

# Enhancing Public Service Through ISO 9001: Evaluating QMS Maturity of selected Local Government Unit (LGU) in Tarlac Province

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**Abstract:** This research assessed the ISO 9001:2015 Quality Management System (QMS) maturity of Local Government Units (LGUs) in Tarlac Province, recognizing the increasing importance of QMS in enhancing public service delivery. A maturity model was utilized to evaluate the implementation level of each QMS clause. The results indicate a range of maturity levels, with Leadership and Operation showing the strongest implementation. However, Planning, Performance Evaluation, and Improvement were identified as areas with lower maturity, suggesting potential challenges in risk management, performance monitoring, and continuous improvement practices. The study concludes that focused interventions are necessary to elevate QMS maturity in these weaker areas, ultimately enhancing public service delivery and a culture of continuous quality improvement within the LGUs.

**Keywords:** Quality management system, MSMEs, maturity assessment, impact, public service delivery.

## 1. Introduction

In an increasingly complex and demanding societal landscape, the effectiveness and responsiveness of public service delivery are paramount for fostering citizen trust and driving sustainable development. Local Government Units (LGUs), as frontline service providers, are under constant pressure to optimize their operations, enhance accountability, and ensure the delivery of high-quality services that meet the evolving needs of their constituents. In this pursuit of excellence, adopting recognized frameworks for quality management systems (QMS) has gained significant traction. Among these, ISO 9001 stands as a globally acknowledged standard that delineates the fundamental requirements for a QMS, with the overarching objectives of bolstering customer satisfaction and enabling organizations to consistently demonstrate their capacity to meet both statutory customer requirements (Smith, 2017).

ISO 9001, an International Standard, was introduced in 1987 and updated recently, including versions 2000, 2008, and 2015. It offers a structured, processed framework for managing and improving the operations of the organizational structure. It outlines the key principle through essential clauses that cover various aspects of management principles, including the quality

of design, quality management system (QMS), leadership, resources management, responsibilities, service and or product delivery, and process for measurement, monitoring, analysis, and improvement. The global impact and benefit of this International Standard have been adopted widely by various countries, supporting its core standard, which defines the basic terminology and guiding principles for implementing a Quality Management System.

The public sector, especially in the Local Government Units (LGUs), is now adopting the ISO 9001 standard. They have seen a valuable opportunity to enhance the service quality and improve the internal good government and based on the study by Smith (2017) highlighted the real-world challenges that they encountered, such as organizational resistance, resources needed, barriers in terms of limited resources, financial and human resources, and the need to engage the employees by participating in the implementation of the ISO 9001 in their organization. Smith's findings also shed light on strategies that effectively overcame these challenges. These include strong leadership, involvement of stakeholders, and focus on the efforts to build organizational capacity. This research highlighted the need on the process of monitoring and evaluation of the system implemented (QMS) in the Organization with its consistency

Moreover, Garcia (2018) discussed how the ISO 9001:2015 had been adopted in Local Government Units in the Philippines setup, with a particular focus on the what are roles of stakeholder engagement; her research examined how these various groups, employees, government officials, and community members were involved in the implementation process of the ISO 9001. It also found that involving stakeholders encouraged the mindset of collaboration and a sense of ownership. Her study highlights the importance of maintaining a participatory environment where open communication is present, decision-making is being shared, and there is a collective commitment to quality. Moreover, Garcia's work supports the idea that strong stakeholder engagement in the ISO Implementation not only boosts its success but also contributes to improved governance and product service

delivery.

These studies have valuable insights into the challenges and strategies involved in the ISO 9001 implementation of the Local Government Units. Still, there are remaining gaps in understanding the current state of their Quality Management System in a specific local context. To properly design an effective implementation and strategies and maximize the benefits of the ISO Standard adaptation, assessing the maturity level of their existing ISO 9001 – Quality Management System Practices is crucial. This study evaluates the QMS maturity level of selected Local Government Units in the Tarlac Province. Through this maturity level assessment, the research seeks to identify strengths, highlight the areas for improvement and opportunities, and inform strategic actions to enhance the LGU's public service delivery. Moreover, the goal is to support a culture of continuous quality improvement in the Province's local governance.

