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Maintaining ISO 9001:2015 in Higher Education Institutions in Cordillera Administrative Region, Philippines

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ABSTRACT

Purpose of the study: This study examines the level of agreement on the practices for maintaining the ISO 9001:2015 (QMS) of the Support Service Units in three higher education institutions in Cordillera Administrative Region (CAR), Philippines. Documenting practices and strategies aims to enrich scientific knowledge and potentially encourage non-ISO-certified HEIs in the region to pursue certification.

Methodology: This study used quantitative and qualitative approaches, employing survey and descriptive research designs. A survey questionnaire gathered interval data on a 4-point scale to describe process owners' agreement on practices. Meanwhile, answers to open-ended questions were collected, categorized and analyzed using thematic analysis, providing solid explanations of practices in selected Philipine HEIs.

Main Findings: The study revealed strong agreement in all indicators for maintaining the ISO 9001:2015 (QMS) certification in the three HEIs. This implies that respondents acknowledged these practices vital to maintaining the QMS certification status. Overall, maintaining the QMS status requires constant communication, comprehensive documentation, and regular reviews for continuous improvement on the processes and service delivery of the support service units.

Novelty/Originality of this study: Research documenting the implementation of ISO QMS of the Support Service Units of the HEIs in CAR is limited. Thus, this study is relevant to document the practices, aligning with ISO quality management principles, QMS standards, PDCA cyle and elements for maintaining the ISO 9001:2015 QMS of the ISO-certified private and state university in the region. Finally, this study provides a basis for other HEIs as they undergo certification.

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1. INTRODUCTION

ISO 9001:2015, an internationally recognized Quality Management System (QMS) standard, offers a framework for consistent quality and enhanced customer satisfaction through effective implementation and continuous improvement of educational services, providing a competitive edge. This is now being adopted by many educational institutions, especially higher education institutions (HEIs), in response to international trends like globalization, internationalization, the UN Sustainable Development Goals, ASEAN Economic Integration, and increased competition in educational services.

For many educational institutions, more customer-focused by providing quality services through their academic and administrative units is given attention. Research by Carvalho et al. , Santos et al. , Sa et al., and Bhatia and Awasthi as cited by Bouchetara et al. [1], indicate that integrating different management systems leads to excellence and enhances operational performance and service quality. According to European Integrated Services for Certification, Accreditation, and Awarding (EISCAA) in 2012 as cited by Balahadia [2], ISO 9001:2015 (QMS) standards are increasingly integrated into educational programs worldwide.

In the Philippines, according to Brillantes and Calina as cited by Bathan [3], ISO 9001 was introduced to the public sector on October 5, 2006, through Administrative Order No. 161. On February 23, 2007, Executive Order No. 605 mandated all executive branch departments including the State Universities and Colleges (SUCs) to implement ISO 9001:2000 QMS as part of a government-wide quality management initiative. On May 12, 2016, Memorandum Circular No. 2016-1 mandated government agencies to adopt ISO 9001:2015 (QMS), making it a requirement for the Performance-based Bonus (PBB) grant. Organizations use ISO 9001:2015 to ensure regulatory compliance and continuous improvement [4]. Meanwhile, for private HEIs, the Commission on Higher Education (CHED) through CHED Memorandum Order 6, series of 2023, mandates that all private HEIs seeking autonomous or deregulated status must comply with minimum quality standards, including a functional Institutional Quality Management System [5].

Various studies have been conducted which focused on the status and implementation of ISO 9001:2015 as conducted by previous researchers [4], [6]-15]. Meanwhile, studies that focused on benefits and challenges experienced by many companies and organizations worldwide include [16]-[18]. However, these studies were limited to selected SUCs in Region 3 [6], a few DepEd divisions [3], and one University Registrar in the Cordillera [13], making it insufficient to document, describe, and explain the implementation of ISO 9001:2015 in private HEIs and other regions such as the Cordillera Administrative Region. This study is also in response to the recommendation forwarded by Bannawol [11] to conduct, present, and publish further research on the implementation of ISO QMS in HEIs for wider dissemination and as basis of other HEIs in decision-making to adopt the ISO QMS or not. Thus, the inclusion of support service units of the three (3) HEIs, focusing on practices for maintaining ISO 9001:2015 (QMS) certification. Beneficiaries of the study include the a) process owners, for it may provide insights into the practices that can be adopted for QMS, useful for benchmarking and continual improvement; b) non-ISO-Certified HEIs such as in the Cordillera, for it may encourage adoption for improved processes and service delivery; and d) academicians and future researchers, for it may serve as a resource for similar studies.

In the context of International Organization for Standardization, "practices" refer to established guidelines and procedures that organizations follow to meet ISO standards, ensuring consistency and excellence in their operations. In this study, "practices" are the specific routines or actions by support service units to maintain ISO certification, leading to high-quality services and stakeholder satisfaction.

Specifically, this study aimed at determining the level of agreement of the support service units on the practices for maintaining the ISO 9001:2015 (QMS) along the key elements: a) Document control and record-keeping; b) Internal control and management review; c) Corrective and preventive action; d) Continuous improvements and staff training; and e) Risk management and change control. Additonally, it aimed at exploring other practices for maintaining ISO 9001:2015 (QMS) certification.

