

Risk Assessment and Implementation of ISO 9001:2015 in Relation to Institutional Performance

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Abstract:- Quality has become an increasingly crucial and critical success component in higher education institutions, particularly universities. The performance of an institution strongly depends on the overall quality of the management system which operates in schools. This study looked into the risk assessment and the level of implementation of ISO:9001: 2015 in relation to institutional performance of Misamis University, Ozamiz City. The study utilized a descriptive-correlational design. A total of 120 faculty and staff served as respondents and were chosen through purposive and random sampling. Implementation of ISO 9001:2015 Questionnaire, Institutional Risk Assessment Questionnaire, and Institutional Performance Questionnaire were used to gather data. Mean, Standard Deviation, Pearson Product Moment Correlation Coefficient, and Regression Analysis were the statistical tools used in the study. Results showed that the institution has a high level of implementation of ISO 9001; there is only a low level of institutional risk; and the institution's level of performance in the implementation of ISO 9001:2015 was rated very satisfactorily. There is a very strong and highly significant relationship between the level of implementation in terms of planning and design and the institutional performance on ISO 9001:2015 in terms of leadership, and operational performance; and between documentation development and operational performance. No significant relationship is noted between the level of implementation in terms of planning and design and the level of institutional performance in terms of support, implementation, context of the institution and support. A very strong and highly significant relationship is noted between the level of institutional risks in terms of reporting/communication and the level of institutional performance in terms of leadership and performance evaluation. Implementation and reporting or communication. The implementation of ISO and the act of reporting the institutional risk assessment were the predictors of institutional performance in risk management system. Proper implementation of the Quality Management System can be achieved by checking its effectiveness through regular internal and external audits, the conduct of management review, and the planned continual improvement would greatly affect the institutional performance of the ISO system.

Keywords:- Assessment, Performance, Quality Management, Risk, Standards.

I. INTRODUCTION

The International Organization for Standardization (ISO) has promoted and advocated for the standardization of quality management systems and their standards in nearly all technological and economic domains. ISO has recently expanded its operations into additional areas of social and environmental policy. ISO 9001 is one of the most well-known and commonly used international quality standards (Hussein, Abou-Nassif, Aridi, M., Chamas, & Khachfe, 2017).

At higher education institutions, particularly universities, quality has become an increasingly important and key success factor (Vykydal, Folta, & Nenadál, 2020). As a result, quality Management System (QMS) implementation has expanded dramatically in recent years across a wide range of institutions (Rodríguez-Mantilla, Martínez-Zarzuelo, & Fernández-Cruz, 2020). As a result, a growing number of educational institutions are now implementing quality management systems (QMS) to improve diverse processes and results in schools (Fernández-Cruz, Rodríguez-Mantilla, & Fernández-Díaz, 2019).

As part of the expansion of the guaranteed quality concept, the ISO 9001: 2015 included standards for risk-management approaches in its most current version; risk consideration in institutions becomes proactive rather than reactive to elements that may impact their QMS. Risk-based thinking effectively transforms the entire management system into a preventative planning tool (Murray, 2016).

The performance of an institution strongly depends on the overall quality of the management system which operates at schools. A greater level of total education quality in higher education institutions is essential for providing students with the information, skills, and competencies required for success after graduation. As a result, every high school and university requires a functioning and complete quality management system. (Vykydal, Folta, & Nenadál, 2020).

The educational benefits of these systems, as well as their potential to identify areas for improvement in school operations and performance, are being studied. Fernández-Cruz, Rodríguez-Mantilla, and Daz (2020). The impact of ISO certifications on student satisfaction in Iraq has been investigated by analyzing ISO standards introduced at Ishik University. As a consequence, it was discovered that the ISO implementation at Ishik University was successful (Demir &

Guven, 2017). Another study discovered that adopting ISO:9001 had a bigger than average effect on teaching-learning processes. Improvements in the subdomains of tutorials, assessment, and classroom teaching techniques were reported as a result of implementing this QMS (Fernández-Cruz, Rodríguez-Mantilla, & Fernández-Daz, 2019).

Another research was conducted to assess and compare the impact of implementing ISO:9001 standards and the EFQM model on school communication systems and external relations. According to the findings, the QMS has a medium-high influence on the communication system and a moderate impact on the external relations component. However, significant disparities in effect levels were discovered depending on the number of years of implementation and the type of money received, among other things. Furthermore, an interaction impact was discovered between the kind and size of schools in terms of their external relations (Rodríguez-Mantilla, Martínez-Zarzuelo, & Fernández-Cruz, 2020).

Furthermore, a study examines the concurrent effect of a set of predictors of the impact perceived by teachers and managers of implementing two Quality Management Systems (QMS): European Foundation for Quality Management (EFQM) and ISO:9001 STANDARDS. The main predictors of the impact are the position and years of service at the school (on Level 1 -Subject-) and ownership, school size, and QMS implemented (on Level 2 -Schools-), finding that the impact perceived in schools with EFQM was higher (Rodríguez-Mantilla, Fernández-Cruz, & Fernández-Díaz, 2020).

Research published in Spain evaluates the impact of applying ISO 9001:2008 Standards assessed by Management Teams and Teachers in four autonomous communities' schools. The most notable findings demonstrate a strong influence on dimension management, communication medium, learning process, and external interactions, with a moderate impact on climate, support and recognition, and satisfaction (Rodríguez-Mantilla, Fernández-Cruz, & Fernández-Díaz, 2019).

