International Organization for Standardization (ISO) 9001:2015 Quality Management System: Its Implementation, Effectiveness, and Challenges

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ABSTRACT

This study examined the implementation, effectiveness, and challenges of the ISO 9001:2015 Quality Management System (QMS) among State Universities and Colleges (SUCs) in Western Visayas, Philippines during Fiscal Year 2025. Specifically, the study aimed to determine the extent of ISO 9001:2015 implementation, assess its level of effectiveness, identify the challenges encountered, and determine the significant differences and relationships among the study variables. The study employed a descriptive-correlational research design involving 160 respondents composed of Quality Management Coordinators, Lead Internal Quality Auditors, and Internal Quality Auditors from seven SUCs in the region. Data were gathered using a validated researcher-made questionnaire and analyzed using frequency count, percentage, mean, Mann-Whitney U-Test, Kruskal-Wallis H-Test, and Spearman Rank-Order Correlation. Findings revealed that the implementation of ISO 9001:2015 QMS was assessed "To a Very Great Extent" with an overall mean of 4.59, while the level of effectiveness was rated "Very High" with an overall mean of 4.40. Meanwhile, the challenges encountered in sustaining the QMS were assessed as "Moderately Challenging" with an overall mean of 3.00. Significant differences were found in implementation and effectiveness when respondents were grouped according to the number of ISO-related trainings attended. Furthermore, implementation and effectiveness demonstrated a strong positive significant relationship, while weak negative significant relationships were found between implementation and challenges, and between effectiveness and challenges. The findings imply that sustained leadership commitment, continuous capability-building, employee engagement, and systematic quality assurance practices are essential in strengthening the effectiveness and sustainability of ISO 9001:2015 implementation among SUCs. The study contributes to the limited body of Philippine literature on ISO 9001:2015 implementation in regional SUCs and provides evidence-based insights for sustaining quality management systems in higher education institutions.

Keywords – ISO 9001:2015, Quality Management System, State Universities and Colleges, higher education Philippines, QMS effectiveness, implementation challenges

INTRODUCTION

Quality assurance has become a major priority among higher education institutions as universities strive to improve operational efficiency, accountability, and global competitiveness. In the Philippines, State Universities and Colleges (SUCs) are increasingly adopting the International Organization for Standardization (ISO) 9001:2015 Quality Management System (QMS) to strengthen institutional governance, improve service delivery, and promote continuous improvement practices. ISO 9001:2015 provides a structured framework that emphasizes customer satisfaction, process management, evidence-based decision-making, and organizational effectiveness (Hoyle, 2017). The adoption of ISO-based quality systems is also aligned with the Philippine government's initiative to institutionalize quality management practices in public institutions through Executive Order No. 605, s. 2007 (Office of the President of the Philippines, 2007).

ISO 9001:2015 introduced significant improvements compared to earlier versions of the standard by incorporating risk-based thinking, leadership engagement, and organizational context into quality management

processes. These principles encourage institutions to proactively identify operational risks, improve internal processes, and ensure that quality objectives are integrated into strategic planning (Martins et al., 2021). Studies have shown that effective implementation of ISO 9001:2015 contributes to improved operational consistency, enhanced stakeholder satisfaction, and stronger organizational performance (Franchina et al., 2023). In higher education institutions, the QMS also supports accountability, transparency, and efficient academic and administrative operations.

Despite the increasing adoption of ISO 9001:2015 among SUCs, several challenges continue to affect the effective implementation and sustainability of the QMS. Previous studies identified recurring concerns such as excessive documentation requirements, resistance to organizational change, inadequate training, limited resources, and insufficient stakeholder engagement (Santos & David, 2021; Reyes & Barillo, 2024). Some institutions also experience difficulties integrating QMS processes into daily operations, causing personnel to perceive ISO-related activities as additional workload rather than part of institutional culture. These issues suggest that ISO certification alone does not automatically guarantee organizational effectiveness and continuous quality improvement.

Although many SUCs in the Philippines have already obtained ISO 9001:2015 certification, limited empirical studies have examined the implementation, effectiveness, and challenges of the QMS within the Western Visayas region. There is a need to evaluate how effectively ISO standards are institutionalized across participating SUCs and how personnel perceive the system's contribution to institutional operations. Thus, this study aimed to determine the implementation, effectiveness, and challenges of ISO 9001:2015 QMS among State Universities and Colleges in Western Visayas during Fiscal Year 2025. The findings of the study are expected to provide evidence-based insights that may help strengthen quality assurance practices and support continuous improvement initiatives in higher education institutions.

Objectives of the Study

This study sought to:

1. Determine the profile of respondents in terms of: Age, Educational attainment, Length of service, Position, Number of ISO-related trainings attended

2. Determine the extent of implementation of ISO 9001:2015 QMS.

3. Determine the level of effectiveness of ISO 9001:2015 QMS.

4. Determine the challenges encountered in ISO implementation.

5. Determine significant differences in implementation, effectiveness, and challenges when respondents are grouped according to profile variables.