2. THE COMPREHENSIVE THEORETICAL/CONCEPTUAL BASIS

2.1. ISO 9001:2015 Quality Management Principles (QMPs)

Since its initial release in 1987 and subsequent updates in 1994, 2000, 2008, and 2015, ISO 9001 has been recognized as the most suitable standard for higher education [17]. Additionally, ISO 9001:2015 (QMS) is based on seven quality management principles (QMPs) that guide an organization's performance improvement and quality management [19]. The QMPs are deeply connected to actual practices in HEIs in the Cordillera, shaping operational standards, academic services, and institutional governance.

QMP 1 – Customer Focus: Quality management focuses on meeting and exceeding customer expectations to build and maintain the trust of customers and other stakeholders. HEIs prioritize students as their primary stakeholders, ensuring relevant curricular offerings and service efficiency in terms of the services needed from their entry to exit of the university and even until employment.

QMP 2 – Leadership: Leaders guide a shared vision and motivate people to achieve the organization's quality goals. University leaders set strategic directions aligned with quality assurance frameworks and international metrics, guide faculty and staff in adhering to accreditation standards, audit requirements, fostering institutional excellence and quality culture.

QMP 3 – Engagement of People: Effective management values everyone by engaging, empowering, respecting, and developing their skills. Conduct of professional development programs, faculty training,

and participatory decision-making processes, cultivates a collaborative academic environment and fosters staff motivation and competency-building.

QMP 4 – Process Approach: Manage activities as interrelated processes for consistent and predictable results. Establishment of defined academic workflows, structured admission procedures, and standardized administrative operations that ensure consistency in service delivery and compliance with regulatory requirements.

QMP 5 – Improvement: Continuously focus on improvement to maintain performance, respond to changes, and create new opportunities. HEIs continually review policies, regulations, statutory and regulatory requirements, and industry partners' expectations to adjust to evolving educational needs and external standards.

QMP 6 – Evidence-Based Decision Making: Base decisions on facts and data to confidently assess causes, effects, and possible risks. HEIs adhere to data-driven performance evaluations and institutional audits to support objective decision-making in governance, service delivery, and policy formulation.

QMP 7 – Relationship Management: Manage relationships with stakeholders, suppliers and industry partners to influence performance. HEIs establish strong partnerships with government agencies, private sectors, and alumni networks that reinforce institutional credibility and ensure sustainable development.

By integrating these principles into daily operations, HEIs in the Cordillera uphold efficiency, accountability, and quality-driven education institutions, reinforcing their commitment to academic excellence and stakeholder satisfaction.

2.2. The Plan-Do-Check-Act (PDCA) Cycle

ISO promotes a process approach in QMS development to enhance customer satisfaction and organizational performance [20]. The PDCA cycle is a dynamic model applied to all processes, integrating planning, implementation, control, and continuous improvement. It ensures a structured, iterative approach to enhancing institutional processes, compliance, and service quality resulting in effectiveness and efficiency of the HEIs. The PDCA cycle includes four stages and how each phase is observed into real-world applications in HEIs:

1) Plan: Top management sets system goals, processes, strategies, and resources to meet customer needs, while establishing policies and managing risks and opportunities. For example, the HEIs may recognize inconsistencies in collecting student feedback and plan to implement a standardized feedback mechanism across the units.

2) Do: Top management shall implement what was planned. For instance, the HEI launches a pilot program where students reserve books through through a digital system, ensuring accessibility and real-time use.

3) Check: Top management tracks and evaluates processes, products, and services to ensure they meet policies, objectives, and requirements. For example, the head of unit and administration review survey results, noting response rates, common concerns, and usability challenges in the digital system.

4) Act: Top management shall take actions to improve performance based on evaluation. For instance, HEI expands the system, integrating AI-driven analytics to categorize student concerns while adding guidance for faculty improvement.

The PDCA Cycle ensures continuous improvement of QMS processes, allowing HEIs to adapt efficiently to statutory and regulatory standards, stakeholder expectations, and institutional goals.

2.3. ISO 9001:2015 (QMS) Standards

ISO 9001:2015 specifies requirements for establishing, maintaining, and improving a quality management system [19]. These requirements are integrated into the PDCA cycle, which is part of the process approach. The Process Approach includes Clauses 4 to 10, covering the ISO 9001 scope and requirements.

Clause 4 Context of the organization: ISO 9001 requires organizations to identify internal factors (organization's values, culture, knowledge, and performance) and external factors (legal, technological, market, cultural, social, and economic issues), affecting the achievement of the intended results of their QMS.

Clause 5 Leadership: The standard highlights the importance of top management's leadership, commitment, and accountability to implementing and maintaining a QMS, with a strong focus on customer satisfaction.

Clause 6 Planning: Organizations must consider issues, requirements, risks, and opportunities, with actions proportionate to their impact on product and service conformity.

Clause 7 Support: The standard requires organizations to provide necessary resources for establishing, implementing, maintaining, and improving their QMS.

Clause 8 Operation: The standard requires the organization to plan, implement, and control the processes needed to meet the requirements for the provision of products and services, and to implement the actions determined in Clause 6.

Clause 9 Performance Evaluation: The standard requires organizations to monitor, measure, analyze, and evaluate the performance and effectiveness of their QMS. Actions on performance evaluation of the organization include a) customer satisfaction; b) analysis and evaluation; and c) internal audit; and management review.

Clause 10 Improvement: ISO 9001 emphasizes continuously improving the QMS based on performance evaluations and other data, identifying improvement opportunities, and taking necessary actions to meet customer requirements and enhance satisfaction.