A research is conducted to examine the influence of ISO QMS adoption on work culture, motivation, and school performance. The findings of the study reveal that (1) there are considerable changes in organizational behavior, and (2) organizational behavior has a large direct impact on job motivation and school success. It signifies that the application of QMS ISO has been able to effectively develop an organizational work culture in the endeavor of continuous quality improvement, and behavior changes directly influence work motivation and school performance (Giatman, 2017). Another investigation found convincing results about the impact of ISO:9001 standards on teachers' engagement in improving the school's climate, management team conflict resolution, and family involvement and satisfaction with the school. However, no evidence of an influence on teacher relations, conflict resolution among staff members, or teacher satisfaction was discovered (Fernández-Cruz, Rodríguez-Mantilla, & Daz, 2020).

A research in Jordan evaluated the academic performance of ISO: 9001 certified private schools. TQM

procedures (teacher commitment, training and education, teamwork, and continuous improvement) had a statistically significant influence on the academic performance of private schools, according to the findings. More precisely, the whole quality management dimension of continuous improvement has the greatest impact on academic achievement, followed by training and education, teamwork, and, ultimately, teacher dedication (Sweis, Abualsodos, Magableh, M., Alamayreh, Sukkari, & Alawneh, 2020).

At Al Ma'arif University College, a study examined the applicability of ISO 9001: 2015 and the absence of ISO 9004: 2015. After analyzing the findings, a large gap was found between what exists and what is applicable. Furthermore, the constraints that prevent the application of the standard were identified, and the solutions to overcome them and the benefits expected to be achieved when applied were given (Idan, 2020).

A study describes the experience and effects of adopting the ISO 9001: 2008 Standard at the University of Nairobi regarding service delivery efficacy, operational performance, automation, implementation obstacles, and related developing concerns. Significant progress has been made in quality institutionalization in university processes, work environment, documentation and record management, customer satisfaction, infrastructure and facilities, use of ICT as the main mover of performance improvement, and university ranking. In addition, improvement opportunities, as well as crucial success criteria, are highlighted. (Muturi, Ho, Douglas, Moturi, & Mbithi, 2015).

On the other hand, a study based on the service quality (SERVQUAL) dimensions of reliability, assurance, tangibles, empathy, and responsiveness coupled with ISO 9001 requirement of conformity and non-conformity to determine the level of satisfaction of international students on an ISO 9001 certified institution was conducted in the Philippines. The results indicate that the overall service quality of these universities is moderately satisfactory. Again, the SERVQUAL determinants of Assurance, Tangibles, and Empathy are moderately satisfied to indicate conformity to observation. Reliability indicated conformance with the opportunity to improve. However, responsiveness is slightly satisfied, which is a minor non-conformity. It requires immediate root-cause analysis and correction and corrective actions to seek continual improvement (Peprah, 2018). Consequently, there is no better way of understanding the impact of the ISO certification process on academic institutions than by examining the implementation level (Prasad, Kamath, Barkur & Nayak, 2016).

The Quality Standard System established for maritime education posed a great challenge for the university to expand the system for the entire university. Misamis University's top management decided to adopt a quality assurance system based on ISO 9001:2000 in the School year 2005 and ISO 9001:2008 in 2010. In 2018, the university qualified for the latest version of ISO 9001:2015, which focuses on risk management. However, since its inception, no evaluation has been made to determine the implementation of the system. This prompted the researcher to look into the risk assessment

and the level of implementation of the ISO 9001:2015 in relation to the institutional performance of Misamis University.

II. METHODS

A descriptive-correlational design was used in the study. It was used to define the relationship between variables as opposed to inferring cause and effect correlations. When the researcher has no control over the independent factors that are assumed to cause or affect the dependent or outcome variable, the descriptive-correlational approach successfully defines one phenomena linked to another (Lappe, 2000). This design was appropriate for the study to determine the relationship between the level of implementation of the university's policies and procedures and the university's performance based on the ISO 9001:2015 Risk Management System.

This study took place at Misamis University, Ozamiz City. It is a private, non-sectarian institution of learning. For its quality management system, Misamis University is ISO certified by Det Norske Veritas, the Netherlands. It offers varied academic programs designed in a comprehensive and flexible learning environment to meet global challenges and demands for quality graduates; some of these programs have reached different levels in accreditation status through the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA). For ninety years, the university has advocated a progressive and dynamic learning environment through its vision-mission that puts God as the center of its existence and education as its service offering to God and its country.

The respondents of the study were 60 faculty members and 60 staff of Misamis University. They were selected through random sampling. The following were the inclusion criteria in the selection of samples: (1) has been with the university for ten years, (1) actively participating in every ISO 9001:2015 internal and external audits, and (3) has given the consent to participate in the study.

- Implementation of ISO 9001:2015 Questionnaire. This tool determined the level of implementation of ISO 9001:2015. It is a modified data gathering instruments taken from the Checklist for Implementing a Quality Management System for ISO 9001:2015. It contains three constructs namely: planning and design, documentation development, and implementation. To test the reliability and validity of the questionnaire, it was pilot tested to a group of faculty, staff and students who were not included as the respondents of the study. The tool was subjected to reliability test with the following Cronbach's Alpha: planning and design ($\alpha=0.81$), documentation development ($\alpha=0.85$), and implementation ($\alpha=0.83$).
- Institutional Risk Assessment Questionnaire. This tool determined the level of institutional risk assessment of ISO 9001:2015. It is a modified data gathering instrument developed by Centko, (2017). It contains five constructs namely: institution's control environment, compliance risk, strategic risk, operational risk, and reporting/communication risk.

