Manager 1, and Executive 1 cited that the standard establishes a "practical and efficient Quality Management System" to "improve and monitor all business areas," creating a "systematic workflow chart." ACIS Executive 2 and an ACIS Engineer emphasized the importance of management having a "clear understanding of its concepts" to produce applicable operating standards. ACIS Engineer 2 added that it "helps to ensure that the entire management process follows systematic operating procedures."

ACIS Admin 1 believed the key to effective implementation lies in "systematically improving the management system and enhancing the quality of services." The BV Lead Auditor pointed out that a QMS improves consistency and process control by establishing specific measures, reducing reliance on human decision-making.

In summary, the implementation addressed pre-existing issues like undocumented procedures and disorganization. As ACIS Director 1 stated, quality management is crucial for

saving time, simplifying systems, and promoting continuous improvement, making the QMS a valuable tool for enhancing quality management practices.

Increased Profit Margin

Studies suggest that a QMS is cost-effective and enhances an organization's reputation, leading to significant benefits, including cost savings and increased profitability (Juanzon and Muhi, 2017; Bravi et al., 2019; Akhund et al., 2018; Zaramdini, 2007). Certification can also enhance revenue by providing a competitive advantage.

As ACIS Manager 1 put it: “In my opinion, the most important factor is continuous improvement as it leads to how successful our company's profit and performance.”

ACIS Engineer 2 stated that the ISO standard “can guarantee the optimal functioning of an organization while concurrently managing its financial and management aspects.” The BV Lead Auditor 1 confirmed that certification is “cost-effective and provides a sustainable competitive advantage.”

The systematic approach of a QMS is crucial for reducing management costs. By adhering to best practices, organizations can minimize expenses and waste, thereby increasing profit margins. The standard's requirement for documented systems and error logs makes it easier to identify and eliminate productivity issues, leading to more efficient resource utilization and operational processes.

External Factors

The analysis identified four primary external factors driving the implementation.

Customer Requirements

A QMS ensures a company meets the goals outlined in its policies, leading to uniformity and customer satisfaction by identifying and fulfilling customer requirements (Georgiev and Georgiev, 2015; Juanzon and Muhi, 2017). Motivational factors for certification include government and customer mandates, market competitiveness, and enhancing firm image (Iatridis and Kesidou, 2018).

ACIS Manager 1 stated that factors include “the requirement for a certificate from customers... and the continuous improvement it promotes.” ACIS Engineer 1 noted that, as an international standard, it helps “provide products and services that meet the needs of their customers.” The BV Lead Auditor 1 commented that implementation “could enhance resource management and, ultimately, satisfy customer needs.”

As a CIDB G7 licensee, ACIS is obligated to maintain valid ISO 9001:2015 certification, which is often a prerequisite for tender participation. Therefore, the QMS directly impacts the organization’s ability to meet formal customer requirements.

Customer Satisfaction

A QMS provides a competitive advantage in quality and customer satisfaction by streamlining internal operations and enhancing communication (Juanzon and Muhi, 2017; Akhund et al., 2018).

The ACIS CEO described ISO 9001:2015 as a foundation that "can increase customer confidence in the quality of services and a more organised and systematic organisation." ACIS Director 2 explained that "Customer Feedback... can let the company know the level of customer satisfaction and can provide the best service." ACIS HOD 1 elucidated that ACIS "must improve the quality of its output, increase efficiency, and provide better customer satisfaction." ACIS Admin 1 and the BV Lead Auditor 1 affirmed that adoption "can satisfy user and customer satisfaction" and increase "awareness of acquiring quality products."

It can be inferred that a more structured and efficient management system fosters client confidence and can lead to increased revenues. A QMS helps deliver the satisfaction customers desire while bolstering the organization's standing.

Company Image

Implementing a QMS enhances an organization's reputation by demonstrating superior operational management and fostering client confidence (Bravi et al., 2019; Juanzon and Muhi, 2017; Georgiev and Georgiev, 2015).

ACIS Director 2 acknowledged that it is "a remarkable accomplishment to enhance the company's image... [and] will gain the trust of customers." ACIS Admin 1 directly stated that a promoting factor is "improving the image of the business." The BV Lead Auditor suggested that implementation reduces "multiple second-party assessments, which enhance the company's image with an internationally accepted standard."

A QMS positively affects sales and reputation through effective management. It can reduce costs while delivering a well-organized system, leading to higher-quality products and job satisfaction. Sales figures, customer feedback, and trust are vital for a positive external image, which the QMS helps to build.