2.4. Key Elements in Maintaining ISO 9001:2015 (QMS) Certification

Salles [21] highlights that maintaining ISO 9001 certification requires an integrated quality management system across all areas of the organization. By implementing a robust QMS, organizations will be better equipped to handle external audits and ensure compliance with all ISO 9001 requirements. The key elements for maintaining ISO 9001 certification include:

1). Document Control and Record-Keeping.

This ensures all documents are current, accessible, and available to relevant personnel. Additionally, accurate records of quality activities such as audits, management reviews, and corrective and preventive actions, ensure traceability and help identify and correct deviations.

2) Internal audits and management reviews.

Regular internal audits by competent personnel assess the quality management system's effectiveness, identify nonconformities, and highlight improvement areas. Management reviews by top management are also crucial, as they assess the system, analyze audit results, and implement necessary actions to maintain ISO 9001 certification.

3) Corrective and preventive actions.

When non-conformities or deviations are identified during audits or management reviews, corrective actions must be taken to resolve the issues and prevent their recurrence.

4) Continuous improvement and staff training.

Continuous improvement involves enhancing processes, products, and services. Engaging all personnel through training, open communication, and recognizing contributions is essential.

5) Risk management and change control.

Identifying and evaluating risks associated with the organization’s processes and activities helps management implement preventive measures and make informed decisions. Additionally, managing changes to processes, products, or services involves assessing impacts, mitigating negative effects, communicating and training staff on the changes.

Table 1. The relationship between QMPs, PDCA Cycle, and ISO 9001:2015 Stanadrads and Elements

Quality Management Principles	PDCA Cycle	ISO 9001:2015 Standards	Elements in Maintaining ISO 9001:2015 (QMS) Certification
Customer Focus	Plan	Context of the Organization (Clause 4)	4
Leadership	Act	Leadership (Clause 5)	1, 3, 5
Engagement of People	Plan → Do	Support (Clause 7)	1, 4
Process Approach	Plan → Do → Check	Operation (Clause 8) Planning (Clause 6)	4

Improvement	Plan → Do→ Act	Performance Evaluation (Clause 9) Improvement (Clause 10)	2, 4
Evidence-Based Decision Making	Plan → Check → Act	Performance Evaluation (Clause 9)	2, 5
Relationship Management	Plan → Act	Context of the Organization (Clause 4)	4, 5

Table 1 encapsulates the connection between Quality Management Principles (QMPs), the PDCA Cycle, and ISO 9001:2015 standards elements to maintaining ISO 9001:2015 (QMS) certification. It can be gleaned from Table 1 how each component or element contributes to maintaining the certification status of the HEI.

3. RESEARCH METHOD

3.1. Research Design

This study used quantitative and qualitative approaches, employing survey and descriptive research designs. A survey questionnaire gathered interval data on a 4-point scale to describe process owners' agreement on practices for maintaining ISO 9001:2015 (QMS) certification. As qualitative research, text-based data from respondents' answers to open-ended questions were collected, categorized and analyzed using thematic analysis, providing solid explanations of practices in private and government HEIs in the Cordillera Administrative Region (CAR), Philippines.

3.2. The Participants and Locale

Only three (3) HEIs in the Cordillera, during the conduct of the study, were qualified for being ISO-certified institutions. These institutions with long-standing ISO certification offer valuable insights into continuous improvement, best practices and compliance strategies, and long-term sustainability. In addition, they have been recognized in the region and the country for their commendable recognitions, achievements, and placements in various board examinations and international rankings for HEIs. These further exemplify a strong commitment and dedication in adhering to regulatory and statutory requirements set by the national and international agencies, upholding high-quality standards of services and providing quality, relevant, and responsive education. Although the population and locale have been purposely identified, the participation of the target respondents was voluntary.

There were a total of thirty-seven (37) respondents who were the process owners (director) of Library and Information Service, Guidance and Counseling Office, Student Development and Welfare Office, Marketing, Communications, and Enrolment Services, Office of the Registrar, Accounting Office, Career Development Center, Medical and Dental Clinic, Occupational Safety and Health Office, Center for Social Responsibility/Community and Extension Office, IT Systems and Services Office, Building and Facilities Management Office, Logistics Management Office, and Office of the Student Affairs Services. Respondents were coded as R1 to R37, and the universities as University 1, University 2, and University 3 to maintain anonymity. The head of the support service units was purposively chosen as particpant to ensure accurate and comprehensive insights.

3.3. Data Gathering Instrument

This study used a researcher-made questionnaire on practices with five key elements categorized as a) Document control and record-keeping; b) Internal control and management review; c) Corrective and preventive action; d) Continuous improvements and staff training; and e) Risk management and change control. Additionally, each element had seven indicators derived from Salles's [21] key elements in maintaining ISO 9001:2015 QMS and some items where lifted from ISO 9001:2015 scope and requirements. One open-ended question was added to elicit other practices true to the respondents. The survey questionnaire underwent validation by three experts, which include 1) an ISO Management Consultant and trainer; 2) a Language expert; a Peer-Reviewed Journal Editor; and a former ISO 9001 (QMS) Internal auditor and auditee; 3) an Assessment expert and CHED Evaluator; former ISO 9001 (QMS) Internal auditor and presently an auditee. The questionnaire was validated in terms of clarity and relevance. The validators generally agreed on the relevance of the items included in the questionnaire; however with minimal comments for improvement.

The questionnaire used a 4-point scale: 1 (1.00-1.49) as Strongly Disagree, indicating an intense disagreement with the statement; 2 (1.50-1.49) as Somewhat Disagree, indicating not too intense disagreement with the statement; 3 (2.50-3.49) as Somewhat Agree, indicating general agreement with the statement, but with

little reservations; and 4 (3.50-4.00) as Strongly Agree, indicating total agreement with the statement without reservations.