To test the reliability and validity of the questionnaire, it was pilot tested to a group of faculty, staff and students who were not included as the respondents of the study. The tool was subjected to reliability test with the following Cronbach's Alpha: institution's control environment ($\alpha=0.87$), compliance risk ($\alpha=0.85$), strategic risk ($\alpha=0.82$), operational risk ($\alpha=0.78$), and reporting/communication risk ($\alpha=0.88$).

Institutional Performance Questionnaire. This tool determined the level of institutional performance of ISO 9001:2015. It is a modified data gathering instruments taken from the Quality Management Checklist. It contains six construct namely: context of the institution, leadership, planning for risk management (QMS), support, operational performance, and performance evaluation.

To test the reliability and validity of the questionnaire, it was pilot tested to a group of faculty, staff and students who were not included as the respondents of the study. The tool was subjected to reliability test with the following Cronbach's Alpha: context of the institution ($\alpha=0.82$), leadership ($\alpha=0.88$), planning for risk management ($\alpha=0.91$), support ($\alpha=0.81$), operational performance ($\alpha=0.86$), and performance evaluation ($\alpha=0.89$).

The researcher requested approval from the Graduate School for the conduct of the study. The researcher the sought permission from the Office of the Vice President for Academic Affairs to allow the conduct the study in the University. After obtaining the permissions, the researcher personally administered the questionnaires to the respondents. Retrieval of the questionnaires was done at an agreed time. Using the Excel, the data were tallied and classified, and the analyses of data ensued.

The study ensured that the research respondents were not subjected to harm in any way. Respect for the dignity of research participants was prioritized. Full consent was obtained from the respondents before the study. Protection of the privacy of the research respondents, an adequate level of confidentiality of the research data, and anonymity of individual and organizations participating in the research was ensured. Any type of communication in relation to the research was done with honesty and transparency, and any type of misleading information, as well as representation of primary data findings in a biased way, were avoided.

The study used the following statistical tools in analyzing the data gathered.

➤ Mean and Standard Deviation.

These was used in determining the level of implementation and risk assessment of ISO 9001:2015 and the institutional performance of the university.

➤ Pearson Product – Moment Correlation (Pearson r).

This was used to explore the significant relationship on the level of implementation and risk assessment of ISO 9001:2015 and the institutional performance of the university.

➤ *Regression Analysis –*

This was used to determine the predictors in the institutional performance in ISO 9001:2015.

III. FINDINGS

A. Level of Implementation of ISO 9001:2015

Table 1 presents the data on the implementation of ISO 9001:2015. As shown in the table, the institution has a high level of implementation of ISO 9001:2015, as indicated in the overall mean (M=4.06). This means that the top management has shown commitment and determination to implement ISO in the institution.

Data revealed a very high level of implementation in documentation development (M=4.21; SD = 0.71) and a high level of implementation in planning and design (M=3.84; SD=0.73), and in implementation (M=4.12; SD=0.75). Since the University has maintained a well-established Quality Management System which had been in use since 2003 (ISO 9000:1994) for Maritime Education, and in 2005 for university-wide implementation, the University is committed and determined to implement ISO 9001:2015 to ensure that the QMS is safeguarded against threats and risks. In 2018, the University qualified for the latest version of ISO 9001:2015.

Table 1. Level of Implementation of ISO 9001:2015

Construct	Mean	SD	Remark
Planning and Design	3.84	0.73	High
Documentation Development	4.21	0.71	Very High
Implementation	4.12	0.75	High
<i>Overall</i>	4.06	0.73	High

Note. Implementation 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)

B. Level of Institutional Risk of ISO 9001:2015

Presented in Table 2 are the data on the level of institutional risk as perceived by the faculty and staff. It can be noted that there is only a low level of institutional risk (M=2.49; SD=1.28). This means that the institution's vision, mission, and objectives are properly communicated to all stakeholders; therefore, everybody is on the same path towards realizing its goals and objectives. The university's organizational structure clearly defines established duties and responsibilities.

Table 2. Level of Institutional Risk of ISO 9001:2015

Construct	Mean	SD	Remark
Institution Control Environment	2.43	1.25	Low
Compliance Risk	2.44	1.45	Low
Strategic Risk	2.53	1.20	Low
Operational Risk	2.50	1.24	Low
Reporting/Communication	2.54	1.26	Low
<i>Overall</i>	2.49	1.28	Low

Note. Risk Scale: 4.21-5.00 (Very High); 3.41-4.20 (High); 2.61-3.40 (Moderate); 1.81-2.60 (Low); 1.00-1.79 (Very Low)

C. Level of Institutional Performance

The data on the level of institutional performance on ISO 9001:2015 are shown in Table 3. All indicators in measuring the institution's level of performance in the implementation of ISO 9001:2015 are rated very satisfactorily, indicating that the institution's overall performance is very satisfactory (M=4.32; SD=0.62).