Reduced Customer Complaints

Implementing ISO 9001 can lead to significant external benefits, including enhanced customer satisfaction and reduced complaints, which in turn can increase repurchase rates and market share (Jusoh and Yatim, 2012; Hoyle and Thompson, 2002). Proper implementation is crucial to realizing these benefits (Akhund et al., 2018).

ACIS Director 2 expressed that the implementation "places significant emphasis on customer feedback. This allows the company to gauge the level of customer dissatisfaction or complaints and respond accordingly with improved services." The BV Lead Auditor 1 emphasized the numerous benefits of the standard.

Customer complaints, when processed through an ISO 9001 system, provide valuable insights for business enhancement. This feedback mechanism is an effective technique for continuous improvement. By listening to the customer's voice, a QMS helps refine services and products, thereby reducing future complaints.

The summary of the case study for factors that encourage the implementation of QMS is as shown in Table 2 below:

Table 2
The summary of case study (factors of implementation ISO 9001:2015)

Informants	Internal Factor			External Factor			
	Productivity Improvement	Improve quality management	Increase profit margin	Customer requirements	Customer Satisfaction	Company Image	Reduce customer complaints
CEO	✓				✓		
Director 1		✓				✓	
Director 2		✓			✓		✓
Manager 1		✓	✓	✓			
HOD 1	✓				✓		
Executive 1	✓	✓					
Executive 2		✓					
Engineer 1		✓		✓			
Engineer 2		✓	✓				
Admin 1		✓			✓	✓	
Lead Auditor 1	✓	✓	✓	✓	✓	✓	✓

Summarized by the researchers (2021)

Conclusion

This research identified several variables that influence the adoption of a Quality Management System (QMS) based on the ISO 9001:2015 standard. As detailed in Section 4, seven key factors were found to be critical. These encompass both internal and external elements, all of which are crucial for successful implementation. The internal factors are productivity improvement, enhanced quality management, and increased profit margins. The external factors are the reduction of customer complaints, an improved ability to meet client requirements, increased customer satisfaction, and an enhanced corporate image.

These seven aspects were developed through a synthesis of the literature, empirical data, and the researcher's analysis. It is important to recognize that the interplay of these factors is complex, and they should not be considered in isolation. The primary value of this framework is to provide a comprehensive understanding of how these key factors collectively influence QMS implementation. The presentation of these factors is indicative, acknowledging that perspectives may vary across different organizational contexts.

The central objective of this study was to investigate the factors impacting QMS implementation. The findings confirm that the ISO 9001:2015 standard is an effective tool for enhancing an organization's management quality. Table 3 summarizes the benefits associated with each implementation factor identified in this study.

Table 3
Summary of Factors Influencing the Implementation of ISO 9001:2015

Type of Factor	Factors	Explanations
Internal	Productivity Improvement	A QMS helps identify procedural flaws, leading to improved employee performance and productivity.
	Improved Quality Management	The QMS addresses pre-existing issues such as disorganization and undocumented procedures, establishing a foundation for successful quality management.
	Increased Profit Margin	The systematic approach reduces management costs and leads to more efficient processes and better resource utilization, improving profitability.
External	Customer Requirements	QMS implementation provides a structured framework to better fulfil customer needs and requirements, often serving as a formal prerequisite for tenders.
	Customer Satisfaction	A more effective management system and improved operational culture result in higher-quality outputs and increased customer satisfaction, thereby enhancing the organization's community image.
	Company Image	The delivery of higher-quality products and increased job satisfaction, reflected in positive sales figures and customer feedback, strengthens the organization's public image and market trust.
	Reduced Customer Complaints	By systematically incorporating customer feedback, a QMS leads to continuous improvement in services and products, thereby reducing customer complaints.

Source: Summarized from research findings (2021)

While all seven factors contribute to successful QMS implementation, the analysis of interview and secondary data indicates that the most significant drivers are the internal factors of improved quality management and productivity. These internal improvements create a direct causal pathway to the key external factor of increased customer satisfaction. A QMS boosts productivity and enhances quality management, which in turn drives customer satisfaction. Furthermore, the system helps minimize management costs; the requirement for documented procedures and error logs makes it easier to identify and resolve inefficiencies, leading to cost savings and more effective operations.

In summary, the implementation of a QMS enables an organization to meet client needs, enhance its corporate image, fulfil customer requirements, and reduce complaints. These findings on the motivating factors for QMS adoption are consistent with previous studies,

highlighting the inherent advantages of such a system. Based on the evidence, it is concluded that the ISO 9001:2015 standard is a versatile and appropriate framework for any organization, regardless of its size or sector, due to its adaptable and comprehensive nature.

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