

Implementation and Difficulties of the Quality Management System (ISO 9001:2015) in a State University

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Abstract:

This study explored the implementation and challenges of the ISO 9001:2015 Quality Management System in a state university in Central Philippines during AY 2024–2025, aiming to improve efficiency, accountability, and service quality. Using a descriptive design and data from 193 stratified randomly selected employees, the researcher assessed implementation and difficulties across Leadership, Planning, Operation, and Improvement. Results showed implementation was generally high, with Leadership as the strongest area and Improvement as the weakest, especially in evaluating corrective actions. Planning posed the greatest difficulty, particularly in risk identification. Demographic analysis revealed that younger, male, long-serving, less-educated, permanent, and non-teaching employees at the main campus reported both the lowest implementation in Improvement and highest difficulty in Planning. Significant differences were found based on sex and age in specific areas, and a notable relationship existed between implementation extent and encountered difficulties. These findings underscore the need for leadership engagement, risk assessment training, corrective action reviews, and inter-campus alignment to sustain ISO 9001:2015 implementation.

Keywords: Difficulties, implementation, ISO, quality management system, state university

Introduction:

Nature of the Problem

The globally recognized Quality Management System (QMS) standard, ISO 9001, aims to improve efficiency, accountability, and service quality (ISO, 2015). In State Universities and Colleges (SUCs), its adoption enhances educational services, streamlines administrative processes, and reinforces institutional governance (Tari et al., 2018). Globally, ISO 9001 implementation has been linked to improved organizational efficiency, faculty engagement, and student satisfaction (Psomas & Pantouvakis, 2015; Khan et al., 2021). In the Philippines, Executive Order No. 605 (2007) institutionalized the Government Quality Management Program (GQMP), mandating SUCs to adopt ISO 9001 to improve service delivery and accountability. Key implementation areas include leadership, strategic planning, resource management, and continuous improvement (Development Academy of the Philippines, 2020), all of which are essential for long-term institutional development.

Although ISO 9001 offers clear benefits—such as better administrative efficiency, curriculum alignment with labor market demands, and improved academia-industry collaboration (Gamit et al., 2024)—challenges persist. Sustaining QMS requires strong stakeholder commitment and faces issues like compliance lapses, resource constraints, and resistance to change (Ab Wahid, 2019; Santos & David, 2021). In the context of Central Philippines, existing research mainly focuses on overall implementation, lacking in-depth analysis of specific areas like leadership, planning, operation, and improvement (Garcia, 2019; Reyes & Aquino, 2020). This study addressed that gap by assessing these dimensions, identifying key barriers, and proposing strategic interventions to ensure the sustainability and effectiveness of ISO 9001:2015 in state universities.

The researcher, as an instructor and Program Head of two undergraduate programs in a State University, conducted this study with a commitment to improving QMS implementation. Recognizing the importance of QMS (ISO 9001:2015), this research aimed to identify gaps, strengthen institutional support, and enhance sustainability through evidence-based interventions.

Current State of Knowledge

ISO 9001 has become a pivotal quality management standard in higher education institutions (HEIs) globally, with increasing adoption particularly in Asia and Europe due to regulatory pressures and a growing emphasis on quality assurance (ISO, 2020). UNIDO (2018) highlights its role in enhancing institutional credibility in developing countries, though challenges such as limited resources and resistance to change persist. The OECD (2021) reports stronger implementation in countries with mandated certification, linking ISO 9001 to improved efficiency and student satisfaction. Similarly, EFQM (2019) finds that leadership and continuous monitoring are key to successful and sustained implementation in European universities. The World Bank (2020) emphasizes that national policies greatly influence adoption, with higher uptake in countries like Malaysia, China, and the UAE. IAU (2022) underscores the standard's alignment with international benchmarks, though long-term compliance remains a concern amid shifting educational policies. EHEA (2021) explores the integration of ISO 9001 with the Bologna Process, suggesting harmonized systems can reduce redundancy. UNESCO (2020) concludes that effective ISO 9001 adoption hinges on leadership, faculty engagement, and alignment with both local and global accreditation systems.

This global perspective is mirrored in the Philippine context, where ISO 9001 adoption among HEIs has been increasingly recognized as a driver of quality assurance, administrative efficiency, and global competitiveness. CHED (2021) emphasizes that ISO 9001 compliance enhances service delivery and aligns institutional operations with international standards. DTI-BPS (2020) and DAP (2019) affirm that certified HEIs experience streamlined processes, better governance, and improved accountability, while AACUP (2021) and ALCUOA (2021) report stronger documentation, responsive services, and enhanced accreditation outcomes. The PQA Program (2020) highlights that ISO-certified institutions institutionalize continuous improvement, risk-based thinking, and data-driven decision-making. TIP-CQC (2021) adds that ISO 9001 fosters adaptability, faculty engagement, and improved student performance. NEDA (2022) links quality management to national development by promoting employability and effective governance. Meanwhile, DOST-PCIEERD (2019) and PSQ (2020) underscore improvements in research management, compliance, and institutional resilience, calling for ongoing monitoring and refinement to sustain long-term benefits.

The integration of Total Quality Management (TQM) principles in higher education is crucial for enhancing institutional performance and continuous improvement. TQM's key components, including strategic alignment, customer focus, employee involvement, and continuous improvement, are foundational for frameworks like ISO 9001:2015 (Goetsch & Davis, 2016). Scholars emphasize the importance of leadership in driving quality initiatives (Kouzes & Posner, 2012; Riwayadi, 2023), while employee involvement and organizational support directly impact performance (Jiang et al., 2018; Eisenberger & Stinglhamber, 2011). Strategic planning and governance are also critical for long-term success (Voss et al., 2005; NEDA, 2018). Research highlights the need for integrating quality management with internal competencies and corrective actions to foster innovation (Camisón & Puig-Denia, 2016). Additionally, diversity-sensitive leadership and training approaches optimize ISO 9001 outcomes (Omidvar et al., 2013; Clegg et al., 2010), ensuring adaptability and global competitiveness.