Table 3. Level of Institutional Performance

Construct	Mean	SD	Remark
Context of the Institution	4.33	0.62	Very Satisfactory
Leadership	4.37	0.63	Very Satisfactory
Planning for Risk Management	4.33	0.61	Satisfactory
Support	4.24	0.65	Very Satisfactory
Operational Performance	4.29	0.61	Very Satisfactory
Evaluation	4.33	0.61	Very Satisfactory
<i>Overall</i>	4.32	0.62	Very Satisfactory

Note. Performance Scale: 4.21-5.00 (Very Satisfactory); 3.41-4.20 (Satisfactory); 2.61-3.40 (Fair); 1.81-2.60 (Poor); 1.00-1.80 (Very Poor)

D. Relationship between the Level of Implementation and the Level of Institutional Performance in ISO 9001:2015

Data in Table 4 revealed the relationship between the level of implementation and the level of institutional performance in ISO 9001:2015. There is a very strong and highly significant relationship between the level of implementation in terms of planning and design and the institutional performance on ISO 9001:2015 in terms of leadership (r=0.933; p=0.008); and operational performance (r=0.948; p=0.006); and between documentation development and operational performance (r=0.915; p=0.010). On the other hand, no significant relationship is noted between the level of implementation in terms of planning and design and the level of institutional performance in terms of support (r=0.534; p=0.056); implementation, and context of the institution (r=0.270; p=0.099); and support (r=0.498; p=0.061). The rest of the variables of the level of implementation significantly affects the level of institutional performance in ISO 9001:2015.

Table 4. Relationship between the Level of Implementation and the Level of Institutional Performance in ISO 9001:2015

Variables	r value	p value	Remarks
Planning and Design and:			
Context of the Institution	0.597	0.048	Significant
Leadership	0.933	0.008	Highly Significant
Planning for Risk Management	0.784	0.025	Significant
Support	0.534	0.056	Not Significant
Operational Performance	0.948	0.006	Highly Significant
Performance Evaluation	0.735	0.030	Significant
Documentation Development and:			
Context of the Institution	0.628	0.044	Significant
Leadership	0.600	0.047	Significant
Planning for Risk Management	0.699	0.035	Significant
Support	0.866	0.015	Significant
Operational Performance	0.915	0.010	Highly Significant
Performance Evaluation	0.800	0.023	Significant
Implementation and:			
Context of the Institution	0.270	0.099	Not Significant
Leadership	0.867	0.015	Significant
Planning for Risk Management	0.745	0.029	Significant
Support	0.498	0.061	Not Significant
Operational Performance	0.648	0.041	Significant
Performance Evaluation	0.776	0.026	Significant

Note: Probability Value Scale: ** $p < 0.01$ (Highly Significant); * $p < 0.05$ (Significant); $p > 0.05$ (Not significant)

E. Relationship between the Level of Institutional Risk and the Level of Institutional Performance in ISO 9001:2015

The test of the relationship between the level of institutional risks and the level of institutional performance in ISO 9001:2015 is shown in Table 5. A very strong and highly significant relationship is noted between the level of institutional risks in terms of reporting/communication and the level of institutional performance in terms of leadership ($r=0.909$; $p=0.010$); performance evaluation ($r=0.993$; $p=0.001$). This means that the wide dissemination of processes within the institution greatly influenced leadership and the institution's performance in ISO 9001:2015. Furthermore, the complete and accurate information, whether financial or non-financial, contributed to appropriate decision-making to prevent operational difficulties.

Table 5. Relationship between the Level of Institutional Risk and the Level of Institutional Performance in ISO 9001:2015

Variables	r value	p value	Remarks
Institution Control Environment and:			
Context of the Institution	0.517	0.058	Not Significant
Leadership	0.857	0.016	Significant
Planning for Risk Management	0.605	0.047	Significant
Support	0.476	0.064	Not Significant
Operational Performance	0.621	0.045	Significant
Performance Evaluation	0.772	0.026	Significant
Compliance Risk and:			
Context of the Institution	0.156	0.127	Not Significant
Leadership	0.464	0.066	Not Significant
Planning for Risk Management	0.265	0.100	Not Significant
Support	0.133	0.135	Not Significant
Operational Performance	0.310	0.091	Not Significant
Performance Evaluation	0.333	0.087	Not Significant
Strategic Risk and:			
Context of the Institution	0.345	0.085	Not Significant
Leadership	0.900	0.011	Significant
Planning for Risk Management	0.345	0.085	Not Significant
Support	0.382	0.079	Not Significant
Operational Performance	0.536	0.056	Not Significant

Performance Evaluation	0.610	0.046	Significant
Operational Risk and: Context of the Institution	0.462	0.066	Not Significant
Leadership	0.700	0.035	Significant
Planning for Risk Management	0.312	0.091	Not Significant
Support	0.429	0.071	Not Significant
Operational Performance	0.648	0.041	Significant
Performance Evaluation	0.556	0.053	Not Significant
Reporting/Communication Risk and: Context of the Institution	0.587	0.049	Significant
Leadership	0.909	0.010	Highly Significant
Planning for Risk Management	0.641	0.042	Significant
Support	0.826	0.020	Significant
Operational Performance	0.875	0.014	Significant
Performance Evaluation	0.993	0.001	Highly Significant

Probability Value Scale: ** $p < 0.01$ (Highly Significant); * $p < 0.05$ (Significant); $p > 0.05$ (Not significant)

F. Multiple Regression Coefficients Predicting Institutional Performance

Multiple regression analysis was used to test if implementation and risk assessment are significant predictors of institutional performance in ISO 9001:2015. The regression result shows that two predictors explained 41 percent of the variance ($R^2=0.41$, $F=1.252$, $p=0.028$) or the extent of the institutional performance in ISO 9001:2015. Furthermore, it was revealed that implementation is the highest of the predictor variables, followed by reporting/communication risk. I also implied that other factors outside the predictors mentioned can further explain the institutional performance in ISO 9001:2015.