6. Determine the significant relationships among implementation, effectiveness, and challenges.

METHODOLOGY

The study utilized a descriptive-correlational research design to examine the implementation, effectiveness, and challenges of the ISO 9001:2015 Quality Management System (QMS) among State Universities and Colleges (SUCs) in Western Visayas. The descriptive component was used to systematically describe the respondents' assessments regarding the extent of QMS implementation, the level of effectiveness, and the challenges encountered in sustaining ISO-based practices. Meanwhile, the correlational component was employed to determine the significant relationships among implementation, effectiveness, and challenges, as well as the significant differences in respondents' assessments when grouped according to selected demographic variables. This research design was considered appropriate because it enabled the researcher to comprehensively analyze the existing conditions and relationships among the variables within the context of ISO 9001:2015 implementation in higher education institutions.

The respondents were selected from seven State Universities and Colleges (SUCs) in Western Visayas, namely: Guimaras State University (GSU), Aklan State University (ASU), Iloilo State University of Fisheries Science and Technology (ISUFST), Capiz State University (CAPSU), Northern Iloilo State University (NISU), Iloilo Science and Technology University (ISAT-U), and the University of Antique (UA). A purposive sampling technique was employed to identify personnel directly involved in ISO 9001:2015 implementation, including Quality Management Coordinators (QMCs), Lead Internal Quality Auditors, and Internal Quality Auditors. Respondents were proportionately allocated based on the number of active quality assurance personnel within each institution.

A structured researcher-made questionnaire was utilized as the primary data-gathering instrument for the study. The instrument consisted of four parts: respondents' profile, extent of implementation of ISO 9001:2015 Quality Management System (QMS), level of effectiveness of the QMS, and challenges encountered in its implementation and sustainability. The respondents' profile included age, educational attainment, length of service, position, and number of ISO-related trainings attended. To ensure the validity of the instrument, face and content validation were conducted by experts in research, quality assurance, English criticism, and statistics, whose suggestions were incorporated to improve the clarity, relevance, and organization of the questionnaire items. Furthermore, pilot testing was conducted to establish reliability using Cronbach's alpha, which yielded coefficients of .913 for implementation, .952 for effectiveness, and .871 for challenges, indicating excellent internal consistency and confirming that the instrument was reliable and suitable for the conduct of the study.

The data gathered in the study were analyzed using appropriate descriptive and inferential statistical tools. Frequency count and percentage were utilized to describe the profile distribution of the respondents according to age, educational attainment, length of service, position, and number of ISO-related trainings attended. Mean was employed to determine the extent of implementation, level of effectiveness, and challenges encountered in the ISO 9001:2015 Quality Management System (QMS). To determine significant differences in the respondents' assessments when grouped according to selected profile variables, the Mann-Whitney U-Test and Kruskal-Wallis H-Test were used. Furthermore, Spearman Rank-Order Correlation was applied to determine the significant relationships among the implementation, effectiveness, and challenges of ISO 9001:2015 QMS. All statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) at a 0.05 level of significance.

This study focused exclusively on personnel directly involved in ISO 9001:2015 implementation, such as Quality Management Coordinators and Internal Quality Auditors. Consequently, the perceptions of faculty members, students, and non-audit administrative personnel were not included, which may limit the generalizability of the findings regarding institutional effectiveness. Future studies may incorporate broader stakeholder groups to provide a more comprehensive assessment of ISO implementation in higher education institutions.

RESULTS AND DISCUSSIONS

Profile of the Respondents

Table 1 presents the profile of the respondents involved in the implementation of the ISO 9001:2015 Quality Management System (QMS) among State Universities and Colleges (SUCs) in Western Visayas. The findings revealed that the majority of respondents were 40 years old and above, comprising 97 respondents or 60.62%, while 63 respondents or 39.38% were below 40 years old. In terms of educational attainment, most respondents were Master's Degree holders with 77 respondents or 48.13%, followed closely by Doctorate Degree holders with 75 respondents or 46.87%, while only 8 respondents or 5.00% held Bachelor's Degrees. These findings indicate that the personnel involved in ISO implementation are generally mature, academically prepared, and professionally experienced individuals capable of understanding and implementing quality management principles. Hoyle (2017) emphasized that experienced and highly educated personnel are more effective in implementing quality assurance systems because they possess stronger organizational awareness, analytical capabilities, and decision-making competencies. Similarly, de Guzman and Panganiban (2022) found that Philippine SUCs with academically qualified quality assurance personnel demonstrate stronger institutional readiness and sustainability in ISO implementation. Internationally, Fonseca et al. (2019) reported that

organizations with highly trained and professionally competent employees tend to achieve more effective adoption of ISO 9001:2015 standards. The findings imply that the educational preparation and professional maturity of personnel contribute significantly to the successful institutionalization of quality assurance practices within SUCs.