Nevertheless, despite ISO 9001 offering a structured framework for quality management, HEIs globally face persistent challenges in its implementation. ISO (2015) notes issues such as resistance to change, weak management support, and misalignment with academic structures. UNIDO (2019) adds that in developing countries, financial constraints and limited expertise hinder progress, requiring stronger government backing and faculty engagement. OECD (2022) and EFQM (2020) highlight faculty resistance and administrative burden, stressing the need for leadership-driven quality culture and staff training. The World Bank (2021) emphasizes that low-income HEIs struggle with resource limitations and unstable leadership, impacting long-term compliance. ILO (2020) and APO (2018) point to conflicts between ISO requirements and academic freedom, with the latter stressing cultural diversity and lack of quality professionals as key barriers in Asia. ASEAN-QA (2021) and UNESCO (2019) identify overlapping accreditation frameworks, sociocultural constraints, and governance issues as further hurdles, advocating for harmonization and capacity-building. IAU (2020) concludes that sustained ISO 9001 adoption depends on strategic commitment, internal quality teams, and global collaboration initiatives.

These global implementation challenges are similarly experienced in the Philippines, where numerous barriers continue to hinder the full and sustainable application of ISO 9001 in HEIs. AACUP (2021) and CHED (2020) report that resource constraints, limited training, and resistance from faculty and staff impede effective QMS adoption, while bureaucratic hurdles and process misalignment further complicate implementation. DOST (2019) points to outdated infrastructure and limited technical skills, recommending enhanced IT investments and training. PASUC (2022) and NEDA (2018) highlight the impact of inconsistent leadership and financial constraints, suggesting strategic planning and government subsidies. DAP (2021) and UP-PARES (2020) emphasize the effects of inefficient administrative systems and faculty resistance, calling for streamlined processes and inclusive implementation strategies. TESDA (2019) notes difficulties integrating ISO standards with flexible, competency-based curricula, advocating for adaptive quality approaches. ALCU (2022) and CSC (2021) identify local funding gaps, untrained personnel, and workforce disengagement as barriers, recommending inter-agency coordination, staff incentives, and workload adjustments to strengthen institutional compliance and long-term ISO 9001 success.

Despite these challenges, recent Philippine-based empirical studies reinforce many of the global findings while also offering local insights into the factors influencing successful QMS implementation in HEIs. Balahadia and Dalugdog (2021) found that strong QMS awareness at Laguna State Polytechnic University significantly improves institutional effectiveness by aligning processes with organizational goals. Similarly, Garcia and Reyes (2020) emphasize that leadership commitment, continuous training, and systematic monitoring enhance service delivery and operational efficiency. However, sustaining these improvements poses challenges. Santos and David (2021) identify resource constraints, resistance to change, and weak monitoring systems as major obstacles to continual improvement in state universities post-ISO 9001:2015 certification. They advocate for leadership engagement and structured evaluations to ensure sustainability. Furthermore, Miciano and Miciano (2024) stress the need to integrate strategic planning with quality practices to address resource allocation and resistance issues effectively. On the human resource front, Salvosa and Hechanova (2021) highlight generational differences in leadership preferences—where younger employees lean toward transformational leadership and older staff prefer traditional hierarchies—suggesting that leadership style impacts employee engagement and QMS adaptability. Collectively, these studies highlight the need for context-sensitive strategies, combining leadership, awareness, and structural alignment to ensure long-term success of quality initiatives in Philippine HEIs.

Theoretical Underpinnings

This study is grounded in Total Quality Management (TQM) and Systems Theory, offering a comprehensive lens to understand the implementation and challenges of ISO 9001:2015 in educational institutions. TQM, developed by quality pioneers such as Deming, Juran, Crosby, Ishikawa, and Feigenbaum, advocates for a holistic approach to quality improvement through active stakeholder engagement across all organizational levels. In the academic context, TQM supports the enhancement of service delivery and operational efficiency by promoting a culture of continuous improvement and collective responsibility among leaders, faculty, staff, and students. It serves as a vital framework for evaluating how Quality Management Systems (QMS) like ISO 9001:2015 drive institutional excellence.

Complementing TQM, Systems Theory—originating from Ludwig von Bertalanffy (1968) and further developed by Ashby and Bateson—provides a structural understanding of how different components of an institution interact within a larger environment. It emphasizes the interconnectedness of academic and administrative functions and the importance of feedback mechanisms, coordination, and adaptation, which align closely with ISO 9001:2015 principles. The integration of TQM and Systems Theory allows this study to analyze ISO implementation from both quality-focused and system-oriented perspectives. This dual framework supports strategic planning, leadership commitment, and institutional collaboration, offering deeper insight into the dynamics of QMS adoption and informing the development of targeted interventions to enhance service quality and institutional performance.

Objectives

This study aimed to determine the extent of the implementation and level of difficulties encountered in the Quality Management System (ISO 9001) in a State University in Central Philippines during the Academic Year 2024-2025. Specifically, this study sought to answer the following questions: 1) the extent of the implementation according to the area of leadership, planning, operation, and improvement; 2) is the level of difficulty encountered according to the area of leadership, planning, operation, and improvement; 3) the significant difference in the extent of implementation when grouped and compared according to the aforementioned variables; 4) the significant difference in the level of difficulty when grouped and compared according to the aforementioned variables; and 5) the significant relationship between the extent of implementation and the level of difficulty encountered.

Methodology

This section presents a discussion of the research methodology used, the subjects and respondents of the study, the research instruments used, the validity and reliability of the instruments, the procedure for data gathering, and the statistical tools and procedures for data analysis.

