

The Determinants of Quality Management Systems; A Systematic Review

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Abstract: *Quality Management Systems have become important organizational mechanisms for improving process consistency, service quality, customer satisfaction, compliance, and organizational performance. However, the effectiveness of QMS implementation varies across sectors because organizations differ in leadership commitment, quality culture, resources, employee involvement, process control, and external pressures. This systematic review aimed to identify, classify, and synthesize the main determinants influencing the implementation and effectiveness of Quality Management Systems across organizational contexts. A systematic review approach was used to identify and synthesize relevant studies on QMS, ISO 9001, total quality management practices, implementation barriers, success factors, and performance outcomes. The review process followed the logic of PRISMA 2020, including identification, screening, eligibility assessment, and inclusion. A total of 30 studies were included and summarized using a literature review matrix. The findings showed that QMS implementation is shaped by managerial, organizational, human, technical, and external determinants. Leadership and management commitment, quality culture, employee involvement and training, resources, process documentation, audit and monitoring systems, customer focus, external factors, and implementation barriers were the most frequently reported themes. QMS was also associated with outcomes such as operational performance, customer satisfaction, service quality, stakeholder satisfaction, sustainability, environmental innovation, risk reduction, and organizational learning. QMS effectiveness depends on integrated implementation rather than certification alone. Organizations are more likely to achieve positive outcomes when QMS is supported by leadership, quality culture, employee capability, adequate resources, process discipline, and continuous monitoring.*

Keywords: Quality Management Systems; ISO 9001; quality culture; implementation determinants; systematic review.

1. Introduction

Quality Management Systems (QMS) have become an important organizational approach for improving process consistency, service quality, customer satisfaction, compliance, and overall performance. A QMS provides a structured framework through which organizations define quality objectives, standardize procedures, monitor performance, and support continuous improvement. In

contemporary organizations, quality is no longer viewed only as inspection or technical control; it is increasingly treated as a strategic management concern linked to competitiveness, sustainability, operational efficiency, and institutional development. Evidence from manufacturing SMEs shows that the implementation of quality management approaches, methods, and tools can contribute to improved enterprise performance, especially when these practices are directed toward product quality improvement and customer satisfaction (Gejdoš et al., 2023). Similarly, research on ISO 9001-certified organizations indicates that the application of procedures and the development of a quality culture can significantly influence operational performance (Bakhtiar et al., 2023).

The promotion of QMS implementation does not ensure positive outcomes. Several firms assume improvements will come by adopting ISO 9001 or other implementations. But improvements depend on the contexts and numerous sectors. A review on ISO 9001 and performance analytics has shown that the industry adopted varying research approaches, with some of the studies documenting the positive results and others documenting scant or no relations at all (Astrini, 2021). It becomes evident that positive outcomes cannot be authenticated by mere certification if the conditions for the implementation are unmet. In the smaller enterprises, QMS may face challenges to the implementation due to the absence of adequate financial, human, and technical resources, alongside employee apathy (Mehraboun Mohammadi et al., 2022). The construction industry has been faced with closure of the QMS whenever the organizational, administrative, technical, and cultural resources, and the environment and structural exogenous imbalances kindle an alarm (Dery et al., 2026).

The literature identifies several determinants that influence QMS implementation and effectiveness. Leadership and management commitment are frequently emphasized because they provide direction, allocate resources, support employee participation, and connect quality objectives with organizational strategy. Institutional commitment has also been identified as a core success factor for QMS implementation, especially when supported by preparation for change, resource availability, and effective project management (Tanasiichuk et al., 2023). Organizational culture is another central determinant because quality systems require shared values, continuous improvement behavior, and acceptance of standardized quality practices. A review on organizational culture and quality management found that organizational excellence depends on harmonizing quality management with supportive cultural conditions (Palumbo & Douglas, 2024). Human and technical factors are also important, as employee involvement, training, documentation, process management, monitoring, internal audits, and corrective actions help translate QMS principles into actual work practices (Genetu, 2021).