3.4. Data Collection, Analysis, and Validation

The study underwent ethics review through a University Research Ethics Committee. After receiving approval from university authorities, the researcher administered the survey questionnaire, adhering to the university policies. To treat the data, weighted mean was used for quantitative data on agreement levels, meanwhile 6-steps thematic analysis by Naeem et al. [22] was applied to qualitative data on other practices.

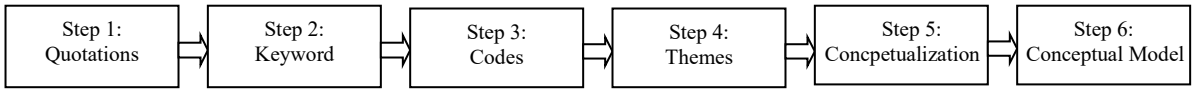

Figure 1. Thematic Analysis Proces to Develop a Conceptual Model in Qualitative Research by Naeem et al. [22]

Step 1: Transcription, familiarization with the data, and selection of quotations. In the initial phase, researchers immerse themselves in the content to identify themes and significant sections. *Step 2:* Selection of keywords. This phase involves examining data from interviews, focus groups, or visual content to identify recurring patterns and terms. Researchers designate these as keywords, capturing participants' experiences and perceptions directly from the data. *Step 3:* Coding. Short phrases or words known as 'codes,' are assigned to segments of data that capture the data's core message, significance, or theme. *Step 4:* Theme development. Theme development involves organizing codes into meaningful groups to identify patterns and relationships, offering insights into the research question. *Step 5:* Conceptualization through interpretation of keywords, codes, and themes. This step involves understanding and defining concepts that emerge from the data. *Step 6:* Development of Conceptual Model. The last step in thematic analysis is developing a conceptual model. This involves creating a unique representation of the data, often guided by existing theories.

Information was gathered from multiple respondents of the different student support units across the three institutions, ensuring a diverse perspective on the practices for maintaining ISO 9001:2015. This helped confirm trends and patterns across varying organizational or institutional contexts. In addition, the researcher validated the data to ensure accuracy, reliability, and integrity. This includes expert validation of the findings by two (2) ISO internal auditors and the Assistant Director of the Office of Quality Assurance of one university. This was done to ensure consistency in coding qualitative responses and reducing potential bias in interpretation. Moreover, a one-to-one meeting with the respondents was conducted to clarify or elaborate any ambiguities or inconsistencies on the tallied, thematized, and analyzed responses. There was no intention of comparing or contrasting the locales of the study.

4. RESULTS AND DISCUSSION

4.1. Level of Agreement of the Support Service Units on the Practices in Maintaining ISO 9001:2015 (QMS)

Table 2. Level of agreement on the practices in terms of document control and record-keeping

	Indicators	WM	DE
My unit…			
1	Maintains up-to-date and accessible (both physical and digital) documents to relevant personnel.	3.78	Strongly Agree
2	Maintains clear and accurate records of all quality-related activities.	3.84	Strongly Agree
3	Ensures traceability of processes, identification of areas for improvement, and correction of possible deviations.	3.81	Strongly Agree
4	Ensures that every document has a clear identifier for easy reference.	3.81	Strongly Agree
5	Uses a document revision history and approval dates to track changes.	3.78	Strongly Agree
6	Makes sure that all QMS documents go through a formal approval process with the right person before being released.	3.97	Strongly Agree
7	Makes sure that mechanisms for requesting changes to documents are in place.	3.92	Strongly Agree
	General Weighted Mean	3.85	Strongly Agree

Table 2 shows a general weighted mean of 3.85, categorized as Strongly Agree, which indicates that the respondents recognize the effectiveness of these practices. This further suggests a high level of compliance, accountability, and efficiency in managing documents related to quality processes.

The high ratings across all indicators suggest that the respondents consistently followed practices for establishing a QMS, communicating necessary information, and providing evidence of results. This may mean consistency in maintaining accessible, accurate, and traceable records while ensuring that approval processes and revision tracking are properly implemented. The finding also shows that a secure storage system is in place to protect and preserve documents, including an archiving process for retaining superseded or obsolete documents. Additionally, proper record-keeping safeguards sensitive information from breaches, loss, and unauthorized access, maintaining trust with clients and stakeholders.

As observed by the researcher, the universities use labeled cabinets accessible to authorized staff. At University 1, offices update and secure a Masterlist of Records of existing documents of processes, work instructions, and policy guidelines for easy reference. This is in relation to ISO 9001:2015 (Clause 7.5.3.1) that requires documented information to be controlled, ensuring availability, suitability, and protection from loss or misuse.

Servan [23] outlined control methods for documents such as 1) document stamps to show the document status ('Reference Only', 'Uncontrolled', 'Not a Controlled Document', 'Master Copy'); 2) footer controls ('Not valid if printed', 'Check system for the latest version', 'Not valid after 24 Hours'); and 3) watermark controls ('Draft', 'Controlled', 'Uncontrolled'). Since document control is everyone's responsibility [24], staff must understand and follow document control procedures, with all authorized personnel having access to these procedures.

In contrast, Sisno [14] reported a minor non-conformance of QMS of one state college in the Philippines as basis for ISO certification as reflected in the lack of documented procedure for control of documents, control of records, control of nonconforming product, internal audit, corrective action and prevention action. Additionally, Sisno [14] found out that procedures were not documented through writing in the procedure manual and those procedures that were formally established, implemented, and maintained to manage the identification, storage, retrieval, retention, and distribution of records do not appear to have been followed in practice.