As to length of service, the majority of respondents had more than 10 years of service, accounting for 85 respondents or 53.12%, followed by those with 6–10 years of service at 47 respondents or 29.38%, while 28 respondents or 17.50% had 1–5 years of service. In terms of position, Internal Quality Auditors (IQAs) comprised the largest group with 141 respondents or 88.12%, while Lead Internal Quality Auditors accounted for 10 respondents or 6.25%, and Quality Management Coordinators (QMCs) represented 9 respondents or 5.63%. These findings suggest that the majority of respondents possess extensive institutional experience and are directly engaged in monitoring, evaluating, and sustaining ISO-related processes within their respective institutions. The process-based management theory underlying ISO 9001:2015 emphasizes that organizational effectiveness is strengthened when experienced personnel systematically monitor compliance, assess process performance, and implement corrective actions (Hoyle, 2017). In the Philippine context, Gamit et al. (2024) reported that SUCs with experienced quality assurance personnel and well-established internal audit systems demonstrate stronger operational consistency and institutional performance. Similarly, Heras-Saizarbitoria and Boiral (2021) observed that organizations with experienced quality management personnel are more capable of sustaining ISO implementation due to stronger procedural understanding and organizational commitment. The findings therefore imply that experienced internal auditors and quality coordinators play a critical role in ensuring compliance, minimizing operational gaps, and promoting continual improvement within SUCs.

In terms of the number of ISO-related trainings attended, the majority of respondents attended four trainings and below, comprising 117 respondents or 73.13%, while 43 respondents or 26.87% attended more than four trainings. Although most personnel participated in ISO-related capacity-building activities, the findings indicate that only a smaller proportion received extensive training exposure. Training is considered a key component of effective quality management implementation because it strengthens employee competence, awareness, and participation in QMS activities (Martins et al., 2021). Similarly, Santos and David (2021) emphasized that continuous training programs improve personnel understanding of ISO standards and enhance institutional readiness for sustaining quality management systems in Philippine organizations. International studies also support this finding, as Nurcahyo et al. (2021) reported that employee competency development significantly influences operational performance and successful ISO implementation in developing countries. From a practical perspective, the findings imply that while SUCs have initiated capability-building efforts to support ISO 9001:2015 implementation, continuous and more intensive training programs remain necessary to strengthen personnel competency, improve risk-based thinking, and sustain a culture of quality and continuous improvement across higher education institutions.

Table 1. Profile of the respondents as to age, educational attainment, length of service, position, and number of trainings attended.

Profile Variables	Category	Frequency (f)	Percentage (%)
Age	Below 40 years old	63	39.38
	40 years old and above	97	60.62
	Total	160	100.00
Educational Attainment	Bachelor's Degree	8	5.00
	Master's Degree	77	48.13
	Doctorate Degree	75	46.87
	Total	160	100.00
Length of Service	1–5 years	28	17.50

	6–10 years	47	29.38
	More than 10 years	85	53.12
	Total	160	100.00
Position	Quality Management Coordinator (QMC)	9	5.63
	Lead Internal Quality Auditor	10	6.25
	Internal Quality Auditor (IQA)	141	88.12
	Total	160	100.00
Number of ISO-Related Trainings Attended	4 trainings and below	117	73.13
	More than 4 trainings	43	26.87
	Total	160	100.00

Extent of Implementation

Table 2 presents the extent of implementation of the ISO 9001:2015 Quality Management System (QMS) among State Universities and Colleges (SUCs) in Western Visayas. The overall mean of 4.59, interpreted as "To a Very Great Extent," indicates that the participating institutions highly implemented the policies, procedures, controls, and documentation requirements prescribed under ISO 9001:2015. Among the indicators, "Internal quality audits are regularly conducted to ensure compliance with ISO standards" obtained the highest mean of 4.76, followed by "Top management demonstrates commitment to the implementation of ISO 9001:2015 QMS" with a mean of 4.72. Conversely, "Risk-based thinking is integrated into institutional planning and operations" obtained the lowest mean of 4.32, although still interpreted as "To a Very Great Extent." These findings suggest that SUCs in Western Visayas have successfully institutionalized quality assurance mechanisms, particularly in areas related to compliance monitoring, leadership commitment, and continual improvement. The strong implementation ratings support the process-based management theory underlying ISO 9001:2015, which posits that organizations achieve greater efficiency and consistency when operational processes are systematically documented, monitored, and continuously improved (Hoyle, 2017).