The impact of QMS implementation generally encompasses numerous facets, including operational performance, customer satisfaction, service quality, stakeholder satisfaction, sustainability, innovation, and organizational learning. Evidence in the field of education suggests that the adoption and implementation of the ISO 9001 standard in education can positively change school climate and improve the satisfaction of teachers, as well as that of the students and their families (Martínez-Zarzuelo et al., 2022). In the education sector, especially in the processes of customer-centered stakeholder satisfaction, several tools have been proposed to facilitate the strengthening of quality management as well as the continuous improvement of educational services (Pan et al., 2022). QMS has been related to Environmental Innovation and Sustainability goals, and shown that quality management can encompass larger organizational and social objectives (Zhao et al., 2023). Despite this, some evidence from systematic review suggests that the linkage of ISO 9001-based QMS and organizational performance is still underdeveloped due to the differences that studies have in the way they handle the issues of maturity, process management, and performance measurement (Sfreddo et

al., 2021). Hence, this review intends to discover, categorize and integrate the predominant factors of QMS implementation and its effectiveness in diverse fields and organizational domains.

2. Methodology

This study adopted a systematic review design to identify, screen, and synthesize previous studies on the determinants of Quality Management Systems (QMS). A systematic review approach was appropriate because the literature on QMS is spread across different sectors, including manufacturing, construction, education, laboratories, banking, services, and public organizations. The review was guided by the logic of the PRISMA 2020 framework, which supports transparency in reporting the identification, screening, eligibility assessment, and inclusion of studies. The review emphasized QMS implementation, ISO 9001 adoption, sponsorship for quality, quality culture, leadership commitment, employee involvement, resources, process management, auditing and monitoring, customer focus, obstacles, and performance outcomes. Other prior QMS reviews have employed either systematic or semi-structured reviews frameworks for dealing with scattered results and proposing implementation models, success determinants, obstacles, and strategies for forthcoming research (Susanto et al., 2025). Similarly, systematic review evidence on ISO 9001-based QMS has shown the importance of synthesizing studies across time, sectors, and performance indicators because the relationship between QMS and organizational performance remains inconsistent in the literature (Sfreddo et al., 2021).

Studies related to outcomes and determinants of QMS were located in various academic databases and scholarly search engines. This involved the use of various search engines including Scopus, Web of Science, Science Direct, and other search engines such as Google Scholar, Emerald, and Taylor & Francis. Search terms include, but are not limited to, “QMS,” “ISO implementation,” “QMS critical success factors,” “quality of culture,” “commitment/ dedication by management,” “employee involvement,” “management of processes,” “control,” “focus,” “QMS challenges,” and “organizational impact/ outcomes.” Boolean operators were also used to narrow down searches, “QMS” and “determinants,” and “ISO 9001” and “performance,” and “determinants” and “barriers” and “QMS.” This search was similar to previous studies that evaluated QMS models and performance and are described in the references used for this search. Searches that were performed manually involved looking closely at articles that were referenced in papers that were relevant to QMS determinants or outcomes.

The inclusion criteria were established to ensure that the selected studies were directly relevant to the aim of the review. Studies were included if they focused on QMS, ISO 9001, TQM, or quality management practices; examined determinants, success factors, barriers, implementation conditions, or outcomes; and were published as peer-reviewed journal articles, conference papers, systematic reviews, or academic dissertations. Studies from different organizational contexts were included to allow comparison across sectors and settings. Empirical, conceptual, mixed-method, and review-based studies were considered eligible when they provided clear evidence about QMS implementation or effectiveness. Studies were excluded if they were not related to quality management systems, did not address determinants or outcomes, lacked sufficient methodological or conceptual relevance, or were not available in full text. This broad but focused eligibility approach was suitable because QMS implementation is influenced by multiple factors, including leadership, resources, employee participation, technical knowledge, organizational culture, process documentation, and external pressures (Mehrabioun Mohammadi et al., 2022).