Table 2 shows that Indicator 6, making sure that all QMS documents go through a formal approval with the right person before release, received the highest mean score of 3.97 (strongly agree). This indicates compliance with the standards and highlights the importance of an approved process before it is released to ensure that correct instructions and processes are given and followed by the employees. This practice requires a thorough review for clarity, completeness, adequacy, and relevance of processes by the QMS/OQA/IQA director or the University president, creating a clear audit trail. At the three universities, the process owner is responsible for creating or updating documented information such as policies, guidelines, standard operating procedures, and work instructions, which are reviewed by office heads and the Office of Quality Assurance (OQA) and approved by the Vice President or President. The review and approval process for adequacy and suitability of documented information also includes the removal or disposal of obsolete documents to avoid confusion and ensure compliance as per ISO 9001:2015 (QMS) requirements. On the other hand, controlled documents no longer relevant may be marked as obsolete or revised to align with current practices and operations.

Document control and record-keeping are supported by principles of leadership and enagagement of people, since all the personnel in the unit are involved. In the PDCA cycle, document control and record-keeping are part of the Plan Stage. This includes determining processes, defining process ownership and accountability, and identifying necessary documentation. The planning stage involves establishing systems to manage document creation and maintenance. Therefore, unit heads must ensure all expectations are met within their units.

Table 3. Level of agreement on the practices in terms of internal control and management reviews

	Indicators	WM	DE
My unit…			
1	Analyzes the results of internal audits.	3.81	Strongly Agree
2	Plans and carries out management reviews considering the status of actions from the previous reviews.	3.84	Strongly Agree
3	Performs actions to improve the system.	3.89	Strongly Agree
4	Plans and carries out management reviews considering the performance status and effectiveness of QMS.	3.92	Strongly Agree
5	Considers opportunities for improvement in the management reviews.	3.97	Strongly Agree
6	Considers the adequacy of resources in the management reviews.	3.92	Strongly Agree
7	Includes decisions and actions related to opportunities for	3.97	Strongly Agree

	improvement as inputs of the management reviews.		
	General Weighted Mean	3.90	Strongly Agree

Table 3 shows the respondents' agreement on internal control and management reviews with a weighted mean score of 3.90 (Strongly Agree). This suggests that personnel recognize the value of continuous improvement, resource adequacy, and thoughtful decision-making in QMS reviews. This result highlights a highly effective QMS governance process, with strong agreement across all indicators. Furthermore, it implies that respondents demonstrate proactive internal audit analysis, structured management reviews, and consistent actions for system improvement. Meanwhile, the particularly high scores on considering opportunities for improvement (3.97) and integrating them into management reviews (3.97) reflect a culture of forward-thinking enhancement rather than just compliance. This implies strong leadership engagement and operational maturity in quality management.

Internal control and management reviews are related to Clause 9.3 (Management Review). It specifies that management reviews should be planned and conducted considering a) the status of actions from previous reviews; b) changes in relevant external and internal issues; c) information on the QMS performance and effectiveness such as 1) customer satisfaction and feedback from relevant parties; 2) the achievement of quality objectives; 3) conformity of process performance and product/service; 4) nonconformities and corrective actions; 5) monitoring and measurement results; 6) audit results; 7) the performance of external providers; d) resource adequacy; e) the effectiveness of actions taken to address risks and opportunities; and f) opportunities for improvement [19].

Reviewing the performance of management systems goes beyond documenting required inputs and outputs. It is also crucial to establish a process for monitoring, reporting, and following up on the status and progress of the action plan. As a best practice, fostering a culture of accountability and ownership ensures that each improvement action is continuously worked on and monitored. Implementing Objective Key Results (OKRs) can help objectively measure the success of each action item. Finally, there should be an agreed-upon schedule for subsequent reviews and follow-up meetings [25].

Based on QMPs, this element relates to evidence-based decision-making and improvement, emphasizing that top management's decisions should be based on data from internal and external audits and management reviews. These inputs serve as guide for the adjustments and improvements in processes, work instructions, and service delivery.

In relation to the PDCA cycle, the practice of internal control and management reviews aligns with the Plan, Do, and Check stages. During planning, top management should set a clear agenda for the review, schedule, and ensure that all required attendees are informed. Proper preparation is crucial for conducting effective and well-considered reviews. Initially, top management gathers insights and data from various departments, reflecting the organization's actual performance, to guide discussions and evaluations.

Table 4. Level of agreement on the practices in terms of corrective and preventive actions

	Indicators	WM	DE
	My unit…		
1	Employs CAs for nonconformities identified during internal audits or management reviews.	3.97	Strongly Agree
2	Conducts root cause analysis.	3.81	Strongly Agree
3	Prepares detailed action plans.	3.73	Strongly Agree
4	Maintains detailed records of the entire corrective action process.	3.73	Strongly Agree
5	Reviews the effectiveness of the corrective action process.	3.78	Strongly Agree
6	Delivers action plans as intended.	3.86	Strongly Agree
7	Incorporates lessons learned into future corrective actions.	3.92	Strongly Agree
	General Weighted Mean	3.83	Strongly Agree

Table 4 shows a strong agreement among respondents on corrective and preventive actions (CAPA), with a general weighted mean score of 3.83, categoriezd as Strongly Agree. The result indicates that the respondents have a strong corrective action process, effectively addressing nonconformities and ensuring continuous improvement. This further suggests a high level of commitment to identifying, analyzing, and resolving issues through structured corrective measures. This overall performance reflects a culture of accountability and effectiveness, ensuring that corrective measures lead to meaningful changes rather than just compliance.