The high implementation rating further implies that SUCs in Western Visayas have effectively integrated ISO 9001:2015 principles into their academic and administrative systems. The strong performance in internal auditing and management commitment demonstrates that institutional leaders recognize the strategic role of quality assurance in improving governance, accountability, and operational effectiveness. This finding corroborates the study of Gamit et al. (2024), which revealed that Philippine SUCs with established audit systems and committed administrators demonstrate stronger organizational performance and service consistency. Similarly, de Guzman and Panganiban (2022) reported that sustained ISO implementation in Philippine higher education institutions contributes to improved institutional coordination, operational transparency, and stakeholder confidence. Internationally, Fonseca et al. (2019) and Heras-Saizarbitoria and Boiral (2021) found that organizations implementing ISO 9001:2015 experience improved process standardization, stronger quality culture, and enhanced organizational reliability due to systematic monitoring and management support. However, the relatively lower mean on risk-based thinking indicates that some institutions may still encounter challenges in fully integrating proactive risk management approaches into institutional planning and decision-making processes. Chiarini (2017) emphasized that organizations often experience difficulty operationalizing risk-based thinking because it requires cultural transformation, strategic integration, and continuous employee engagement beyond compliance-oriented activities.

From a practical and organizational perspective, the findings imply that the implementation of ISO 9001:2015 QMS has significantly strengthened institutional quality assurance systems and promoted a culture of continuous improvement among SUCs in Western Visayas. The extensive implementation of documented procedures, corrective actions, customer feedback mechanisms, and internal audits reflects the institutions' commitment to maintaining accountability, transparency, and service excellence in higher education. Franchina et al. (2023) noted that organizations with strong ISO implementation practices often achieve higher stakeholder satisfaction,

improved operational consistency, and enhanced organizational performance. Similarly, Nurcahyo et al. (2021) found that effective ISO 9001:2015 implementation positively influences operational and business performance in developing countries due to improved process control and organizational alignment. Nevertheless, the findings also suggest the need for continuous capability-building initiatives, particularly in areas related to strategic risk management, evidence-based decision-making, and employee engagement, to ensure that ISO practices become deeply embedded within institutional culture rather than merely serving compliance requirements. Consequently, SUCs should continue strengthening leadership support, quality management training programs, and risk-based planning mechanisms to sustain the long-term effectiveness and maturity of their QMS implementation.

Table 2. Extent of Implementation of ISO 9001:2015 Quality Management System (QMS).

Indicators of Implementation	Mean	Interpretation
Top management demonstrates commitment to the implementation of ISO 9001:2015 QMS.	4.72	To a Very Great Extent
Quality policies and objectives are clearly communicated within the institution.	4.65	To a Very Great Extent
Documented procedures and records are consistently maintained and updated.	4.58	To a Very Great Extent
Internal quality audits are regularly conducted to ensure compliance with ISO standards.	4.76	To a Very Great Extent
Corrective and preventive actions are implemented promptly after audit findings.	4.61	To a Very Great Extent
Employees are actively involved in quality management activities and initiatives.	4.49	To a Very Great Extent
Customer feedback is utilized to improve institutional services and operations.	4.55	To a Very Great Extent
Risk-based thinking is integrated into institutional planning and operations.	4.32	To a Very Great Extent
Continuous improvement initiatives are consistently practiced within the institution.	4.63	To a Very Great Extent
ISO 9001:2015 QMS requirements are integrated into daily operational processes.	4.57	To a Very Great Extent
Overall Mean	4.59	To a Very Great Extent

Scale:

4.21–5.00 = To a Very Great Extent 3.41–4.20 = To a Great Extent

2.61–3.40 = To a Moderate Extent 1.81–2.60 = To a Low Extent

1.00–1.80 = To a Very Low Extent

Level of Effectiveness

Table 3 presents the level of effectiveness of the ISO 9001:2015 Quality Management System (QMS) among State Universities and Colleges (SUCs) in Western Visayas. The overall mean of 4.40, interpreted as "Very High," indicates that the implementation of ISO 9001:2015 significantly contributed to improving institutional operations and service delivery. Among the indicators, "The QMS enhanced consistency in the delivery of services" obtained the highest mean of 4.52, followed by "The ISO 9001:2015 QMS improved the efficiency of institutional operations" with a mean of 4.48. Meanwhile, "Employees demonstrate greater awareness of quality

standards and procedures" received the lowest mean of 4.28, although it remained within the "Very High" interpretation. These findings reveal that the QMS was highly effective in strengthening operational consistency, accountability, monitoring systems, and organizational coordination within participating SUCs. The findings support the process-based management theory underlying ISO 9001:2015, which posits that organizations achieve greater effectiveness when processes are standardized, systematically monitored, and continuously improved to ensure quality outcomes and stakeholder satisfaction (Hoyle, 2017).