After the search process, duplicate records were removed, and the remaining studies were screened by title and abstract. Studies that appeared relevant were then assessed in full text to determine whether they met the inclusion criteria. During eligibility assessment, attention was given to the study aim, sector, method, QMS focus, determinant categories, and reported outcomes. The final sample consisted of 30 studies included in the literature review matrix. Data were extracted using a standardized matrix developed for this review. The matrix included the author and year, along with determinant and outcome categories such as leadership/management, quality culture, employee involvement/training, resources, process/documentation, audit/monitoring, customer focus, external factors, barriers, and performance outcomes. A checkmark was used only when the concept was explicitly mentioned in the study. This approach allowed the review to compare studies systematically without adding subjective interpretation to the matrix. Similar determinant-based extraction is useful in QMS research because prior studies often examine different combinations of success factors, barriers, and outcomes across organizational settings (Tanasiichuk et al., 2023).

The data extracted were synthesized using a combination of narrative and thematic synthesis approaches. The synthesis was sequential as follows. First, the studies were summarized based on selected characteristics and their focal point within the Quality Management System (QMS). Second, the determinants were classified as managerial, organizational, human, technical/process, external/contextual, barriers, and performance outcomes. This thematic approach was appropriate because QMS studies often differ in terminology but examine related ideas, such as leadership commitment, institutional commitment, quality culture, employee involvement, process control, documentation, internal audits, and performance improvement. For example, leadership and institutional commitment were treated as managerial determinants because both describe the role of management in supporting implementation (Silva & Matos, 2022). Palumbo and Douglas (2024) suggest that the internal environment required to support continuous quality improvement is centered around a quality culture and organizational climate. Bazaluk et al. (2024) also suggest that process management, documentation, monitoring, internal audits, and risk management can be classified as technical/process determinants since they emphasize the functional or operational means through which a Quality Management System (QMS) is executed. The study selection process is summarized in Figure 1, which presents the PRISMA 2020 flow diagram covering identification, screening, eligibility assessment, and inclusion.