Table 4 also shows that Indicator 1, "Employing corrective actions for nonconformities identified during internal audits or management reviews," ranked highest with a weighted mean score of 3.97 (Strongly Agree). This indicates that respondents highly value immediate measures to address nonconformities. This

finding is related to Indicator 7, "Incorporating lessons learned into future corrective actions," which also scored 3.97. This implies that respondents value addressing issues to prevent recurrence and incorporating lessons learned, leading to zero nonconformities and full compliance with standards. Furthermore, they recognize that failing to address nonconformities can cause delays, inefficiencies, or system breakdowns, and disrupting workflow. Often, instead of noting nonconformities, opportunities for improvement (OFIs) are identified. OFIs may involve reviewing and improving existing practices or documenting undocumented ones. This allows support service units to apply CAPA to prevent potential nonconformities. For example, a remedial intervention for struggling students by the Guidance Office may lack formal policies and guidelines (PG). Initially, this can be noted as an OFI, giving the unit a chance to create the necessary PG. If not addressed by the second audit, it can be declared a nonconformity. Relevant to this, Fonseca et al. [9] reported the significant benefits of identifying risks and opportunities and the knowledge management.

In relation to the QM principles, CAPAs are linked to evidence-based decision-making and improvement, requiring top management to base actions on data such as root cause analysis. Aligning with the PDCA cycle, top management should plan, act, monitor, and evaluate the effectiveness of actions, highlighting their crucial role in ISO certification.

Table 5. Level of agreement on the practices in terms of continuous improvement and staff training

	Indicators	WM	DE
My unit…			
1	Encourages open communication and collaboration.	3.89	Strongly Agree
2	Conducts orientation for new employees.	3.86	Strongly Agree
3	Recognizes and rewards staff's individual contributions.	3.62	Strongly Agree
4	Supports staff training about new quality management tools and standards.	3.81	Strongly Agree
5	Gathers feedback from customers, employees, and stakeholders.	3.89	Strongly Agree
6	Reviews and adjusts the QMS to the changing internal and external requirements.	3.92	Strongly Agree
7	Provides detailed instructions on the documentation relevant to each employee's role.	3.81	Strongly Agree
	General Weighted Mean	3.83	Strongly Agree

Table 5 shows a strong agreement among respondents on continuous improvement and staff training, with a general weighted mean score of 3.83, categorized as 'Stongly Agree'. This indicates that respondents foster a strong culture of communication, commitment to maintaining open collaboration, continuous learning, responsiveness, adaptability, and professional development within its QMS. This also means that they recognize the significance of continuous improvement as the primary goal of implementing ISO in the organization.

In QMS, 'continual improvement' means consistently enhancing processes and procedures to achieve better quality and performance. It is often linked to the PDCA cycle, which helps organizations identify improvement opportunities, implement changes, and evaluate results. Continual improvement involves several steps from planning, implementing, measuring, analyzing, improving, monitoring, evaluating, communicating, and sustaining [26]. This finding coincides with R29's answer: *"Customer service/client analysis/client feedback is a crucial process to the monitoring and continuous improvement of all other processes of not only VPAO but also of the university."*

Indicator 6, "Reviewing and adjusting the QMS to changing internal and external requirements," ranked highest with a weighted mean score of 3.92 (Strongly Agree). This shows the support service units' continuous efforts to improve and align processes to meet stakeholder needs. In educational institutions, internal stakeholders include students, faculty, staff, and administrators, while external stakeholders include parents, alumni, LGUs, partner agencies, CHED, and other certifying bodies. This finding coincides with R21's answer*: "Meeting requirements and enhancing customer/client satisfaction involve communicating and understanding client needs, and ensuring programs and services consistently meet client expectations."*

Clause 7.4 (Communication) of ISO 9001:2015 requires organizations to establish and maintain a communication process for internal and external stakeholders. First, for general communication, organizations must determine and document the internal and external communications relevant with interested parties. Second, for internal communication, organizations must ensure that employees are informed about quality policies, objectives, and their roles through meetings, reports, or other means. Lastly, for external communication, organizations must determine what information needs such as product or service details, quality performance, or other relevant information to be communicated externally, including to customers, suppliers, and other interested parties. This ensures effective communication, supporting a consistent and effective QMS that meets customer needs and expectations [26].

Edwards [27] emphasized that "communication is key" is fundamental in QMS. In contrast poor communication can lead to decline in quality, misunderstandings, errors, and non-conformities, impacting organizational outputs. Effective communication, as outlined in Clause 7.4, is crucial for maintaining quality and capturing valuable feedback to improve processes. To uphold communication standards in quality management, documentation and training are essential. Keeping detailed records ensures accountability, and training personnel in communication protocols maintains quality standards.

Continuous improvement and staff training are linked to several QMPs. First, relationship management, which underscores that sustained success requires managing relationships with interested parties. Second, engagement of people, which emphasizes that effective management includes recognizing and empowering staff, making them feel valued and committed. Lastly, improvement, which underscores that a successful organization must continually focus on improvement to maintain performance levels.

In relation to PDCA cycle, continuous improvements require a thorough planning, effective communication, implementation, and monitoring of the established processes. On the other hand, staff training ensures that employees have the necessary skills and knowledge to implement changes effectively.