## 2. Literature Review

### A. Global Perspectives on Quality Management Systems

The widespread adoption of Quality Management Systems (QMS) is a global phenomenon, with over a million organizations recognizing the advantages of frameworks like ISO 9001 (Chen et al., 2019). This widespread acceptance underscores the perceived value of standardized quality management practices across diverse industries. Chen et al.'s (2019) research further highlights a critical success factor: organizations that proactively invest in internal training and development demonstrate greater preparedness for QMS implementation. This suggests that a well-trained workforce with the necessary skills and understanding of ISO requirements is fundamental for a smooth and effective integration of quality management principles.

Studies by Stanton (2023) and Salles (2023) emphasize the direct link between implementing a QMS, such as ISO 9001, and enhanced operational effectiveness. These studies indicate that adopting such systems enables organizations to streamline their operations, leading to immediate improvements in areas like operational consistency and establishing continuous improvement mechanisms. Furthermore, the benefits extend to enhanced employee communication and onboarding, the facilitation of data-driven decision-making processes, potential increases in profitability, greater customer satisfaction, and the standardization of core activities. This body of work paints a clear picture of ISO 9001 as a valuable tool for driving multifaceted organizational improvements.

### B. ISO 9001 Adoption in the Public Sector

Shifting the focus to the public sector, Brown's (2019) study investigates the factors that determine the readiness of public organizations, including Local Government Units (LGUs), to embrace ISO 9001:2015. His research identifies key institutional elements such as organizational culture, leadership commitment, resource allocation, and underlying institutional

dynamics as crucial influencers of successful implementation. Brown's findings underscore the importance of conducting thorough pre-assessments to pinpoint an organization's strengths, weaknesses, and areas requiring attention before adopting ISO. Moreover, the study stresses the necessity of developing customized training programs to deepen employees' understanding of ISO requirements and cultivate a culture dedicated to continuous quality enhancement. Aligning the adoption of ISO standards with the overarching strategic goals of the public Organization is also vital for ensuring effective integration and achieving sustainable long-term success.

Building on this, Johnson's (2016) research delves into the essential capacity-building strategies required to successfully implement ISO 9001:2015 within LGUs. His work emphasizes the critical role of comprehensive training initiatives, the strategic allocation of resources, and the establishment of robust organizational support systems. Johnson's findings highlight the need for training programs that cover the specifics of ISO standards and address change management principles and quality improvement methodologies. The study also underscores the importance of fostering a culture of continuous learning and professional development among LGU personnel to ensure the practical understanding and application of ISO principles. Furthermore, Johnson emphasizes the significance of allocating sufficient resources for personnel training, developing necessary infrastructure, and establishing internal systems that actively support adherence to ISO standards.

### C. Performance Outcomes of ISO 9001 in LGUs

Providing a broader perspective on the impact of ISO 9001:2015 implementation in LGUs, White's (2020) meta-analysis synthesizes findings from multiple studies. This research examines key performance indicators such as service quality, customer satisfaction, and operational efficiency. The consistent trend revealed by White's analysis indicates that adopting ISO standards generally leads to positive outcomes in these areas, including improved service delivery, enhanced customer satisfaction, and greater organizational efficiency. These findings underscore the potential of ISO implementation to contribute to improved governance, increased transparency, and enhanced accountability within local government settings. White's study also emphasizes the ongoing need for rigorous monitoring and evaluation of performance outcomes to ensure continuous improvement within LGUs. By providing evidence-based insights derived from a synthesis of existing research, this meta-analysis strengthens the understanding of the tangible benefits of ISO 9001:2015 implementation in enhancing the overall performance of LGUs, thereby informing evidence-based policy decisions and the development of effective strategies for improving public service delivery.