Research Design

The researcher mainly used a quantitative descriptive design. This is widely recognized for its ability to systematically present factual information and support scientific decision-making (Creswell & Creswell, 2023). This approach provides valuable insights into the characteristics of the implementation of the Quality Management System (QMS) and facilitates a detailed examination of practices and procedures within the State University (Saunders, Lewis, & Thornhill, 2019). The quantitative descriptive research design is appropriate for this study as it provides a comprehensive overview of the current state of ISO 9001:2015 implementation, allowing for the identification of areas that require improvement in QMS practices and procedures. By quantifying both the extent of implementation and the difficulties encountered, this study gathers data from a diverse group of respondents, including administrators, faculty, and staff, ensuring a well-rounded assessment.

Study Respondents

The study surveyed 193 employees out of 385 personnel at a state university, using Cochran's Formula to ensure a representative sample for evaluating ISO 9001:2015 implementation and related challenges. Stratified random sampling was employed to capture diverse subgroups within the employee population, ensuring inclusivity and providing a comprehensive analysis of the varying roles and employment conditions. This approach strengthened the study's findings by offering valuable insights into the implementation and difficulties of ISO 9001:2015 within the university context (Cochran, 1977).

Instruments

A researcher-made survey questionnaire was used to collect data specific to the study's objectives (Creswell, 2018). The first section gathered personal information about the respondents, while the second section measured the extent of ISO 9001:2015 implementation in the state university, focusing on Leadership, Planning, Operation, and Improvement. The level of difficulties encountered in these areas was also assessed. Both sections used a 5-point Likert scale (1 = almost never, 5 = always) to gauge responses. It was subjected to validity (4.53-excellent) and reliability (0.99 for extent of implementation and level of difficulty which interpreted as excellent). All of them were interpreted as worthy and good; respectively.

Data Gathering Procedure

Once the instrument's validity and reliability were confirmed, the researcher formally requested the University President's permission to collect the data. After receiving approval, the researcher distributed the questionnaire online (via Google Forms) and in hard-copy formats, ensuring clarity and ease of use in the survey design. Respondents were assured that their data would remain confidential. The encoded data were then processed using SPSS.

Data Analysis and Statistical Treatment

Objective No. 1, a descriptive-analytical scheme and mean was employed to assess the extent of implementation of the Quality Management System (ISO 9001) in a state university in the areas of leadership, planning, operation, and improvement.

Objective No. 2, a descriptive-analytical scheme and mean was employed to determine the level of difficulty encountered in the Quality Management System (ISO 9001) in a state university in the areas of leadership, planning, operation, and improvement.

Objective No. 3, a comparative-analytical scheme and Mann-Whitney U test was utilized to determine if there is a significant difference in the extent of implementation of the Quality Management System (ISO 9001) in a state university when grouped and compared according to the specified variables.

Objective No. 4, a comparative-analytical scheme and Mann-Whitney U test was utilized to determine if there is a significant difference in the level of difficulty encountered in the Quality Management System (ISO 9001) in a state university when grouped and compared according to the specified variables.

Objective No. 5, a relational-analytical scheme and Spearman-Rho correlation coefficient was utilized to determine if there is a relationship between the extent of implementation and the level of difficulty encountered in the Quality Management System (ISO 9001) in a State University.

Ethical Consideration

This research prioritized participants' well-being and data integrity. The researcher sought approval from the University President through the ethics review committee of the research and development office to conduct voluntary surveys and interviews with employees, ensured confidentiality, and allowed participants to withdraw at any time. A representative sample from permanent and Contract of Services/ Job Order personnel and teaching and non-teaching personnel was ensured, with impartial data interpretation for the benefit of the university. Participants may review and edit their data, promoting transparency, while the researcher's qualifications ensure ethical and informed conduct throughout the study.

Results and Discussion

This section presents, analyzes, and interprets the data that were gathered consistent with its predetermined objectives.

Table 1

Extent of the Implementation of the Quality Management System (ISO 9001) According to the Area Leadership

Items	Mean	Interpretation
<i>As an employee, I am able to assess that the University...</i>		
1. top management is actively involved in QMS formulation, implementation, and evaluation	4.28	Great Extent
2. establishes quality policy and objectives, i.e., Office/Division Performance Commitment Review (OPCR)	4.13	Great Extent
3. top management supports a work environment that motivates personnel to contribute to the effectiveness of the QMS	4.07	Great Extent
4. communicates the vision and mission effectively to all stakeholders	4.31	Great Extent
5. involves the employees in decision-making processes related to quality management	4.06	Great Extent
6. provides appropriate and adequate resources in disseminating the importance of conformance to requirements	4.14	Great Extent
7. designates appropriate roles related to the QMS to ensure its effectiveness and the achievement of desired outcomes	4.08	Great Extent
Overall Mean	4.15	Great Extent

The overall mean score for the implementation of ISO 9001:2015 across leadership areas is 4.15, indicating a "Great Extent" of implementation and reflecting strong leadership commitment to quality management. Santos et al. (2021) and UNESCO (2020) highlight leadership's crucial role in successful ISO 9001 implementation in higher education. The highest mean score (4.31) was for the item "communicates the vision and mission effectively to all stakeholders," demonstrating effective communication of the university's objectives and quality initiatives. The lowest mean score (4.06) was for involving employees in decision-making, which, while still interpreted as "Great Extent," suggests room for improvement in engaging employees more actively in QMS decisions. Jiang et al. (2018) emphasize that employee participation boosts ownership, empowerment, and job satisfaction, further strengthening QMS.