Table 6. Level of agreement on the practices in terms of risk management and change control

	Indicators	WM	DE
My unit…			
1	Identifies and assesses the risks associated with the unit's processes and activities.	3.78	Strongly Agree
2	Identifies and assesses the potential impacts of proposed changes.	3.78	Strongly Agree
3	Employs proactive measures to mitigate any negative impacts.	3.89	Strongly Agree
4	Identifies potential hazards that could exist in the QMS process.	3.76	Strongly Agree
5	Ensures and safeguards the organization's quality reputation and compliance with regulatory requirements.	3.92	Strongly Agree
6	Reviews the risk management plan and identifies potential risks.	3.84	Strongly Agree
7	Implements a plan for accepting or rejecting products, services, and processes to ensure effective risk management.	3.81	Strongly Agree
	General Weighted Mean	3.83	Strongly Agree

Table 6 shows a strong agreement on risk management and change control with a weighted mean score of 3.83, categorized as 'Strogngly Agree'. This result indicates that the units have robust risk management framework integrated into its QMS. This further suggests that the respondents recognize the importance of proactively identifying, assessing, and mitigating risks to maintain compliance and safeguard organizational quality.

An example of a good risk management practice is completing a Risk Register or Risk Analysis. This helps process owners identify and assess interested parties and their needs, which can be sources of risks. Keen [28] asserts that effective risk management enhances organizational resilience, confidence, and benefits. It provides rigorous decision-making, flexibility to respond to threats, and the ability to capitalize on opportunities, giving a competitive edge. It equips managers to anticipate changes, allocate resources, assure stakeholders that risks are managed, and improve resilience and compliance.

ISO 9001:2015 outlines risk management in several clauses. In Clause 4 (Context of the Organization), organizations must identify issues impacting their ability to meet system objectives. In Clause 5 (Leadership), top management must address risks and opportunities affecting product/service conformity. In Clause 6 (Planning), organizations must identify and plan actions for risks and opportunities. In Clause 8 (Operation), organizations are required to plan, implement, and control processes to address risks and opportunities. In Clause 9 (Performance Evaluation), organizations must monitor, measure, analyze, and evaluate risks and opportunities. In Clause 10 (Improvement), organizations must improve by responding to changes in risk [29].

Indicator 5, "Ensuring and safeguarding the organization's quality reputation and compliance with regulatory requirements," scored highest at 3.92 ('strongly agree'). This shows that support service units uphold the institution's ISO 9001:2015 certification by strictly complying with regulatory standards. According to Gurus [30], ISO 9001 is a strategic choice that enhances product quality, emphasizing continuous improvement, customer satisfaction, and process optimization, thereby establishing a reputation for reliability and quality in the global market. Volyntseva [29] emphasizes that effective risk mitigation is essential for organizations to achieve long-term success and sustainability. By implementing proactive measures, organizations can identify potential risks, assess their impact, and develop strategies to manage and control them.

In ISO 9001:2015 (QMS), risk management is being added with a focus on risk-based thinking. The primary objective of this quality management system is for an organization to achieve conformity and customer

satisfaction. To effectively meet this goal, ISO 9001:2015 requires organizations to incorporate risk considerations into their management plans, necessitating greater commitment and involvement from top management. Therefore, ISO 9001:2015 employs risk-based thinking to accomplish this objective [31].

ISO 9001:2015, Clause 5.1, requires top management to demonstrate leadership and commitment by promoting the process approach and risk-based thinking, communicating the importance of effective quality management and compliance, ensuring the QMS achieves its intended outcomes, engaging, directing, and supporting individuals to enhance QMS effectiveness, and encouraging continuous improvement.

In the PDCA Cycle, this element connects to the Plan and Act stages. Top management must enhance performance and ensure continuous improvement by identifying and eliminating root causes of problems. These actions may include System Thinking, which recognizes that one process can impact another process. Another, problem-solving, which follows these essential steps: a) defining the problems or objectives; b) collecting and analyzing data; c) selecting and implementing the solution; d) evaluating the effectiveness of the solutions; and e) incorporating the solutions into routine operations [32].

Salles [21] emphasizes that maintaining ISO 9001 certification requires establishing an effective quality management system that is fully integrated across all areas of the organization. By implementing a robust quality management system, organizations will be better prepared for external audits and ensure compliance with all ISO 9001 requirements. On the other hand, Lo and Chang, as cited by Camango, and Cândido [12] noted that proper QMS maintenance is crucial as it keeps the quality initiative active within the organization, prevents inactivity of the QMS, and ensures the continued benefits of any international standard, such as ISO 9001.

Other Practices in Maintaining the ISO 9001:2015 (QMS) Certification

Table 6. Other Practices in Maintaining the ISO 9001:2015 (QMS) Certification

Keywords *(from the Respondents' Statements)*	Code	Themes
• Consultations with the OQA • Customer feedback. • Crucial processes to the monitoring and continuous improvement of all other processes. • Meeting requirements and expectations. • Communicating and understanding client needs. • Enhancing customer/client satisfaction.	• Collaboration with stakeholders	Communication for continuous improvement
• Tailored-fit process to ensure transparency • Incident handling • Documentation of meeting	• Maintain effective and efficient practice, process, or procedures	Relevant and responsive toward standardization in global context
• Alignment of goals/targets • Incorporation of applicable SDGs • Adherence to the internationalization all OFIS are addressed on timely manner	• Constructive alignment of institutional goals and global expectation	
• A good avenue to standardize • Legal and regulatory compliance • Strictly complies with the ISO and Quality Manual • Diligently implementing the University's asset management and control policies and procedures • Harmonization of regulatory requirements • Compliant to ISO Audit recommendations	• Positive acceptance • Strict adherence to internal and external regulatory requirements	