The very high level of effectiveness further implies that ISO 9001:2015 QMS has become a strategic mechanism for enhancing institutional performance and promoting quality assurance practices within SUCs. The strong ratings on operational efficiency, service consistency, and accountability indicate that the participating institutions have successfully integrated quality management principles into their academic and administrative functions. This finding corroborates the study of Caballero and Mendoza (2023), which reported that ISO-certified Philippine higher education institutions demonstrate improved institutional governance, operational transparency, and service responsiveness. Similarly, Gamit et al. (2024) found that the implementation of ISO 9001:2015 in SUCs positively contributes to organizational performance, legal compliance, and quality assurance sustainability. Internationally, Franchina et al. (2023) observed that organizations implementing ISO 9001:2015 experience improvements in process standardization, service quality, and operational reliability due to systematic monitoring and continual improvement mechanisms. Hernández Ramos et al. (2022) likewise emphasized that ISO implementation in higher education institutions enhances stakeholder satisfaction, institutional coordination, and organizational effectiveness. However, the relatively lower rating on employee awareness suggests that some personnel may still require continuous orientation, engagement, and reinforcement regarding quality standards and institutional procedures to fully internalize QMS practices.

From a practical and organizational perspective, the findings imply that ISO 9001:2015 QMS has positively influenced the quality culture and operational practices of SUCs in Western Visayas. The effective implementation of monitoring systems, corrective actions, evidence-based decision-making, and continual improvement initiatives demonstrates the institutions' commitment to organizational excellence and stakeholder satisfaction. Martins et al. (2021) emphasized that the effectiveness of ISO 9001:2015 is strongly associated with leadership commitment, employee participation, and continuous capability-building initiatives. Similarly, Nurcahyo et al. (2021) found that ISO implementation significantly improves operational and organizational performance in developing countries through enhanced process alignment and systematic quality control. The findings therefore suggest that SUCs should continue strengthening employee involvement, communication strategies, and quality management training programs to sustain the effectiveness of the QMS. Moreover, institutions should intensify awareness programs and participatory quality assurance activities to ensure that ISO practices become deeply embedded within institutional culture and daily operations rather than remaining compliance-driven mechanisms.

Table 3. Level of Effectiveness of ISO 9001:2015 Quality Management System (QMS).

Indicators of Effectiveness	Mean	Interpretation
The ISO 9001:2015 QMS improved the efficiency of institutional operations.	4.48	Very High
The QMS enhanced consistency in the delivery of services.	4.52	Very High
Customer satisfaction and stakeholder confidence improved because of ISO implementation.	4.39	Very High
The institution effectively monitors and evaluates quality objectives.	4.41	Very High
The QMS strengthened accountability and transparency in institutional processes.	4.47	Very High
Corrective actions and continual improvement initiatives are effectively implemented.	4.36	Very High
Communication and coordination among offices improved through QMS implementation.	4.33	Very High
Employees demonstrate greater awareness of quality standards and procedures.	4.28	Very High

The QMS contributed to better decision-making and operational planning.	4.42	Very High
The institution consistently complies with ISO 9001:2015 requirements and standards.	4.37	Very High
Overall Mean	4.40	Very High

Scale:

4.21–5.00 = Very High 3.41–4.20 = High

2.61–3.40 = Moderate 1.81–2.60 = Low

1.00–1.80 = Very Low

Challenges Encountered

Table 4 presents the challenges encountered in the implementation of the ISO 9001:2015 Quality Management System (QMS) among State Universities and Colleges (SUCs) in Western Visayas. The overall mean of 3.00, interpreted as "Moderately Challenging," indicates that although the participating institutions successfully implemented ISO 9001:2015 practices, respondents still experienced several operational and organizational difficulties in sustaining the system. Among the indicators, "Preparation and maintenance of documents require excessive time and effort" obtained the highest mean of 3.34, followed by "Employees perceive ISO-related activities as additional workload" with a mean of 3.28. Meanwhile, "Coordination and communication among offices regarding QMS concerns are inadequate" received the lowest mean of 2.87, although it remained within the "Moderately Challenging" interpretation. These findings suggest that documentation management, workload concerns, and the integration of ISO processes into daily operations remain among the most common implementation challenges encountered by SUCs. The findings support the organizational change theory underlying ISO 9001:2015, which explains that institutional reforms often encounter resistance, adjustment difficulties, and operational burdens during the transition toward standardized management systems (Hoyle, 2017).