Table 2

Extent of the Implementation of the Quality Management System (ISO 9001) According to the Area Planning

Items	Mean	Interpretation
<i>As an employee, I am able to assess that the University...</i>		
1. identifies risks and opportunities to understand the internal and external factors affecting the university, its students, and other relevant stakeholders across all QMS activities	4.16	Great Extent
2. sets as measurable targets the quality objectives for improving operational performance to ensure process conformity and client satisfaction	4.15	Great Extent
3. defines quality objectives and integrates them into the institution's strategic plans	4.21	Great Extent
4. communicates QMS-related plans to all employees	4.02	Great Extent
5. addresses risks and opportunities during the planning of QMS activities	4.03	Great Extent
6. involves the internal stakeholders in the development and review of QMS management plans	4.08	Great Extent
7. develops transition plans, project work plans, and similar strategies to ensure that operations remain unaffected during management and operational changes	4.11	Great Extent
Overall Mean	4.11	Great Extent

The overall mean score for the implementation of ISO 9001:2015 in the planning area is 4.11, reflecting a "Great Extent" of implementation and strong institutional commitment to quality management. Santos et al. (2021) found high compliance with QMS planning in SUCs, while the World Bank Group (2020) links government-mandated quality frameworks to higher ISO 9001 adoption. The highest mean score (4.21) was for the item "defines quality objectives and integrates into the institution's strategic plans," indicating effective integration of quality objectives into strategic planning. This alignment is essential for ISO 9001:2015 compliance (ISO, 2015). The lowest mean score (4.02) was for "communicates QMS-related plans to all employees," suggesting room for improvement in ensuring comprehensive communication and engagement with QMS plans. Effective communication is key to aligning organizational goals and ensuring employee involvement in maintaining quality standards (Oakland, 2014).

Table 3

Extent of the Implementation of the Quality Management System (ISO 9001) According to the Areas of Operation

Items	Mean	Interpretation
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As an employee, I am able to assess that the University...

1. communicates pertinent documents with students and parents/guardians through various channels (e.g., websites, bulletin boards, posters, social media, meetings)	4.07	Great Extent
2. establishes requirements for providing instruction, research, and extension products and services (research-based, compliance to statutory requirements, etc.)	3.96	Great Extent
3. planned well the curriculum design and delivery in adherence to CHED Memorandum Orders (CMO)	4.10	Great Extent
4. undertakes syllabi and instructional materials development and enhancement process effectively	4.06	Great Extent
5. aligns research and extension activities with the university's quality management objectives	4.31	Great Extent
6. supports employees in achieving quality outcomes in research and teaching	4.07	Great Extent
7. supports employees in achieving quality outcomes in extension activities	4.10	Great Extent

Overall Mean	4.09	Great Extent
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The overall mean score of 4.09 for ISO 9001:2015 implementation in the area of operations, interpreted as a "Great Extent" of implementation, indicates that employees perceive the university's operational activities related to QMS as highly effective, reflecting strong commitment to quality management practices. This aligns with CHED (2021), which highlights the enhancement of administrative efficiency through ISO 9001 compliance. The highest mean score (4.31) was for "aligns research and extension activities with the university's quality management objectives," demonstrating effective integration of these activities with quality goals, which is vital for enhancing organizational performance (Gede & Huluka, 2023). The lowest mean score (3.96) was for "establishes requirements for providing instruction, research, and extension products and services," suggesting room for improvement in clarity and consistency of requirements. Pratasavitskaya and Stensaker (2010) emphasize the importance of clear, consistent requirements for effective quality assurance and stakeholder engagement.

Table 4

Extent of the Implementation of the Quality Management System (ISO 9001) According to the Area Improvement

Items	Mean	Interpretation
<i>As an employee, I am able to assess that the University...</i>		
1. utilizes outputs from analysis, management reviews, and audits to pinpoint underperformance and opportunities	4.04	Great Extent
2. implements improvement actions through improvement activities within existing processes and services	4.08	Great Extent
3. establishes a systematic approach to address nonconformities by identifying their root causes and implementing corrective actions to prevent recurrence	4.06	Great Extent
4. reviews corrective actions to ensure effective resolution of issues	4.02	Great Extent
5. communicates changes in processes and policies to all stakeholders	4.08	Great Extent
6. maintains a comprehensive documentation of all improvement initiatives, including objectives, risks assessed, actions taken, and results achieved	4.06	Great Extent
7. establishes a culture of innovation and continuous improvement among employees	4.04	Great Extent
Overall Mean	4.05	Great Extent

The overall mean score for ISO 9001:2015 implementation in the area of improvement, 4.05, interpreted as a "Great Extent" of implementation, suggests that employees view the university's continuous improvement efforts as effective, indicating a strong commitment to quality management. This aligns with De Leon (2017), who found that senior management support and employee understanding are key to enhancing service quality in state universities. The highest mean scores (4.08) were for "implements improvement actions through improvement activities within existing processes and services" and "communicates changes on processes and policies to all stakeholders," demonstrating effective implementation of improvements and clear communication, vital for maintaining ISO 9001:2015 compliance and fostering long-term success (Gao et al., 2020). The lowest mean score (4.02) was for "reviews corrective actions to ensure effective resolution of issues," suggesting room for improvement in the consistency of corrective actions. Salah et al. (2010) emphasize that strengthening corrective processes is crucial for reducing inefficiencies and supporting continuous improvement in quality management.

Table 5

Level of Difficulty Encountered in the Quality Management System (ISO 9001) According to the Area Leadership

Items	Mean	Interpretation
<i>As an employee, I am able to assess that the University...</i>		

1. top management encounters difficulty in being actively involved in QMS formulation, implementation, and evaluation	2.40	Low Level
2. confronts difficulties in establishing quality policy and objectives, i.e., Office/Division Performance Commitment Review (OPCR)	2.47	Low Level
3. top management faces challenges in supporting a work environment that motivates personnel to contribute to the effectiveness of the QMS	2.48	Low Level
4. encounters challenges in communicating the vision and mission effectively to all stakeholders	2.37	Low Level
5. faces difficulty in involving employees in decision-making processes related to quality management	2.46	Low Level
6. struggles with providing appropriate and adequate resources in disseminating the importance of conformance to requirements	2.44	Low Level
7. experiences difficulty in designating appropriate roles related to the QMS to ensure its effectiveness and the achievement of desired outcomes	2.45	Low Level
Overall Mean	2.44	Low Level

The overall mean score for the level of difficulty encountered in leadership-related QMS activities is 2.44, indicating a "Low Level" of difficulty, suggesting that employees perceive minimal challenges for top management in QMS formulation, implementation, and evaluation. This aligns with Balahadia and Dalugdog's (2021) study, which found that employees are well aware of the QMS's role in supporting the university's mission. The item with the lowest mean score (2.37) is "encounters challenges in communicating the vision and mission effectively to all stakeholders," indicating some communication barriers, but no significant hindrance to overall effectiveness. The highest mean score (2.48) is for "top management faces challenges in supporting a work environment that motivates personnel to contribute to QMS effectiveness," showing some challenges but no major impact on motivation. These findings emphasize that leadership commitment and effective communication are key to successful QMS implementation (Camisón & Puig-Denia, 2016; Kouzes & Posner, 2012).