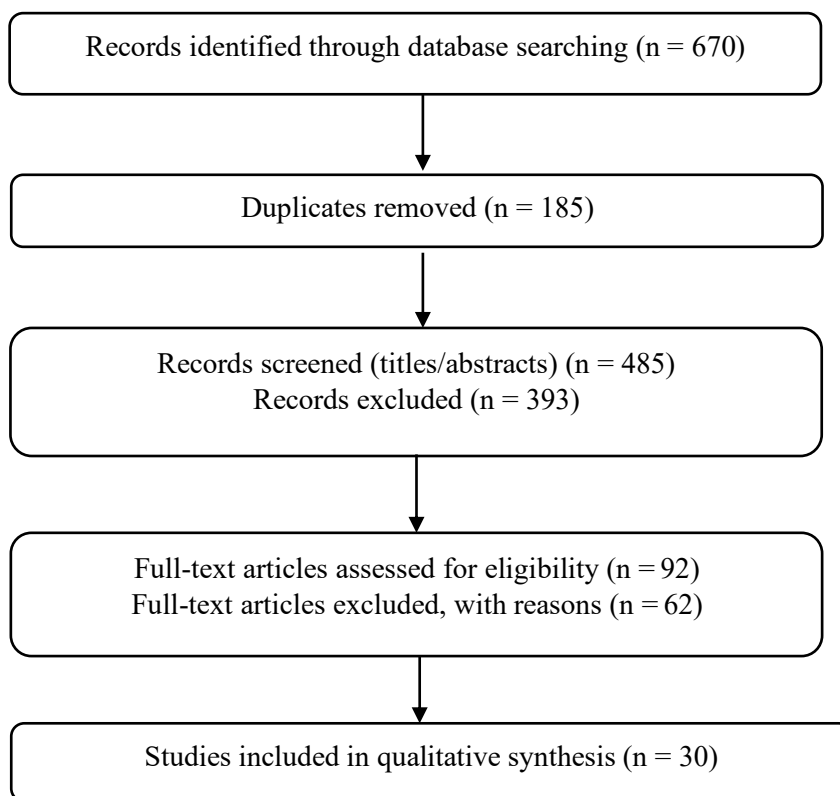


Figure 1. PRISMA 2020 Flow Diagram

3. Results

3.1 Study Selection and Characteristics

The final review analyses 30 studies related to Quality Management Systems such as ISO 9001 implementation, total quality management practices, quality culture, barriers to implementation, and QMS-related outcomes in various organizational contexts. The studies examined numerous sectors like manufacturing, education, construction, banking, service and hospitality organizations, and consulting engineering and laboratories. This variety demonstrates that QMS could be construed as a comprehensive management system as opposed to a sector-specific tool. The studies used diverse methodologies such as combined quantitative and qualitative studies and surveys, case studies, various reviews including systematic reviews and reviews in general, structural modeling, and others. A few studies looked at the relationship between ISO 9001 and organizational performance, while other studies examined the success factors, quality culture, and the challenges and factors involved with risk management and stakeholder satisfaction, as well as aspects of the internal audit and sustainability (Astrini, 2021). Specifically, review studies aggregated the barriers and success factors of ISO 9001 implementation and related QMS in different contexts (Susanto et al., 2025). The studies selected for review provided an appropriate level of evidence for the classification of QMS determinants into managerial, organizational, human, technical or process, and external or barrier-related, or outcome-related. Table 1 illustrates the characteristics and thematic classification of the 30 studies reviewed. The matrix in the table outlines the studies in relation to the most prominent QMS determinants and outcomes including management, quality culture, staff engagement and education, resources, procedures and documentation, auditing and monitoring, customers, external factors, barriers, and performance outcomes.

Table 1. Literature Review Matrix

No.	Author(s) & Year	Leadership / Management	Quality Culture	Employee Involvement / Training	Resources	Process / Documentation	Audit / Monitoring	Customer Focus	External Factors	Barriers	Performance Outcomes
1	Gejdoš et al. (2023)					✓		✓	✓		✓
2	Tanasiichuk et al. (2023)	✓			✓	✓			✓	✓	✓
3	Mehrabioun Mohammadi et al. (2022)			✓	✓	✓				✓	✓
4	Dery et al. (2026)	✓	✓		✓				✓	✓	✓
5	Genetu (2021)	✓		✓	✓	✓		✓		✓	✓
6	Susanto et al. (2025)				✓	✓				✓	✓
7	Sweis et al. (2022)			✓		✓			✓		✓
8	Astrini (2021)					✓					✓
9	Bakhtiar et al. (2023)	✓	✓			✓					✓
10	Okifitriana & Latief (2021)					✓				✓	✓
11	Zarbo (2022)	✓	✓	✓		✓	✓				✓
12	Silva & Matos (2022)	✓									✓
13	Ogben & Daud (2021)	✓									✓
14	Fedonin et al. (2021)			✓		✓	✓				✓
15	Sukmana et al. (2021)			✓							✓
16	Palumbo & Douglas (2024)		✓								✓
17	Navarro & Naranjo (2025)	✓	✓	✓		✓	✓	✓			✓
18	Pranata et al. (2023)					✓		✓		✓	✓
19	Bouchetara et al. (2022)					✓		✓	✓	✓	✓
20	Evi & Gantino (2023)	✓		✓	✓	✓	✓				✓
21	Martínez-Zaruelo et al. (2022)	✓	✓					✓			✓
22	Pan et al. (2022)			✓				✓			✓
23	Liu et al. (2021)									✓	✓
24	Celestin (2021)	✓		✓	✓	✓		✓	✓		✓
25	Chen (2024)	✓				✓					✓
26	Abbas & Kumari (2023)	✓		✓		✓	✓	✓			✓