Table 6 Multiple Regression Coefficients Predicting Institutional Performance

Factors	Unstandardized Coefficients		Standardized Coefficients	t value	p value
	B	Std. Error	Beta		
Constant	4.326	0.342		12.649	<0.01
Implementation	0.356	0.216	0.400	1.734	0.036
Reporting/ Communication Risk	0.362	0.167	0.801	.167	0.032
Adjusted r^2	0.41 (41%)				
F	1.252				
p-value	0.028				

IV. DISCUSSIONS

In planning and design, the factors of commitment and determination to implement was explicitly articulated by the top management. Certification by ISO plays a major component in maintaining autonomous status of the University. In view of this, the management representative is appointed to ensure close coordination with top management and ISO register. The management representative coordinates and oversees the progress of implementation and ensures that the quality system is in place. Quality documentation is ensured as this has been the essence of ISO quality management system. All documents are controlled and approved by top management.

At the inception of ISO 9001:2015 in the University, the procedures specified in the manual are properly documented to ensure control of documents and records. Internal quality audits are conducted within the year to ensure that risks in the operations are addressed accordingly. Non-conforming products are identified through corrective and preventive actions. This is evident in the system which resulted in a very high response of documentation development in the University.

The University has implemented the ISO through a quality management system since 200 (ISO 9000:1994 in 2002; ISO 9001:2000 in 2005; ISO 9001:2008 in 2010, and ISO 9001:2015 in 2018) and implementation of the QMS is highly visible in the institution. There is a yearly external audit of ISO 9001:2015 for certification. Prior to this audit, the University conducts a management review present the results of audits, status of preventive and corrective actions, follow-up actions from previous management reviews and solicits recommendations to improve and ensure process performance and product conformity. All risks identified in the review are acted on based on the recommendations presented by different heads of colleges and offices.

Before the external audit, a pre-assessment audit is conducted to ensure that all related standard requirements have been met and all non-conformances have been corrected.

The management was convinced that registration and certification would enable the organization to show its commitment to quality to its stakeholders. Hence, management representatives coordinate and oversee the progress of its implementation. There is quality system maintenance, awareness training, the performance of gap

analysis, and the creation of a thorough and documented implementation plan. Moreover, the high level of implementation is evident in a quality management system that is in place. In addition, there is checking of the effectiveness of the QMS through a regular internal quality audit, the conduct of management review, and the conduct of pre-assessment audit to ensure that all applicable and related standard requirements have been met and non-conformances have been corrected. More importantly, there is a planned continual improvement to maintain its effectiveness in the institution.

Many companies are adopting Quality Management systems (QMS) to improve efficiency, competitiveness, and customer satisfaction. The purpose of ISO 9001 is to help institutions implement and run an effective quality management system (Purwanggono & Handayani, 2018). By implementing the requirements of the new edition of the ISO 9001:2015 standard requirements, the institution defines all the procedures required for the quality management system, including activities dealing with risks and opportunities (Sitnikov et al., 2017).

A paper discussed factors to support ISO 9001:2015 implementation. The factors assessed are top management commitment, team commitment, training, responsibilities, and authorities defined, schedule for implementation, quality culture, resource availability, integration between departments, level of bureaucracy as well as the level of awareness regarding the ISO 9001 significance (Almeida et al., 2018). Another paper analyzed the problems connected with operations realized within an organization in the ISO 9001:2015 implementation process. For example, an organization should plan, implement, and control the processes needed to meet the requirements for providing products and services. In addition, the organization must guarantee that outputs that do not meet their specifications are detected and regulated to prevent unintended usage or distribution. (Wolniak, 2020).

The implementation of the ISO management system standards in the institution helped improve its performance by specifying repeatable steps that the institution consciously implements to achieve its goals and objectives and to create an organizational culture that reflexively engages in a continuous cycle of self-evaluation, correction, and improvement of operations and processes through heightened awareness of the faculty and staff and management leadership and commitment. Moreover, with the yearly certification process, more efficient use of resources and increased capability to deliver consistent and improved services and products are seen in the institution, thereby increasing value to customers and other stakeholders.

The data further revealed that the management could manage risks and control its environment. They have the expertise and mindset necessary for oversight responsibility like scrutinizing activities, presenting alternative views, and acting on problems at hand. The institution is also compliant with all requirements of the regulatory/legal bodies. It maintains institutional stability with its accreditation and certification status, thereby maintaining its autonomous status.

It is also compliant with the educational qualifications of its faculty and staff and employs effective strategies in implementing the institutionalization of instruction.

The University has a well-defined organizational structure that defines responsibility and accountability. The mission-vision-objectives and core values are very well understood and articulated in strategic places in the campus and other documents especially in all instructional materials (IMs) used in all classes. The standards of hiring, orientation, training, evaluation, counselling, promoting, and compensation are well-defined and documented. Violations of expected behaviors and demeanor are not tolerated and is part of the organizational culture of the University.