The moderate level of challenges encountered further implies that while ISO 9001:2015 has already been institutionalized among SUCs, several barriers continue to affect the efficiency and long-term sustainability of QMS implementation. The high rating on documentation-related concerns indicates that respondents perceive the preparation, updating, and maintenance of records as labor-intensive and time-consuming processes. This finding corroborates the study of Santos and David (2021), which identified excessive documentation requirements, employee resistance, and workload concerns as persistent implementation difficulties among Philippine organizations adopting ISO 9001:2015. Similarly, Reyes and Barillo (2024) reported that personnel often perceive ISO-related tasks as additional responsibilities due to insufficient integration of QMS activities into regular institutional operations. International studies also support these findings. Jacob et al. (2024) emphasized that sustainability failures in ISO 9001 implementation are often linked to inadequate employee engagement, documentation burden, and weak organizational integration. Likewise, Perdigão et al. (2017) observed that organizations implementing ISO standards commonly encounter difficulties in integrating risk-based thinking and procedural requirements into everyday operational processes. However, the relatively lower rating on communication and coordination suggests that SUCs have established functional collaboration mechanisms among offices, although further improvements remain necessary to strengthen responsiveness and institutional coordination.

From a practical and organizational perspective, the findings imply that SUCs should continue developing strategies to minimize implementation barriers and strengthen the sustainability of ISO 9001:2015 practices. Institutions may address documentation and workload concerns by streamlining procedures, utilizing digital document management systems, and integrating QMS activities into regular operational functions to reduce duplication of tasks and administrative burden. Franchina et al. (2023) emphasized that organizations with effective training programs, supportive leadership, and well-integrated quality management systems are more capable of sustaining ISO implementation and minimizing operational difficulties. Similarly, Martins et al. (2021) highlighted the importance of continuous capability-building, employee participation, and leadership

commitment in strengthening institutional readiness for quality management initiatives. The findings therefore suggest that SUCs should intensify training programs, improve communication systems, and strengthen organizational support mechanisms to ensure that ISO 9001:2015 implementation becomes more sustainable, efficient, and deeply embedded within institutional culture. Moreover, enhancing employee involvement and promoting shared responsibility for quality assurance may help reduce resistance to change and improve institutional commitment toward continuous improvement initiatives.

Table 4. Challenges Encountered in the Implementation of ISO 9001:2015 Quality Management System (QMS).

Indicators of Challenges Encountered	Mean	Interpretation
Preparation and maintenance of documents require excessive time and effort.	3.34	Moderately Challenging
Employees perceive ISO-related activities as additional workload.	3.28	Moderately Challenging
Limited financial and material resources affect QMS implementation.	3.11	Moderately Challenging
Some personnel demonstrate resistance to changes in procedures and processes.	3.05	Moderately Challenging
There is insufficient training and orientation on ISO 9001:2015 QMS.	2.98	Moderately Challenging
Monitoring and compliance activities are difficult to sustain consistently.	2.94	Moderately Challenging
Coordination and communication among offices regarding QMS concerns are inadequate.	2.87	Moderately Challenging
Integrating risk-based thinking into institutional processes is difficult.	3.16	Moderately Challenging
Time constraints affect the completion of QMS-related tasks and reports.	3.09	Moderately Challenging
Maintaining employee engagement and participation in QMS activities is challenging.	2.95	Moderately Challenging
Overall Mean	3.00	Moderately Challenging

Scale:

4.21–5.00 = Very Highly Challenging

3.41–4.20 = Highly Challenging

2.61–3.40 = Moderately Challenging

1.81–2.60 = Slightly Challenging

1.00–1.80 = Least Challenging

Significant Differences

Table 5 presents the significant differences in the implementation, effectiveness, and challenges of the ISO 9001:2015 Quality Management System (QMS) when respondents were grouped according to selected profile variables. The findings revealed that there were no significant differences in the respondents' assessments of implementation, effectiveness, and challenges when grouped according to age, length of service, and position, as all computed p-values were greater than the 0.05 level of significance. Similarly, educational attainment showed no significant differences in implementation and effectiveness; however, a significant difference was found in the challenges encountered ($p = .038$). Moreover, the number of ISO-related trainings attended showed significant differences in both implementation ($p = .048$) and effectiveness ($p = .029$), while no significant difference was found in challenges encountered. These findings indicate that respondents generally shared similar perceptions regarding ISO implementation and effectiveness regardless of demographic characteristics, except for educational attainment and training exposure. The findings support the systems theory underlying

ISO 9001:2015, which posits that standardized organizational systems promote consistency in procedures, expectations, and experiences among personnel across various organizational levels (Hoyle, 2017).

The absence of significant differences according to age, years of service, and institutional position implies that ISO 9001:2015 practices and quality assurance procedures are consistently implemented and experienced across different personnel groups within SUCs. This finding corroborates the study of Gamit et al. (2024), which reported that standardized quality management systems contribute to uniform operational procedures and institutional expectations regardless of employees' demographic background. Similarly, de Guzman and Panganiban (2022) found that ISO-certified SUCs in the Philippines tend to develop a shared institutional culture focused on accountability, compliance, and continuous improvement. Internationally, Heras-Saizarbitoria and Boiral (2021) observed that organizations implementing ISO 9001:2015 often achieve greater procedural consistency and organizational alignment because employees operate under clearly defined standards and documented processes. However, the significant difference observed in challenges according to educational attainment suggests that respondents with varying academic qualifications may differ in their interpretation, understanding, and assessment of QMS-related difficulties. Furthermore, the significant differences in implementation and effectiveness according to the number of ISO-related trainings attended indicate that training exposure substantially influences personnel competency, awareness, and appreciation of ISO practices. Martins et al. (2021) emphasized that continuous training strengthens employee engagement and improves organizational readiness for quality management implementation, while Nurcahyo et al. (2021) found that competency development positively influences organizational performance and operational effectiveness in ISO-certified institutions.