No.	Author(s) & Year	Leadership / Management	Quality Culture	Employee Involvement / Training	Resources	Process / Documentation	Audit / Monitoring	Customer Focus	External Factors	Barriers	Performance Outcomes
27	Bazaluk et al. (2024)	✓				✓	✓		✓	✓	✓
28	Zhao et al. (2023)					✓			✓		✓
29	Sin et al. (2022)				✓	✓					✓
30	Sfreddo et al. (2021)					✓				✓	✓

3.2 Determinants of Quality Management Systems

The reviewed studies identified several determinants that influence QMS implementation and effectiveness. Leadership and management commitment appeared as one of the most important determinants because successful QMS implementation requires direction, resource allocation, employee support, strategic alignment, and sustained commitment to quality improvement. Studies on QMS maturity showed that leadership practices are positively related to the development of quality management systems, especially when leadership behavior fits the organizational context (Silva & Matos, 2022). Institutional commitment was also identified as a core success factor in laboratory QMS implementation, especially when combined with preparation for change, resource availability, and effective project management (Tanasiichuk et al., 2023). In addition, research on top management commitment emphasized that management support strengthens quality assurance systems and helps translate quality strategies into operational action (Ogben & Daud, 2021). These findings suggest that leadership is not only an administrative requirement but a central condition for making QMS implementation meaningful and sustainable.

The results confirm that a quality culture, employee involvement, availability of resources, and technical and process systems have a strong positive impact on the QMS. A quality culture reinforces a culture of shared values and tolerance for continuous improvement and the codification of ways of doing things. Employee involvement and training permit the code of QM to be reflected in the daily work behavior of the employees. A review concerning organizational culture and quality management upheld that organizational excellence is achieved through a nexus incorporation of quality management and a supportive culture condition (Palumbo & Douglas, 2024). Some empirical data also upheld that quality culture, quality management, leadership, active participation, customer focus, and the continuous performance of the organization and quality management systems support the focus and sustainability of the organization (Navarro & Naranjo, 2025). Among the human-related barriers, poor quality management systems (Genetu, 2021). Also highlighted were technical and process-related barriers, mostly characterized by the systems and the processes that encompass the management of system documents, process monitoring, and management, as well as a system of internal and process-based management of risk and quality-related corrective actions. The management of risk and quality corrective actions were among the barriers cited in studies on ISO 9001, internal audits, and risk-based quality management systems (Evi & Gantino, 2023).

External and contextual factors also shaped QMS implementation across the reviewed studies. In consulting engineering firms, external environmental pressure was identified as a critical success factor affecting ISO 9001 effectiveness (Sweis et al., 2022). In construction QMS implementation, there were numerous barriers (organizational, resource, technical, cultural, communications and external bas). In this context it can be seen that implementation challenges can be both internally and externally focused to the organization (Dery et al., 2026). In the studies of the SMEs, it was observed that the financial constraints and limited human resources, inadequate technical knowledge, and also the indifference of the employees (Mehraboun Mohammadi et al., 2022). These findings indicate that QMS determinants should be understood as an interconnected set of managerial, organizational, human, technical, and contextual conditions. Therefore, organizations should not treat QMS as a documentation exercise only, but as an integrated system requiring leadership commitment, employee capability, cultural readiness, resources, process discipline, and external alignment.

3.3 Outcomes Associated with Quality Management Systems

The reviewed studies reported several outcomes related to QMS implementation, but most were related to the organizational and operational. Research on manufacturing SMEs showed that the use of tools, approaches, and techniques of quality management was associated with improvement of enterprise performance through the implementation of quality improvement and customer satisfaction (Gejdoš et al., 2023). Operational performance was also found to be improved through the application of end-to-end procedures and quality culture in ISO 9001 certified organizations (Bakhtiar et al., 2023). TQM practices were also linked to knowledge management, organizational performance, and operational and even financial performance (Abbas & Kumari, 2023). However, the evidence appeared to be conflicting. ISO 9001 and performance research reviews showed that outcomes differ due to study methods, timing, and performance measurement indicators and maturity levels (Sfreddo et al., 2021). It signals that the results of QMS would most likely depend on the quality of its implementation and not merely the status of the certification.