The University adopts the PDCA (Plan-Do-Check-Act) cycle in complying with statutory and regulatory and legal requirements. Compliance risk is low because of the relative requirements from other external regulatory bodies adopted and complied with by the University. The CHED minimum standards are complemented with the standards of the Philippine Association of colleges and Universities commission on Accreditation (PACUCOA), Institutional Sustainability Assessment (ISA) of CHED, Maritime Industry Authority (MARINA), the Legal Education Board (LEB), and the Professional Regulation Commission (PRC) support the requirements of ISO 9001:2015.

Strategic risks are also low because the institution promulgates five-year strategic plans to identify priorities, formulate viable strategies, and ensure accountability that impacts realization of priorities and maintain customer satisfaction. The threats to customer satisfaction such as interruptions or delay in availability of data, shifts in technology, delay in implementing process or service improvement, interruptions from technological efficiency or delay, ineffective portfolios and program controls, are addressed appropriately.

In its operations, risks are controlled or prevented through a Management Information System (MIS) that ensures only programs and data are loaded into the production environment in accordance with intentions of top management. Resource allocations are properly managed to sustain competitive advantage and future changes. Key personnel and faculty are provided trainings to obtain relevant knowledge, skills, and experiences to achieve the institutions objectives. Technology, people, and processes are regularly reviewed to ensure that they support current and future needs of the institution. Access controls are instituted to prevent inappropriate or unauthorized access and use of data or system.

The most significant quality of ISO 9001:2015 is in the communication process. The study revealed a low risk in reporting and communication. There are venues for information dissemination like the management review, regular administrative and academic council meetings, operational plans of colleges and support services offices. The deans and department heads submit accomplishment reports by semester to ensure that the operational plans are duly

accomplished. These plans ensure that funds are used as intended and approved through the operational plans. Budgets and plans are realistic as they are resultant of the performance measures. The systems and processes are sufficient to safeguard unintended access to information. No activity in the University that makes use of financial and material resources are conducted without approval of the University President through proper channels.

Risk-based thinking is recognized as an excellent technique for developing, auditing, and improving quality management systems (Ezrahovich et al., 2017). Risk management is critical to organizational survival. Furthermore, enhancing the rate at which the institution's services change necessitates putting risk management at the forefront of the institution's objectives in order to achieve sustainability (Ahmad et al., 2017).

It is noted that risk-based thinking is an effective tool for creating, auditing, and improving quality management systems (Ezrahovich et al., 2017). To address the new requirements, three transition designs should be prepared: (i) identifying needs from interested parties, (ii) analyzing internal and external factors of the organizations to formulate relevant strategies and quality objectives, and (iii) registering risks associated with business processes as well as organizational strategies (Sari et al., 2017). Risk management plays an important role in organizational sustainability. Furthermore, improving the pace of the institution's change in services requires the organization to put risk management on the main agenda in the institution's objectives to achieve sustainability (Ahmad et al., 2017).

In today's competitive world, the institution did not only depend on meeting customers' needs but exceeding their expectations. ISO 9001:2015 is designed to involve risk management as part of the strategic plan in the University in order to prevent, address, or correct its prevalence in the system, thereby ensuring customer satisfaction.

This means that in the institution's context, it has a process of monitoring and reviewing its external and internal issues. The QMS processes are maintained and sustained, and there is assurance that all requirements of the standards have been applied in the institution. In terms of leadership, the management also takes full responsibility for promoting continual improvement of the institution, as evident in their commitment to the development, implementation, and improvement of QMS. Moreover, the management implement actions to address the risks and evaluate the effectiveness of those actions. The management made sure that planning for risk management is always done by ensuring that the quality objectives are measurable, relevant, monitored, communicated, and always updated; implementing actions to address the risks; and proceeding with the planned and systematic manner of any changes in the QMS.

Management support is also given to the colleges and departments by providing them with the needed resources that comply with the customer and regulatory and statutory requirements. In addition, the management ensured that the

infrastructures needed for the effective operation of QMS were sufficient; the necessary competence for faculty and staff performing the work conformed to the requirements; and that these personnel understood the quality policies and the implications of not conforming with the requirements. In terms of operational performance, the very satisfactory performance of the institution indicates that adequate actions are in place to ensure effective planning, implementation, and control of the processes and the methods used as well.

There is constant communication among stakeholders – customers and providers, monitoring and reviewing the institution's processes. Control external providers to ensure that operations in the institution are carried out under controlled conditions. In evaluating the institution's performance, it maintains documented information to see that monitoring and measurement activities are implemented. The institution then analyzes and evaluates the data, which serves as the input to its management review. The output in the management review is used to improve the underperformances of the institution and the effectiveness of the quality management system.

In this study, the level of institutional performance is measured in terms of the six elements of context of the institution, leadership, planning for risk management, support, operational performance and performance evaluation (Table 3).

Top management continues to support the QMS and assumes full responsibility of promoting continual improvement of all processes and eliminating risks. The quality procedures manual and the quality policy manual remain to be the standards and are periodically reviewed for continuing relevance to present needs. The university president as the chief executive officer exerts full leadership capabilities to ensure the commitment to the development, implementation and improvement of the QMS. Directly under the university president is the office of the Quality Management System that handles all matters relative to risk management.