As revealed in Figure 1, 'communication for continuous improvement' emerged as a theme among the other practices being observed by the support service units. This may be supported R9's statement: "*consultations with the OQA regarding QMS matters and documentation e.g. creation of policies and procedures, communicating and understanding client's needs, and ensuring programs and services consistently meet client expectations is being conducted. Also, R21 and R29 stated that meeting requirements and enhancing customer/client satisfaction and client analysis/client feedback involve communicating and understanding client needs, and ensuring programs and services consistently meet client expectations.* The same finding revealed by [17] that the goal of amplifying client satisfaction resonated strongly among all participants.

This finding supports the principle that communication, consultation, and collaboration with different stakeholders is a crucial process to maintain improvement of the processes and policies, resulting in customer satisfaction. Sartor et al. in 2019 as cited by Gamit et al. [7] emphasized that the continuity of QMS depends on the uninterrupted support as well as the involvement of relevant stakeholders. Similarly, Castka in 2018 and Wahid & Corner in 2009 as cited by Camango, and Cândido [12] reported maintenance activities that typically involve data gathering and analysis, tracking performance metrics, conducting management reviews, implementing corrective and preventive measures, optimizing audit procedures, benchmarking across business units, and fostering ongoing improvement.

Additionally, communication can be more encouraged through regular, active, and open communication between the top management and the personnel by making all communication platforms available, conducting regular meetings, and updating a visible bulletin board for any achievements, schedule of activities, and target goals of the organization or units.

There are some key aspects and actions to consider when it comes to communication in the organization. First, identifying what needs to be communicated, to whom, and how often. This includes internal communications among employees and external communications with customers, suppliers, and other stakeholders. Second, ensuring that information about the QMS, including quality policies, objectives, and performance, is communicated within the organization. Third, establishing clear channels for communicating with external parties about product quality, updates, and any changes that may affect them. Fourth, maintaining documented information on communication processes. Fifth, implementing feedback mechanisms to ensure two-way communication. This allows for the collection of valuable insights from employees and external stakeholders. Lastly, conducting regular training sessions to ensure that all employees understand the importance of communication and their roles and responsibilities in QMS.

Another theme emerged is relevance and responsiveness toward standardization in the global context. This means that institutions adjust or update their existing QMS to comply with the changing internal and external requirements. This may be supported by R20's statement: "*a tailored-fit process such as bidding procedure of infrastructure projects to ensure transparency.* Additionally, R28 stated that "*they align the goals or targets of the University Strategic Plan to Organizational Structure and Staffing (OSS) Operational Plans to Office Performance Commitment and Review (OPCR) or Individual Performance Commitment and Review (IPCR) targets with ISO 9001:2015 standards and incorporating applicable Sustainable Development Goals of the United Nations"*. Aside from that, R37 stated that "*the university adheres to national and internationalization requirements such as Anti-Red Tape Authority (ARTA), Regional Quality Assurance Team (RQuAT), Institutional Sustainability Assessment (ISA), Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP), QS Stars University Rankings, Times Higher Education (THE) Impact Rankings, and World University Ranking for Innovations (WURI)".*

The result of this study is inconsonance with the findings by Bamber et al. in 2002; Basir et al. in 2011; Castka in 2018; Lindlbauer et al. in 2016 as reported by Camango, and Cândido [12] that for continuance of compliance, management must consistently monitor, control, enhance, and internally audit the QMS to ensure the organization remains eligible for recertification following the external certification audit. Additionally, Castka in 2018 and Wahid & Corner in 2009 as reported by Camango, and Cândido [12] mentioned other maintenance activities that shoulde be regularly performed in the certified organization include data collection and analysis, performance measurement, management reviews, corrective and preventive actions, streamlining of the auditing processes, benchmarking between business units, and continuous improvement.

On the other hand, Mercado [15] found that while the quality management system of the University of Rizal (Philippines) remains effective, efficient, and compliant with the standard, improvement in its implementation is inevitable particularly in the control of the operation of processes, monitoring and attending to nonconformities and corrective actions, and on needed support to implement QMS.

It should be noted that maintaining ISO 9001 certification requires ongoing commitment of all people involved and observing systematic practices to ensure continuous compliance and improvement. In essence, by continuing the perceived good practices, regardless of the ISO standard, the HEIs may maintain their ISO certification status. In summary, the observed practices in maintaining the ISO certification status of the participating HEIs may be continued and sustained as they continue with their current ISO 9001:2015 (QMS) standard. Additonally, these good practices are recommended for adoption by other HEIs.

5. CONCLUSION

The respondents acknowledged the indicators as important practices that contribute to maintaining ISO 9001:2015 cetification. Thefore, maintaining ISO 9001:2015 (QMS) status in HEIs requires constant communication, comprehensive documentation, and regular reviews for continuous improvement on the processes and service delivery. Process owners may consider regular monitoring of Key Performance Indicators (KPIs) for effectiveness and compliance. Top management and OQA/IQA may enhance employee capacity through orientation, training, and workshops on ISO certification. Focusing on employee development fosters a culture of quality and compliance, improving processes and sustaining ISO certification. Non ISO-certified HEIs may consider these practices as basis as they pursue certification.

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