Other outcomes included customer satisfaction, stakeholder satisfaction, service quality, school climate, sustainability, environmental innovation, and risk reduction. Improvements of the school climate and satisfaction for teachers, students, and families have been reported in education in association with the implementation of ISO 9001 (Martínez-Zarzuelo et al., 2022). In Higher Education, the quality management and sustainability of development were supported by stakeholder satisfaction tools with a customer focus (Pan et al., 2022). In construction, customer focus, top management commitment, continuous improvement, supplier partnering, resources, and training were linked to project performance (Celestin, 2021). Beyond internal performance, QMS was also connected to sustainability and environmental innovation, showing that quality management can support broader organizational and societal goals (Zhao et al., 2023). These findings show that QMS has a potential to deliver benefits as long as it considers the contextual elements such as leadership, culture, employee participation, resource, disciplined processes, and systematic control.

4. Discussion

4.1 Interplay of Managerial, Organizational, Human, Technical, and External Determinants

The findings of this systematic review show that the determinants of Quality Management Systems (QMS) do not operate independently; rather, they interact as an integrated set of managerial, organizational, human, technical, and external conditions. Managerial commitment appears to be a central driver because leadership determines whether quality objectives are supported by resources,

communicated across departments, and translated into daily practices. Studies on QMS maturity confirm that leadership practices are closely related to the development of quality management systems, especially when leadership behavior is appropriate to the internal organizational context (Silva & Matos, 2022). Similarly, institutional commitment was identified as the core of successful QMS implementation in laboratories in low- and middle-income countries, particularly when supported by preparation for change, resource availability, and effective project management (Tanasiichuk et al., 2023). These findings suggest that leadership is not only one determinant among others; it is the factor that activates and coordinates other determinants such as culture, training, documentation, monitoring, and continuous improvement.

Organizational and human determinants further explain why formal QMS structures may succeed in some organizations but remain weak in others. A supportive quality culture helps employees accept standardization, participate in improvement activities, and view quality as part of their shared responsibility rather than as a compliance burden. The literature shows that organizational excellence depends on the alignment between quality management and organizational culture, because quality systems require cultural support while also reshaping cultural practices over time (Palumbo & Douglas, 2024). Human determinants such as employee involvement, training, competence, and empowerment are equally important because employees are responsible for applying QMS procedures, identifying deviations, and sustaining improvement activities. Barriers such as inadequate training, lack of recognition, weak knowledge sharing, limited personal development, and low employee interest can weaken QMS implementation even when formal procedures exist (Genetu, 2021). Therefore, effective QMS implementation requires both cultural readiness and employee capability.

Technical and external determinants complete this interaction by providing the operational and contextual conditions through which QMS is implemented. Process management, documentation, audits, monitoring systems, corrective actions, and risk management help convert quality objectives into measurable and repeatable practices. Evidence from ISO 9001:2015 internal audit implementation shows that audit activities and standard operating procedures can strengthen procedural effectiveness and product quality when applied consistently (Evi & Gantino, 2023). Risk-based QMS research in higher education also demonstrates the importance of identifying inconsistencies, assessing hazardous and favorable factors, and using corrective measures to support quality assurance (Bazaluk et al., 2024). At the same time, QMS implementation is shaped by external pressures such as certification requirements, market competition, regulatory expectations, stakeholder demands, and sector-specific conditions. For example, external environmental pressure was found to influence ISO 9001 effectiveness in consulting engineering firms (Sweis et al., 2022). This means that QMS effectiveness depends on the fit between internal capabilities and external expectations.