Table 6

Level of Difficulty Encountered in the Quality Management System (ISO 9001) According to the Area Planning

Items	Mean	Interpretation
<i>As an employee, I am able to assess that the University...</i>		
1. encounters hindrances in identifying risks and opportunities to understand the internal and external factors affecting the university, its students, and other relevant stakeholders across all QMS activities	2.47	Low Level
2. struggles with setting quality objectives as measurable targets for improving operational performance to ensure process conformity and client satisfaction	2.44	Low Level
3. confronts challenges in defining quality objectives and integrating into the institution's strategic plans	2.44	Low Level
4. finds difficulty in communicating QMS-related plans to all employees	2.46	Low Level
5. faces difficulty in addressing risks and opportunities during the planning of QMS activities	2.47	Low Level
6. struggles with involving the internal stakeholders in the development and review of QMS management plans	2.44	Low Level
7. encounters difficulty in developing transition plans, project work plans, and similar strategies to ensure that operations remain unaffected during management and operational changes	2.42	Low Level
Overall Mean	2.45	Low Level

The overall mean score for the level of difficulty encountered in planning-related QMS activities is 2.45, indicating a "Low Level" of difficulty, suggesting that employees perceive minimal challenges in planning for QMS implementation. This aligns with Balahadia and Dalugdog's (2021) study, which found that strong QMS awareness enhances institutional effectiveness by aligning planning processes with the university's mission, facilitating smooth implementation. The lowest mean score (2.42) was for "difficulty in developing transition plans to ensure operations remain unaffected during management changes," indicating some challenges, but no significant disruption in planning. The highest mean scores (2.47) were for "hindrances in identifying and addressing risks and opportunities," suggesting manageable challenges in risk management that do not severely affect planning. Khaw and Teoh (2023) emphasize the importance of risk management in higher education for maintaining stability and fostering continuous improvement, highlighting the need to address these challenges to enhance adaptability and planning processes.

Table 7

Level of Difficulty Encountered in the Management System (ISO 9001) According to the Area Operation

Items	Mean	Interpretation
<i>As an employee, I am able to assess that the University...</i>		
1. finds difficulty in communicating pertinent documents with students and parents/guardians through various channels (e.g., websites, bulletin boards, posters, social media, meetings)	2.44	Low Level
2. experiences challenges in establishing requirements for instruction, research, and extension products and services (research-based, compliance to statutory requirements, etc.)	2.50	Moderate Level
3. confronts difficulty in planning the curriculum design and delivery in adherence to CHED Memorandum Orders (CMO)	2.45	Low Level
4. faces struggles with undertaking syllabi and instructional materials development and enhancement process	2.43	Low Level
5. encounters challenges in aligning research and extension activities with the university's quality management objectives	2.39	Low Level
6. experiences hindrances in supporting employees in achieving quality outcomes in research and instruction	2.47	Low Level
7. faces difficulty in supporting employees to achieve quality outcomes in extension activities	2.41	Low Level
Overall Mean	2.44	Low Level

The overall mean score for the level of difficulty encountered in operational-related QMS activities is 2.44, indicating a "Low Level" of difficulty, suggesting that employees perceive minimal challenges in operational aspects of QMS implementation. This aligns with Garcia and Reyes' (2020) study, which found that effective QMS integration, clear policies, and strong leadership reduce operational challenges. The lowest mean score (2.39) was for "challenges in aligning research and extension activities with quality management objectives," indicating some difficulties but no major impact on operational effectiveness. Aligning these activities is critical for achieving ISO 9001:2015 compliance (Tari & Dick, 2016). The slightly higher mean score (2.50) was for "challenges in establishing requirements for instruction, research, and extension products and services," suggesting more noticeable difficulties in setting clear standards, which is essential for meeting quality objectives and ensuring consistent service delivery (Sallis, 2014).

Table 8

Level of Difficulty Encountered in the Quality Management System (ISO 9001) According to the Area Improvement

Items	Mean	Interpretation
<i>As an employee, I am able to assess that the University...</i>		
1. confronts difficulty in utilizing outputs from analysis, management reviews, and audits to pinpoint underperformance and opportunities	2.41	Low Level
2. struggles with implementing improvement actions through improvement activities within existing processes and services	2.44	Low Level
3. encounters challenges in establishing a systematic approach to address nonconformities by identifying their root causes and implementing corrective actions to prevent recurrence	2.38	Low Level
4. faces difficulty in reviewing corrective actions to ensure effective resolution of issues	2.37	Low Level
5. experiences challenges in communicating changes in processes and policies to all stakeholders	2.36	Low Level
6. encounters difficulty in maintaining a comprehensive documentation of all improvement initiatives, including objectives, risks assessed, actions taken, and results achieved	2.38	Low Level
7. struggles with establishing a culture of innovation and continuous improvement among employees	2.42	Low Level
Overall Mean	2.40	Low Level

The overall mean score for the level of difficulty encountered in the area of improvement is 2.40, indicating a "Low Level" of difficulty, suggesting minimal challenges related to QMS implementation in continual improvement. This aligns with Santos and David (2021), who found similar trends in Philippine state universities, emphasizing proactive evaluation for risk management, though CHED (2020) highlights challenges in sustaining long-term quality assurance initiatives under ISO standards. The lowest mean score (2.36) was for "challenges in communicating changes in processes and policies to all stakeholders," indicating some obstacles, but no major hindrance to continual improvement efforts. Erlyani and Suhariadi (2023) emphasize that a positive communication climate and

organizational trust are key to readiness for change in higher education. The highest mean score (2.44) was for "challenges in implementing improvement actions within existing processes and services," reflecting a slightly greater difficulty. Almainan and McLaughlin (2018) note that integrating improvement actions into existing processes is a common challenge, and fostering a culture of continuous improvement is essential for motivating employees to drive enhancements.