The institution operates in a planned and systematic manner for any changes effected to the QMS. It implements actions to address the impending risks and identified risks and evaluate the effectiveness of actions. The quality objectives are the guiding posts in ensuring effectiveness of actions. Quality objectives are measurable, relevant, monitored, communicated, and updated.

The support of top management in the QMS of the university is evident through documented information in defined format, reviewed and approved for adequacy and controlled to protect from infiltration of unwanted activities or improper use of resources. Adequate human resources have defined functions to comply with customer and regulatory and statutory requirements. Personnel performing specific functions are trained to conform to specific product requirement. Buildings and associated utilities, information and technology equipment and facilities are sufficient. Monitoring and measuring resources are available and suitably

maintained to ensure valid and reliable results in all operational processes.

The institution carries out production and services under controlled conditions. The office of the QMS is responsible in the planning, implementation, control of processes and the methods used; and communicates these to the officers concerned and reviews them periodically. The different colleges and support departments submit a yearly operational plan to the QMS Office whose task is to review the operational inputs for adequacy and adherence to the quality objectives. This way, the relevance of the plans to the five-year strategic plan of the university is assured and unprecedented risks may be prevented.

In Indonesia, research was carried out to investigate the impact of implementing the Integrated Management System (IMAS), specifically the ISO 9001:2015. (Quality). The analysis revealed that the installation of IMAS considerably impacted the business performance of the selected organizations. It has also been discovered that IMAS has helped to boost employee awareness, improve the company's image, improve the quality and safety of food items, expand the pool of new consumers, and allow access to new markets. Furthermore, IMAS has shown to be an essential system that has raised customer happiness, led to the improvement of internal organizational structures, improved communication culture in businesses, increased staff productivity, and reduced non-compliant goods (Agus et al., 2020)

Another study examined the relationship between ISO 9001 and the operational (productivity, customer satisfaction, and product quality) and commercial (sales growth, profit rate, and market share) performance of Indonesian automotive component manufacturing sectors. The study shows that implementing the ISO 9001:2015 quality management system considerably benefits operational and business performance. Furthermore, operational success greatly affects business performance (Nurcahyo & Habiburrahman, 2021). Furthermore, a study explored the benefits of implementing the ISO 9001:2015 quality management system in various industries. The results of the literature review analysis state that implementing the ISO 9001:2015 quality management system can increase productivity, quality, delivery, cost, morale, and occupational safety and health in the industry (Kartono & Soediantono, 2022).

The term 'standards' includes the quality, safety, and efficiency of the business's products or services. ISO 9001 certification, in particular, depicts the high quality of products and services. Since the institution has already been certified, it has established credibility and trust among parents, students, and other stakeholders. In addition, it guarantees that the entity meets global standards for education.

The data indicates that planning and design greatly affect the management's leadership style and the institution's operational performance. The top management's commitment and determination in the implementation of ISO 9001:2015; the establishment of quality policies and procedures of the institution; the awareness training conducted for the faculty

and staff; and the creation of a thorough and specific documented implementation plan helped a lot in their leadership performance in their respective areas. These comprehensive plans enabled the management to take full responsibility for promoting continual improvement of all the institution's processes, resulting in satisfaction among the stakeholders. A well-crafted plan and design for the institution's improvement also contributed to a very satisfactory operational performance. A very good plan, coupled with a high level of its implementation and control of the process conducted lead to ensuring quality outputs.

In the same way, a very high level of documentation development results in a very satisfactory operational performance of the institution. Therefore, in the implementation of ISO 9001:2015, it is imperative that the colleges and departments must document everything they have done in their respective areas to ensure evidence of the processes that are carried out. In this context, the results indicate that different colleges' and departments' ways of organizing and documenting the quality management system processes contribute to their satisfactory operational performance of the ISO system.

On the other hand, the implementation in terms of planning and design does not significantly influence the institutional performance in terms of support. Since the ISO system has been implemented for quite a time in the institution, the management has already determined the needed material and human resources to conform to the requirements. The infrastructure needed for the system's effective operation is already sufficient but maybe upgraded from time to time.

A study determined the effect of implementing the integrated management system on Quality Performance. The results showed that the application of Integration Management System ISO 9001: 2015 has a significant influence on quality performance, such as increased customer satisfaction index, customer complaint reduction, reduction of defects, decreased product returns, and reduced cost of quality (Purwanto, Asbari, & Santoso, 2020). Moreover, Fahmi et al. (2021) analyzed the effect of implementing the ISO 9001: 2015 quality management system. The study results that the application of ISO 9001: 2015 quality management system has a positive and significant relationship to manufacturing performance. Another research determined the impact of implementing the ISO 9001: 2015 quality management system on the performance of tourism companies in Indonesia. The results of this research indicate that the organizational context, leadership, planning, support, operations, and performance evaluation significantly influence company Performance (Ong et al., 2020).

The findings of a study confirm the dimensionality of ISO 9001 viability (as measured by the level of achievement of the standard's destinations, specifically risk identification, continuous improvement, non-conformity prevention, and customer satisfaction) and reveal its enormous commitment to influence service organization performance. The operational performance and product/service quality of the service

industries are specifically and essentially impacted by the effectiveness of ISO 9001 (Ahmed, 2017). Although the research cited found that ISO certification had a beneficial influence on corporate performance, several studies suggested that ISO 9000 certification does not ensure excellent performance. Integrating ISO 9000 certification with total quality management (TQM) is critical to improving corporate performance. As a result, TQM may be an important supplement to ISO certification. Companies that are ISO-certified should not rely simply on the ISO certification. To improve organizational and operational performance, they should incorporate ISO certification with TQM (Okudan & Budayan, 2021).