The reviewed international literature provides a compelling rationale for the adoption of ISO 9001 as a means to enhance organizational performance and service delivery, particularly within the public sector. The initial studies highlight the broad applicability and general benefits of QMS, emphasizing the

importance of a well-trained workforce for successful implementation. Subsequent research focusing on the public sector, particularly LGUs, underscores the critical factors of organizational readiness and the necessity of targeted capacity-building strategies. These studies collectively suggest that successful ISO 9001 adoption in LGUs requires a strategic approach that considers the unique context of public organizations and invests in developing the necessary skills and resources. Finally, the meta-analysis provides robust evidence of the positive performance outcomes associated with ISO 9001 implementation in LGUs, reinforcing its potential as a valuable tool for improving service quality and governance. This body of literature provides a strong foundation for investigating the current QMS maturity within specific LGU contexts, such as those in Tarlac Province, to inform tailored strategies for leveraging the benefits of ISO 9001 and ultimately enhancing public service delivery within the local governance landscape.

### 3. Research Method

This study employed a quantitative research approach to evaluate the maturity of the ISO 9001:2015 Quality Management System (QMS) of selected local government units (LGUs) in Tarlac Province. A maturity model utilizing a six-point scale ranging from 0 to 5 was used as the framework for the assessment. Data was collected using a structured questionnaire to measure the implementation level of ISO 9001:2015 clauses 4 through 10. The questionnaire was developed to align with the chosen maturity model, enabling the translation of responses into quantifiable maturity levels for each clause. The resulting data was then analyzed to determine the current state of QMS maturity within the participating LGUs.

To carry out the implementation, the maturity level was initially measured. The maturity model uses six maturity scales, ranging from 0 to 5, each representing a different level. A questionnaire was developed to calculate the maturity level. The questionnaire results were calculated based on this maturity model method. After calculating the questionnaire, the capability and maturity level of the information technology management process were determined.

Implementing ISO 9001:2015, the International Standard for quality management systems, in Local Government Units (LGUs) has gained significant attention recently. ISO 9001:2015 provides a systematic approach to enhance service quality, efficiency, and effectiveness in public administration.

The ISO 9001:2015 international Standard (quality management system) is based on ten principles. These principles are used by senior management as a framework that guides the Organization toward improving performance. These principles are derived from the collective experience and knowledge of international ISO/TC 176 Technical Committee experts. They are the experts responsible for developing and maintaining ISO 9001:2015 standards (Wella & Chia, 2020). These ten principles include the following (Wella & Chia,

2020):

#### A. Variable Measurement Scale

The study utilized a six-point Likert-type scale to measure the maturity level of each ISO 9001:2015 clause. This scale provided a range of responses that corresponded to distinct stages of QMS implementation, from "0" (representing non-existence or inferior implementation) to "5" (representing very good or optimized implementation). This approach allowed for quantifying subjective assessments of QMS implementation, facilitating comparative analysis across clauses and LGUs.

Table.1.

Rating Category

Category	Description of the Category
<b>Very Poor</b>	Lack of quality management system No documentation No implementation in the field
<b>Poor</b>	There is a quality management system in place No documentation No implementation in the field
<b>Moderate</b>	There is a quality management system in place There is already documentation, but it is not well-organized Not fully implemented in the field ( $\pm$ 41-60%)
<b>Good</b>	There is a quality management system in place There is already well-organized documentation Implementation is not carried out thoroughly in the field ( $\pm$ 61-80%)
<b>Very Good</b>	The quality management system and documentation are by the ISO 9001:2015 standard Implementation is carried out in full in the field ( $\pm$ 81-100%)

#### B. Research Design Data Collection Methods and Procedures

This research study utilized a mixed method approach of qualitative and quantitative research design, which is appropriate for an accurate and systematic description of the target of the study, the population. This study was used to discuss the current existence of their ISO 9001:2015 level of maturity with the selected Local Government Units (LGU) of the Tarlac Province. This will allow for a clear and comprehensive understanding of the status of their maturity level and their standard implementation variables.

A structured questionnaire will be used as this study's primary data collection tool and method. The developed structured questionnaire was designed based on the maturity model and will cover all the relevant requirements based on the ISO 9001:2015 – Quality Management System Standard specific to Clause 4 to Clause 10, and the six-point maturity scale matrix criteria will be used.