Table 9

Difference in the Extent of the Implementation of the Quality Management System (ISO 9001) in terms of the Area Leadership According to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	93	93.31	4306.5	0.374		Not Significant
	Older	100	100.44				
Sex	Male	87	91.92	4169.00	0.251		Not Significant
	Female	106	101.17				
Length of Service	Shorter	84	103.40	4040.00	0.161		Not Significant
	Longer	109	92.06				
Highest Educational Attainment	Lower	74	95.97	4327.00	0.840	0.05	Not Significant
	Higher	119	97.64				
Status of Employment	Permanent	120	93.50	3960.50	0.264		Not Significant
	Contractual	73	102.75				
Nature of Employment	Teaching	97	98.19	4541.00	0.766		Not Significant
	Non-Teaching	96	95.80				
Campus	Main	91	97.97	4553.00	0.820		Not Significant
	Extension	102	96.14				

The analysis reveals that no statistically significant differences were found in perceptions of leadership-related aspects of ISO 9001 implementation across demographic and employment variables such as age, sex, length of service, educational attainment, employment status, nature of employment, and campus, as all p-values exceeded the significance level of 0.05. This indicates that employee perceptions of leadership implementation are consistent across these groups. For instance, Naanep and Cerado (2023) and De Leon (2017) emphasize that leadership commitment ensures consistent QMS application across employee demographics, while Aganović and Mekić (2022) note that gender does not significantly influence leadership perceptions. Furthermore, Pangemanan (2013) and Amar (2012) highlight that top management commitment, rather than tenure or educational attainment, determines the effectiveness of ISO 9001 implementation. Al-Balushi et al. (2018) and ISO 9001:2015 stress the importance of leadership visibility, communication, and employee engagement in successful QMS implementation, regardless of employment status or campus location, aligning with Balahadia et al. (2024) and De Leon (2017).

Table 10

Difference in the Extent of the Implementation of the Quality Management System (ISO 9001) in terms of the Area Planning According to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	93	93.74	4346.5	0.431		Not Significant
	Older	100	100.04				
Sex	Male	87	87.35	3771.50	0.029		Significant
	Female	106	104.92				
Length of Service	Shorter	84	98.39	4461.00	0.760	0.05	Not Significant
	Longer	109	95.93				
Highest Educational Attainment	Lower	74	95.44	4287.50	0.758		Not Significant
	Higher	119	97.97				
Status of Employment	Permanent	120	95.47	4196.00	0.623		Not Significant
	Contractual	73	99.52				

Nature of Employment	Teaching	97	97.19	4637.50	0.962	Not Significant
	Non-Teaching	96	96.81			
Campus	Main	91	97.68	4579.50	0.873	Not Significant
	Extension	102	96.40			

Table 10 analyzes employee perceptions of planning for ISO 9001 implementation across various demographic and employment-related variables, revealing no significant differences in perceptions based on age ($p = 0.431$), length of service ($p = 0.760$), educational attainment ($p = 0.758$), employment status ($p = 0.623$), nature of employment ($p = 0.962$), or campus location ($p = 0.873$), suggesting that organizational strategies and leadership commitment are key to effective QMS planning (Tari & Dick, 2016; Ater, 2013; Bhuiyan & Alam, 2005; Ab Wahid, 2019; Harvey & Williams, 2010; De Leon, 2017). However, a significant difference was observed based on sex ($p = 0.029$), with female employees perceiving the planning phase more positively (mean rank = 104.92 vs. 87.35), which may be attributed to gender-based differences in engagement, communication preferences, and adaptability to structured quality frameworks, as supported by Hesham and Magd (2007), Kumar and Sankaran (2016), and Omidvar et al. (2013). These findings imply that incorporating gender-sensitive strategies in communication and leadership could enhance employee engagement and improve the planning phase of ISO 9001 implementation.

Table 11

Difference in the Extent of the Implementation of the Quality Management System (ISO 9001) in terms of the Area Operation According to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	93	92.48	4229.5	0.278		Not Significant
	Older	100	101.21				
Sex	Male	87	87.37	3773.50	0.030		Significant
	Female	106	104.90				
Length of Service	Shorter	84	103.11	4064.50	0.182		Not Significant
	Longer	109	92.29				
Highest Educational Attainment	Lower	74	94.31	4204.00	0.598	0.05	Not Significant
	Higher	119	98.67				
Status of Employment	Permanent	120	94.95	4134.00	0.513		Not Significant
	Contractual	73	100.37				
Nature of Employment	Teaching	97	97.66	4592.00	0.869		Not Significant
	Non-Teaching	96	96.33				
Campus	Main	91	99.86	4380.50	0.501		Not Significant
	Extension	102	94.45				

Table 11 examines employee perceptions of the operational aspects of ISO 9001 implementation across various demographic and employment-related variables, revealing no significant differences based on age ($p = 0.278$), length of service ($p = 0.182$), educational attainment ($p = 0.598$), employment status ($p = 0.513$), nature of employment ($p = 0.869$), or campus location ($p = 0.501$). These findings suggest that organizational processes and leadership commitment are more influential in shaping perceptions of the operational phase than individual factors (Al Marhoobi & Balcioglu, 2018; Ater, 2013; Bhuiyan & Alam, 2005; Ab Wahid, 2019; Harvey & Williams, 2010; De Leon, 2017). However, a significant difference was found based on sex ($p = 0.030$), with female employees perceiving the operational phase more positively than male employees (mean rank = 104.90 vs. 87.37), potentially reflecting differences in engagement, communication preferences, or role expectations. This aligns with previous studies suggesting gender influences perceptions of QMS operations, with inclusive leadership and communication strategies enhancing employee involvement (Villanueva, 2018; De Leon, 2017; Naanep & Cerado, 2023).