The results implied that the previously implemented Quality Management System of the institution had a great impact on the success of the institution in the implementation of ISO 9001:2015. By using ISO 9001:2015, the institution can benefit from consistently providing customers with high-quality products and services. In addition, the continual improvement process ensures that the institution becomes more efficient, reduces errors, and maintains a high standard of service delivery.

The institution's effort to consistently meet or exceed customer satisfaction can be seen in its high leadership level and operational performance. They managed outsourcing activities, allocated resources to key priorities, provided a conducive work environment, trained faculty and staff for effective instruction, and provided hardware and software necessary for student learning. Furthermore, the reporting and communication risks are also contributory factors in the institutional performance in the institution's context, planning for risk management, support, and operational performance. Hence, it is important to properly disseminate information and safeguard access to systems and processes to prevent loss of basic processing capabilities and operational difficulties.

As part of the advancement of the guaranteed quality concept, ISO 9001: 2015 included standards for risk-management approaches in its most current edition; top management places a greater focus on leadership to ensure that risk management is incorporated into all organizational functions, beginning with governance. In addition, the iterative aspect of risk management is also emphasized, with fresh experiences, information, and analysis used to revise process elements, actions and controls at each level of the process (Björnsdottir et al., 2022). Applying the principles of a quality management system and adopting risk management strategies can help the organization sustain its business. Moreover, identifying at an early stage, the potential risk can have significant results such as eliminating defects, reducing costs, meeting customer satisfaction, and promoting organization sustainability (Ahmad et al., 2017).

Risk is inherent in all aspects of a quality management system. There are risks in all systems, processes, and functions. Risk-based thinking ensures these risks are identified, considered, and controlled throughout the design and use of the quality management system. ISO 9001:2015 defines the guiding principles that can create efficiencies throughout the organization by aligning and streamlining

processes, intending to lower costs, creating new opportunities, meeting regulatory requirements, and assisting organizations in expanding into new markets where clients demand.

Results of a study showed that the implementation of Quality Management System ISO 9001: 2015 has a significant influence on quality performance, such as increased customer satisfaction index, customer complaint reduction, reduction of defects, decreased product returns, and reduced cost of quality (Purwanto, Asbari, & Santoso, 2020). Results of another research have emphasized the need to investigate further the impact of ISO 9001 on company performance in institutions. (Nurcahyo, & Habiburrahman, 2021).

The requirements state that "the organization shall determine the internal and external communications relevant to the quality management system." ISO 9001:2015 requires that an organization shall determine and provide the resources needed to establish, implement, maintain, and continually improve a quality management system. In addition, the organization must identify and supply the individuals required for properly implementing its quality management system and the operation and control of its processes (Wolniak, R. (2019).

Proper implementation and reporting/communication are vital in implementing ISO 9001:2015. Communication not only conveys information; it also motivates work, changes attitudes, and inspires thought. Without it, prejudices emerge, communications get skewed, and system implementation is endangered. Communicating effectively is the best way to keep everyone connected and informed about what is happening.

V. CONCLUSIONS

The institution's management has shown commitment and dedication to the implementation of ISO 9001:2015, as evident in their very high level of documentation development and planning, design, and implementation of the system. The institution complies with all the certification standards, resulting in a low level of institutional risk. The processes of the quality management system are maintained and sustained, and the management takes full responsibility for promoting continual improvement. Its implementation, planning, and design greatly affect the leadership of the management as well as the operational performance of the institution. A very good documentation development also contributes to a high level of operational performance.

The risk of reporting/communication influenced the management's leadership and the institution's performance evaluation. It is important to disseminate information and safeguard access to systems and processes properly. Although not all the constructs significantly influence the institutional performance, only two are considered the predictors – implementation and reporting and communication risks. Proper implementation of the Quality Management System by checking its effectiveness through regular internal and external audits, the conduct of management review, and the planned continual improvement would greatly affect the institutional

performance of the ISO system. Moreover, proper reporting and communication of the risks in all colleges/departments on the processes of the ISO system contribute to a high level of institutional performance and develop a sense of owning the system, thereby supporting the processes.

From the findings and conclusions, it is recommended that the management continue its practices of planning for continuous improvement of the institution to ensure a high level of implementation of ISO 9001:2015. They may also continue their way of scrutinizing activities, presenting alternative views, and acting on problems at hand to maintain a low level of institutional risk. The process of monitoring and reviewing external and internal issues, as well as the quality management processes, needs to be maintained and sustained to ensure compliance with the standards of the system, thereby maintaining its high level of institutional performance in ISO 9001:2015. The administration, the deans, and department heads may further improve their documentation development and planning and design in their respective offices as these contribute to how they lead and operate their departments. Proper implementation of the ISO system and reporting/communication among and between the school community members may be strengthened to prevent operational difficulties and help the management in their leadership to improve the performance of the institution as a whole. Future researchers may also conduct similar research to look into other factors that may affect the institutional performance in ISO 9001:2015.

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