From a practical and organizational perspective, the findings imply that capability-building programs and continuous professional development play a critical role in strengthening the successful implementation and effectiveness of ISO 9001:2015 QMS within SUCs. Personnel who attended more ISO-related trainings may possess stronger understanding of quality standards, audit procedures, risk-based thinking, and continual improvement mechanisms, leading to more favorable assessments of QMS implementation and institutional effectiveness. Santos and David (2021) noted that training and orientation programs are essential in improving employee knowledge, reducing resistance to change, and strengthening compliance with ISO standards in Philippine organizations. Likewise, Franchina et al. (2023) emphasized that organizations with sustained employee development programs and supportive leadership structures are more capable of maintaining effective and sustainable quality management systems. The findings therefore suggest that SUCs should continue investing in regular seminars, workshops, benchmarking activities, and advanced quality assurance training programs to further strengthen personnel competencies and institutional readiness. Moreover, institutional leaders should promote inclusive participation and continuous engagement in QMS activities to ensure that quality assurance practices remain sustainable, participatory, and deeply embedded within institutional culture.

Table 5. Significant Differences in the Implementation, Effectiveness, and Challenges of ISO 9001:2015 QMS When Respondents are Grouped According to Profile Variables.

Profile Variables	Variables Tested	Statistical Tool	Computed Value	p-value	Decision	Interpretation
Age	Implementation	Mann-Whitney U-Test	2651.500	.154	Fail to Reject Ho	Not Significant
	Effectiveness	Mann-Whitney U-Test	2940.500	.686	Fail to Reject Ho	Not Significant
	Challenges	Mann-Whitney U-Test	2930.500	.662	Fail to Reject Ho	Not Significant
Educational Attainment	Implementation	Kruskal-Wallis H-Test	3.588	.166	Fail to Reject Ho	Not Significant

	Effectiveness	Kruskal-Wallis H-Test	4.720	.094	Fail to Reject Ho	Not Significant
	Challenges	Kruskal-Wallis H-Test	6.537	.038	Reject Ho	Significant
Length of Service	Implementation	Kruskal-Wallis H-Test	2.842	.241	Fail to Reject Ho	Not Significant
	Effectiveness	Kruskal-Wallis H-Test	1.694	.429	Fail to Reject Ho	Not Significant
	Challenges	Kruskal-Wallis H-Test	5.550	.062	Fail to Reject Ho	Not Significant
Position	Implementation	Kruskal-Wallis H-Test	4.750	.093	Fail to Reject Ho	Not Significant
	Effectiveness	Kruskal-Wallis H-Test	1.994	.369	Fail to Reject Ho	Not Significant
	Challenges	Kruskal-Wallis H-Test	3.782	.151	Fail to Reject Ho	Not Significant
Number of ISO-Related Trainings Attended	Implementation	Mann-Whitney U-Test	2008.000	.048	Reject Ho	Significant
	Effectiveness	Mann-Whitney U-Test	1952.000	.029	Reject Ho	Significant
	Challenges	Mann-Whitney U-Test	2413.000	.693	Fail to Reject Ho	Not Significant

Level of Significance: $\alpha = 0.05$

Significant Relationships

Table 6 presents the significant relationships among the implementation, effectiveness, and challenges of the ISO 9001:2015 Quality Management System (QMS) among State Universities and Colleges (SUCs) in Western Visayas. The findings revealed a strong positive significant relationship between implementation and effectiveness ($r = .800$, $p = .000$), indicating that higher levels of QMS implementation are associated with higher levels of institutional effectiveness. Furthermore, weak negative significant relationships were found between implementation and challenges ($r = -.253$, $p = .001$), and between effectiveness and challenges ($r = -.201$, $p = .011$). These findings suggest that as the implementation and effectiveness of ISO 9001:2015 improve, the challenges encountered in sustaining the QMS tend to decrease. The results emphasize the interconnectedness of implementation practices, institutional effectiveness, and operational challenges within quality management systems. The strong positive relationship between implementation and effectiveness supports the process-based management theory underlying ISO 9001:2015, which posits that standardized procedures, systematic monitoring, evidence-based decision-making, and continual improvement contribute significantly to organizational performance and service quality (Hoyle, 2017).