Table 12

Difference in the Extent of the Implementation of the Quality Management System (ISO 9001) in terms of the Area Improvement According to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	93	97.28	4623.5	0.945	0.05	Not Significant

Sex	Older	100	96.74	3802.00	0.034	Significant
	Male	87	87.70			
	Female	106	104.63			
Length of Service	Shorter	84	101.42	4206.50	0.328	Not Significant
	Longer	109	93.59			
Highest Educational Attainment	Lower	74	93.51	4144.50	0.488	Not Significant
	Higher	119	99.17			
Status of Employment	Permanent	120	93.32	3938.50	0.235	Not Significant
	Contractual	73	103.05			
	Teaching	97	96.37			
Nature of Employment	Non-Teaching	96	97.64	4595.00	0.874	Not Significant
	Main	91	93.95			
Campus	Main	91	93.95	4363.00	0.468	Not Significant
	Extension	102	99.73			

Table 12 examines significant differences in employee perceptions of continual improvement for ISO 9001 implementation, showing no significant differences based on age ($p = 0.945$), length of service ($p = 0.328$), educational attainment ($p = 0.488$), employment status ($p = 0.235$), nature of employment ($p = 0.874$), or campus location ($p = 0.468$). These results suggest that continual improvement is more influenced by organizational processes than individual factors, consistent with ISO 9001's emphasis on using data analysis for improvement (ISO 9001:2015, Clause 10.3). However, a significant difference was found based on sex ($p = 0.034$), with female employees perceiving the continual improvement phase more positively than male employees (mean rank = 104.63 vs. 87.70). This may reflect gender differences in engagement and attitudes toward quality enhancement, with studies supporting the idea that women often show higher adaptability to structured quality improvement approaches, leading to greater commitment to ISO 9001 initiatives (Hesham & Magd, 2007; Duarte et al., 2011; Molina-Azorín et al., 2015). These findings suggest that gender-sensitive engagement strategies could foster better participation and long-term success in ISO 9001 implementation.

Table 13

Difference in the Level of Difficulty Encountered in the Quality Management System (ISO 9001) in terms of the Area Leadership According to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	93	107.06	3714	0.015		Significant
	Older	100	87.64				
Sex	Male	87	99.72	4374.50	0.538		Not Significant
	Female	106	94.77				
Length of Service	Shorter	84	92.91	4234.50	0.370		Not Significant
	Longer	109	100.15				
Highest Educational Attainment	Lower	74	102.49	3996.50	0.279	0.05	Not Significant
	Higher	119	93.58				
Status of Employment	Permanent	120	98.87	4156.00	0.550		Not Significant
	Contractual	73	93.93				
	Teaching	97	97.74				
Nature of Employment	Non-Teaching	96	96.26	4584.50	0.853		Not Significant
	Main	91	103.81				
Campus	Main	91	103.81	4021.50	0.108		Not Significant
	Extension	102	90.93				

The analysis of the level of difficulty encountered in leadership aspects of ISO 9001 implementation reveals no statistically significant differences based on most demographic and employment-related variables, such as sex, length of service, educational attainment, employment status, nature of employment, and campus (p -values > 0.05). This suggests that leadership challenges are influenced more by organizational factors than individual characteristics. However, a significant difference was found based on age ($p = 0.015$), with younger employees reporting higher difficulty levels than older employees. Previous research supports this, with studies by Sciedu (2011) and Prajogo & Sohal (2006) indicating that experienced employees are more adaptable to structured systems, while younger employees may need additional support. In contrast, no significant differences were observed in leadership challenges based on sex ($p = 0.538$), length of service ($p = 0.370$), educational attainment ($p = 0.279$), employment status (p

= 0.550), job nature ($p = 0.853$), or campus location ($p = 0.108$), reinforcing that leadership effectiveness depends on organizational practices rather than individual demographics (Eagly & Carli, 2003; Hussein et al., 2017; Kumar et al., 2023; ISO, 2024).

Table 14

Difference in the Level of Difficulty Encountered in the Quality Management System (ISO 9001) in terms of the Area Planning According to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	93	104.65	3939	0.064		Not Significant
	Older	100	89.89				
Sex	Male	87	99.66	4380.00	0.546		Not Significant
	Female	106	94.82				
Length of Service	Shorter	84	93.39	4275.00	0.427		Not Significant
	Longer	109	99.78				
Highest Educational Attainment	Lower	74	101.41	4076.50	0.383	0.05	Not Significant
	Higher	119	94.08				
Status of Employment	Permanent	120	100.28	3987.00	0.292		Not Significant
	Contractual	73	91.62				
Nature of Employment	Teaching	97	96.39	4596.50	0.877		Not Significant
	Non-Teaching	96	97.62				
Campus	Main	91	101.84	4200.50	0.251		Not Significant
	Extension	102	92.68				

The analysis of planning challenges in ISO 9001 implementation reveals no significant differences based on demographic or employment-related variables, suggesting that systemic organizational factors, rather than individual characteristics, influence employee perceptions of these challenges. With p-values for age (0.064), sex (0.546), length of service (0.427), educational attainment (0.383), employment status (0.292), nature of employment (0.877), and campus location (0.251) all failing to reject the null hypothesis, the results emphasize that challenges in planning are more affected by organizational processes than individual factors. Research supports this, with studies highlighting those systemic issues such as lack of resources (Santos & David, 2021) and inadequate planning (Bhuiyan & Alam, 2005; Ater, 2013) often contribute to ISO 9001 implementation difficulties. Furthermore, effective planning depends on organizational strategies and leadership commitment rather than individual demographics (Tari & Dick, 2016; Harvey & Williams, 2010).