4.2 Policy, Practical, and Theoretical Implications

This research presents implications for firms wanting to establish or enhance Quality Management Systems (QMS) that focus on some major issues. QMS should not be viewed by managers as a documentary or certification exercise. Evidence suggests that QMS leads to better results if company leadership, quality culture, employee engagement, resources, process management, and control and monitoring mechanisms are all integrated. For Small and Medium-sized Enterprises (SMEs), this becomes more significant, as lack of financial, human, and technical resources, as well as employee apathy, lead to serious challenges for many of them when implementing QMS (Mehraboun Mohammadi et al., 2022). Hence, firms should optimize their investment to create training, employee engagement, internal communication, and quality awareness mechanisms, and only afterwards expect

QMS to have significant outcomes. To keep quality in line with strategic and operational goals, mechanisms that integrate various aspects of quality should be created, and significant emphasis should be placed on quality-related procedures, internal audits, risk assessments, and corrective actions. Evidence suggests that in ISO 9001-certified firms, quality procedures and quality culture are critical for operational effectiveness (Bakhtiar et al., 2023).

From a policy perspective, this review posits that certification bodies, regulators, professional associations, and sector authorities should offer more context-sensitive support in the QMS implementation. Organizations in developing countries, SMEs (Small and Medium-sized enterprises), construction, education, and laboratories, may be subject to a variety of implementation constraints, and a generic universal model may not be applicable. Construction studies identify the need for sector-specific and focused implementation support by indicating organizational, resource, technical, cultural, communication, and external barriers (Dery et al., 2026). Furthermore, literature review of models of ISO 9001 implementation, highlight the necessity to have models for SMEs, flexible and agile approaches to implementation, assessment of implementation to the required level, and cost-effective certification (Susanto et al., 2025). Therefore, policymakers and standard-setting bodies should encourage flexible implementation frameworks that preserve the core logic of QMS while allowing adaptation to organizational size, resource capacity, sector, and regulatory environment. Such support may help organizations move from formal compliance toward genuine quality improvement.

Theoretically, the review contributes by showing that QMS determinants should be understood through an integrated framework rather than through isolated variables. The findings support a multidimensional view in which managerial commitment enables organizational culture, human capability, technical discipline, and external alignment. This interpretation helps explain why prior research has produced inconsistent findings about the relationship between ISO 9001 and performance. Certain organizations may realize positive outcomes because QMS becomes part of their culture and baked into their operations, while others may experience limited outcomes because implementation is only marginal. This aligns with systematic review evidence that points out the unsettled and likely maturity-dependent status of the relationship between ISO 9001 and QMS and its impact on organizational performance, process control, and performance measurement (Sfreddo et al., 2021). The review therefore posits that in the context of QMS theory, a greater focus is given to implementation depth and the maturity and relationship between the elements.

4.3 Comparison with Existing Reviews, Limitations, and Future Research

The findings of this review are consistent with existing literature showing that QMS implementation is associated with performance improvement, but that the strength of this relationship depends on how QMS is implemented. Previous review evidence found that many studies report a positive relationship between ISO 9001 implementation and organizational performance, especially operational and market performance, but also noted the lack of a consolidated model for evaluating QMS maturity and process management (Sfreddo et al., 2021). This review supports that conclusion by showing that performance outcomes are frequently reported, but are strongly connected to determinants such as leadership, quality culture, resources, documentation, audit systems, and employee involvement. The findings also align with method-review evidence showing that different research designs may produce different conclusions about ISO 9001 and performance (Astrini, 2021). This suggests that QMS-performance relationships should be interpreted carefully, especially when comparing cross-sectional, longitudinal, case-based, and review-based studies.