The strong positive correlation between implementation and effectiveness implies that the successful and extensive application of ISO 9001:2015 standards significantly contributes to improved organizational performance, operational efficiency, and service delivery among SUCs. Institutions that consistently implement quality policies, conduct regular internal audits, maintain proper documentation, and practice continual improvement are more likely to achieve better accountability, institutional coordination, and stakeholder satisfaction. This finding corroborates the study of Caballero and Mendoza (2023), which reported that ISO-certified Philippine higher education institutions demonstrate stronger institutional performance, improved

governance, and enhanced quality assurance mechanisms. Similarly, Gamit et al. (2024) emphasized that SUCs with well-established quality management systems exhibit greater operational consistency and organizational effectiveness. Internationally, Franchina et al. (2023) observed that organizations with strong ISO implementation practices experience improved process consistency, stronger quality culture, and enhanced operational outcomes. Likewise, Hernández Ramos et al. (2022) found that effective implementation of ISO 9001:2015 in higher education institutions positively influences institutional coordination, operational reliability, and stakeholder confidence. These findings collectively reinforce the principle that systematic quality management practices significantly contribute to institutional excellence and sustainable organizational development.

The weak negative relationships between implementation and challenges, and between effectiveness and challenges, imply that operational difficulties tend to lessen as institutions strengthen their QMS implementation and improve organizational effectiveness. Although challenges such as documentation workload, resource limitations, resistance to change, and integration of risk-based thinking remain present, effective quality management practices may help institutions manage and gradually minimize these concerns over time. This finding aligns with Santos and David (2021), who noted that sustained leadership support, employee engagement, and continuous training reduce implementation barriers and improve institutional readiness for ISO compliance in Philippine organizations. Similarly, Martins et al. (2021) emphasized that leadership commitment, continuous capability-building, and employee participation are essential in reducing resistance to organizational change and sustaining quality improvement initiatives. Internationally, Nurcahyo et al. (2021) found that organizations implementing ISO 9001:2015 experience improved operational performance and reduced process inefficiencies because of better organizational alignment and systematic quality control mechanisms. From a practical perspective, the findings suggest that SUCs should continue strengthening institutional support systems, enhancing employee engagement, and intensifying capability-building programs to further improve the effectiveness and sustainability of ISO 9001:2015 QMS implementation. Moreover, embedding quality assurance practices into institutional culture and strategic planning may help reduce operational barriers and promote long-term organizational resilience and continuous improvement.

Table 6. Significant Relationships Among Implementation, Effectiveness, and Challenges of ISO 9001:2015 Quality Management System (QMS).

Variables Correlated	Spearman's rho (r)	p-value	Decision	Interpretation
Implementation and Effectiveness	.800	.000	Reject Ho	Strong Positive Significant Relationship
Implementation and Challenges	-.253	.001	Reject Ho	Weak Negative Significant Relationship
Effectiveness and Challenges	-.201	.011	Reject Ho	Weak Negative Significant Relationship

Level of Significance: $\alpha = 0.05$

CONCLUSIONS

The study concluded that the ISO 9001:2015 Quality Management System (QMS) was implemented to a very great extent and was highly effective among State Universities and Colleges (SUCs) in Western Visayas. The findings indicate that the participating institutions have successfully institutionalized quality assurance practices through strong leadership commitment, regular internal audits, documented procedures, and continual improvement initiatives. Although the respondents perceived the implementation of ISO 9001:2015 as highly effective in improving operational efficiency, accountability, and service delivery, moderate challenges such as documentation workload, limited resources, resistance to change, and integration of risk-based thinking were still encountered. Furthermore, the study revealed that ISO-related trainings significantly influenced

respondents' assessments of implementation and effectiveness, while implementation and effectiveness demonstrated a strong positive significant relationship.

Based on the findings, it is recommended that SUCs continuously strengthen their ISO 9001:2015 implementation through sustained leadership support, intensified capability-building programs, and stronger employee engagement in quality management activities. Institutions should develop more efficient documentation and monitoring systems, integrate QMS activities into regular operational functions, and provide continuous training on risk-based thinking, audit procedures, and continual improvement practices. Moreover, SUCs should enhance communication and collaboration mechanisms among offices to improve institutional responsiveness and operational efficiency. Future studies may further explore additional organizational factors such as leadership practices, organizational culture, and employee engagement that may influence the sustainability and effectiveness of ISO 9001:2015 implementation in higher education institutions.

Ethics Statement

Prior to data collection, permission to conduct the study was secured from the participating State Universities and Colleges in Western Visayas. Respondents were informed regarding the purpose of the study, and participation was entirely voluntary. Informed consent was obtained from all participants, and confidentiality and anonymity of responses were strictly observed throughout the conduct of the study. The researchers adhered to ethical standards in research consistent with institutional and academic research guidelines.

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