Table 15

Difference in the Level of Difficulty Encountered in the Quality Management System (ISO 9001) in terms of the Area Operation According to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	93	107.39	3683.5	0.013		Significant
	Older	100	87.34				
Sex	Male	87	101.09	4255.00	0.356		Not Significant
	Female	106	93.64				
Length of Service	Shorter	84	93.41	4276.50	0.432		Not Significant
	Longer	109	99.77				
Highest Educational Attainment	Lower	74	101.70	4055.00	0.355	0.05	Not Significant
	Higher	119	94.08				
Status of Employment	Permanent	120	97.65	4302.50	0.837		Not Significant
	Contractual	73	95.94				
Nature of Employment	Teaching	97	94.61	4424.50	0.550		Not Significant
	Non-Teaching	96	99.41				

Campus	Main	91	98.07	4543.50	0.801	Not Significant
	Extension	102	96.04			

In analyzing the level of difficulty encountered in operational aspects of ISO 9001 implementation, the data shows that most demographic and employment-related variables do not significantly influence employee perceptions, except for age. Younger employees (mean rank = 107.39) report more difficulty compared to older employees (mean rank = 87.34), with a p-value of 0.013 indicating a significant difference. This may be due to differences in familiarity with organizational processes and operational expectations, as younger employees may lack experience with structured systems (Kumar et al., 2023; Fotopoulos & Psomas, 2010). However, no significant differences were found for sex ($p = 0.356$), length of service ($p = 0.432$), educational attainment ($p = 0.355$), employment status ($p = 0.837$), nature of employment ($p = 0.550$), or campus location ($p = 0.801$), suggesting that systemic organizational factors such as leadership and training programs play a more critical role in overcoming operational challenges (Tari & Dick, 2016; Bhuiyan & Alam, 2005; Ab Wahid, 2019).

Table 16

Difference in the Level of Difficulty Encountered in the Quality Management System (ISO 9001) in terms of the Area Improvement According to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	Sig. level	Interpretation
Age	Younger	93	104.11	3988.5	0.084		Not Significant
	Older	100	90.39				
Sex	Male	87	97.39	4577.50	0.930		Not Significant
	Female	106	96.68				
Length of Service	Shorter	84	92.96	4238.50	0.372		Not Significant
	Longer	109	100.11				
Highest Educational Attainment	Lower	74	98.45	4295.50	0.773	0.05	Not Significant
	Higher	119	96.10				
Status of Employment	Permanent	120	98.76	4169.00	0.570		Not Significant
	Contractual	73	94.11				
Nature of Employment	Teaching	97	97.19	4638.00	0.963		Not Significant
	Non-Teaching	96	96.81				
Campus	Main	91	101.64	4219.00	0.270		Not Significant
	Extension	102	92.86				

In analyzing the level of difficulty encountered in the continual improvement aspects of ISO 9001 implementation, the data shows that most demographic and employment-related variables do not significantly influence employee perceptions, suggesting that organizational factors are more critical than individual characteristics. With p-values of 0.084 for age, 0.372 for length of service, 0.773 for educational attainment, 0.570 for employment status, 0.963 for the nature of employment, and 0.270 for campus, the null hypotheses are not rejected, indicating no significant differences in perceived challenges based on these variables. These findings align with previous research that highlights the importance of organizational culture, leadership, and employee engagement in driving successful ISO 9001 implementation, regardless of personal factors such as age, education, or employment status (Bhuiyan & Alam, 2005; Tari & Dick, 2016; De Leon, 2017; Lacsamana et al., 2018; Santos & David, 2021). Continual improvement, a core aspect of ISO 9001, is largely influenced by systemic processes rather than individual demographics (ISO, 2024).

Table 17

Difference Between the Extent of the Implementation and the Difficulty Encountered in the Quality Management System (ISO 9001)

Variable	rho	p-value	Sig. level	Interpretation
Implementation Difficulty	-0.487	0.000	0.05	Significant

The relational analysis between the extent of ISO 9001 implementation and the difficulty encountered reveals a significant negative correlation. Therefore, the null hypothesis is rejected. This means that as organizations implement ISO 9001 more comprehensively, they experience fewer challenges in managing their quality systems.

This relationship suggests that a thorough implementation of ISO 9001 can lead to improved processes, enhanced employee engagement, and more effective resource allocation, all of which contribute to reducing operational difficulties.

The Commission on Higher Education (CHED) (2021) emphasizes that comprehensive ISO 9001 implementation enhances administrative efficiency by standardizing academic and non-academic processes, leading to improved service delivery and fewer operational challenges. Similarly, the Development Academy of the Philippines (DAP) (2019) highlights that HEIs with structured ISO 9001 adoption experience better governance structures, improved documentation, and enhanced accountability, all of which contribute to reducing difficulties in quality management. This finding aligns with research indicating that successful implementation of ISO 9001 requires a structured approach that involves all levels of the organization (Tari & Dick, 2016). In addition, studies have shown that effective implementation can lead to improved operational performance by enhancing organizational efficiency and reducing operational challenges (Kumar et al., 2023).

Conclusions

The study identified a balanced mix of younger and older employees, with a slight majority of female staff involved in ISO 9001:2015 implementation. Most respondents had longer tenures, with many holding higher degrees, indicating strong capability in quality management. Permanent employees formed the majority, highlighting stability, while teaching and non-teaching employees shared responsibility for ISO efforts. A slightly higher number of respondents were from extension campuses, which may reflect different operational challenges. The overall extent of ISO 9001 implementation was assessed as great, with the lowest score in the area of Improvement, particularly in evaluating corrective actions. The level of difficulty in implementation was generally low, with the highest difficulty recorded in Planning, especially in identifying and addressing risks. Demographic variables like age, sex, and educational attainment showed varied results across implementation and difficulty levels, with younger, male, lower-educated, non-teaching employees at the main campus facing greater challenges, particularly in Planning. Significant relationships between the extent of implementation and difficulty encountered were observed, emphasizing the need for targeted interventions. The study recommends strategies for enhancing training, fostering leadership engagement, strengthening communication, and improving risk management and corrective action processes to optimize ISO 9001 implementation across all sectors of the university.

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