This analysis builds on previous research by classifying QMS determinants into different categories encompassing managerial, organizational, human, technical/process, external, barrier-related, and outcome-related aspects. Many existing studies have assessed different ISO 9001 implementation models, but often, the focal point of the research was specific dimensions, such as success factors, performance, and cultural aspects, including the sustainability of the ISO implementation. In recent studies on organizational culture and quality management, researchers shed light on the role of cultural conditions in promoting quality management and organizational excellence (Palumbo & Douglas, 2024). Research on sustainability shows that quality management can support environmental innovation and sustainable development goals, indicating that QMS may contribute to broader strategic outcomes beyond internal efficiency (Zhao et al., 2023). By combining these streams, the present review shows that QMS should be understood as both an internal management system and an externally responsive framework shaped by regulatory, market, stakeholder, and sustainability pressures.

This review is subject to several noteworthy constraints. For one, the studies used were highly disparate concerning design, sector, country, and terminology might restrict side-by-side analysis of findings. For another, the review is likely to have eluded some implicit thematic linkages, as studies were consulted that primarily made reference to determinant and outcome categories. The studies also seem disparate in the aspects of QMS implementation, ISO 9001, and the measurement of outcome aggregates pertaining to quality culture, quality culture maturity levels, and organizational performance. Additionally, the review found that several of the studies come from the same sector, more specifically, manufacturing, construction, education, and service organizations. It is likely that the compilation of such related studies is a result of a proliferation of a certain sector. With that being said, to close the existing gap, more studies are needed that propose and clarify a standardized QMS model in order to deepen the quality and performance outcome assessment, as well as QMS maturity and implementation. The review also found the lack of longitudinal studies in assessing the lasting value of improving the QMS over the years. It is highly likely that the studies say more in terms of the measurement instrument and the time the firms decided to register the quality QMS. (Astrini, 2021) It is likely that future QMS studies will consider QMS digitalization, risk-based QMS, and QMS oriented towards sustainability.

5. Conclusion

This systematic review examined the determinants of Quality Management Systems by synthesizing evidence from 30 studies across manufacturing, construction, education, laboratories, consulting engineering, banking, hospitality, services, and higher education. The findings show that QMS implementation is influenced by a combination of managerial, organizational, human, technical, and external factors. Leadership and management commitment emerged as central determinants because they shape strategic direction, resource allocation, employee participation, and continuity of quality improvement efforts. Quality culture was also important because QMS requires shared values, continuous improvement behavior, and acceptance of standardized procedures. Human factors, especially employee involvement, training, competence, recognition, and empowerment, were essential for translating QMS requirements into daily work practices. Technical and process-related factors, including documentation, internal audit, process management, monitoring, corrective actions, and risk management, provided the operational structure needed to sustain implementation. External pressures, such as certification requirements, regulatory expectations, stakeholder demands, and market competition, further shaped the way QMS was adopted and maintained.

The review showed that confirming the implementation of the QMS has the potential to create various outcomes such as positive operations, customer satisfaction, service quality, satisfaction of the other parties involved, environmental improvements, sustainable innovation, risk management, reduced risk, and learning within the organization. It must also be noted that the above outcomes cannot be quantitatively ensured by the fact that the company is certified. Organizations are suspected to be able to achieve the above outcomes through the implementation of the QMS if it is performed by leaders through appropriate staff involvement, creation of a deeply entrenched quality culture, and through effective documented procedures, commitment to periodic progress substantiation, and measures of justification that are adapted to the circumstances. Thus, the QMS should be viewed, if the other means of formal compliance are not available, as another formal compliance system. From this review, the authors reviewed the known QMS entry criteria and segmented them into individual sections and discussed their relationship and order of importance towards the achievement of maximum systematic improvement and performance outcomes. The authors recommend that QMS, multi-tiered systems of comprehensive sustainability management, sector-specific sustainable systems to support SMEs in achieving QMS formal compliance, and systems of operations in sectors with limited resources, be explored depending on the sustainability focus and quality systems operated within the sectors.

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