#### 1) Data Collection Procedures:

- **Questionnaire Development and Validation:** The structured questionnaire was designed to align with the maturity model and based on the ISO 9001:2015 International Standard requirements to ensure its

Clause Number	Clause Title	Description of the Clause
1	Scope	This clause defines the applicability of the ISO 9001:2015 standard. It clarifies that the Standard can be applied to any organization, regardless of size, type, or the products and services it provides, that wants to: a) consistently provide products and services that meet customer and applicable statutory and regulatory requirements and b) enhance customer satisfaction through the practical application of the system, including processes for improvement of the one system and the assurance of conformity to customer and applicable statutory and regulatory requirements.
2	Normative references	This clause refers to ISO 9000:2015, which provides the fundamental vocabulary and concepts for quality management systems.
3	Terms and definition	This clause outlines the terms and definitions used throughout the ISO 9001:2015 standard to ensure consistent understanding. It also references ISO 9000:2015 for these terms.
4	Context of the Organization	This clause requires the Organization to understand its internal and external context, including factors affecting its ability to achieve its objectives. It also emphasizes the need to identify the needs and expectations of interested parties (stakeholders), determine the scope of the QMS, and establish its processes. Subclauses: <ul style="list-style-type: none"> <li>a. Understanding the Organization and its context;</li> <li>b. Understanding the needs and expectations of the relevant parties;</li> <li>c. Determine the scope of the quality management system;</li> <li>d. Quality management system and processes.</li> </ul>
5	Leadership	This clause focuses on the responsibilities of top management. It requires leadership to demonstrate commitment to the QMS, establish a quality policy, define organizational roles, responsibilities, and authorities, and ensure they are communicated within the Organization.
6	Planning	This clause deals with planning actions to address risks and opportunities, setting quality objectives and planning how to achieve them, and planning for changes that may affect the QMS. Subclause: <ul style="list-style-type: none"> <li>a. Leadership and commitment;</li> <li>b. Quality policy and</li> <li>c. Organizational roles, responsibilities, and authorities.</li> </ul>
7	Support	This clause outlines the resources needed to support the QMS, including human resources, infrastructure, the environment for the operation of processes, monitoring and measuring resources, organizational knowledge, competence, awareness, communication, and documented information. Subclause: <ul style="list-style-type: none"> <li>a. Actions to address risks and opportunities;</li> <li>b. Quality targets and plans for their achievement; and</li> <li>c. Planning for change.</li> </ul>
8	Operation	This clause details the requirements for the operational aspects of the Organization, including planning and controlling the processes needed to meet requirements for the provision of products and services. It covers determining requirements, design and development, control of externally provided processes, production, and service provision, and control of nonconforming outputs. Subclause: <ul style="list-style-type: none"> <li>a. Resources;</li> <li>b. Competence;</li> <li>c. Awareness;</li> <li>d. Communication; and</li> <li>e. Documented information.</li> </ul>
9	Performance Evaluation	This clause focuses on how the Organization should monitor, measure, analyze, and evaluate its QMS performance. It includes internal audit and management review requirements to ensure the QMS is suitable, adequate, and effective. Subclause: <ul style="list-style-type: none"> <li>a. Operational Planning and control;</li> <li>b. Determine product and service requirements;</li> <li>c. Design and development of products and services;</li> <li>d. Control of external providers of products and services;</li> <li>e. Production and service implementation; Identification and traceability.</li> </ul>
10	Improvement	This clause requires the Organization to continually improve the suitability, adequacy, and effectiveness of the QMS. It includes addressing nonconformities, taking corrective actions, and actively seeking improvement opportunities. Subclause: <ul style="list-style-type: none"> <li>a. Monitoring, measurement, analysis, and evaluation.</li> <li>b. Internal audit and</li> <li>c. Management review.</li> </ul>



content validity and clarity.

- **Selection of Participants:** The target research subject for this study consisted of the personnel and workers within the selected LGUs in the Tarlac Province. Direct personnel working directly in the QMS Implementation and/or service delivery are also included in this study. To ensure the representation of the different levels of the LGU organization,
- **Data Administration:** Questionnaires will be distributed using an interview-guided survey approach. Clear instructions were provided to ensure that respondents understood the purpose of the study and how to complete the questionnaire accurately.
- **Data Collection and Management:** Completed questionnaires were collected, and the data was carefully organized and entered into a database for analysis.
- **Data Analysis:** The collected data was analyzed using descriptive statistics. The maturity level for each clause was calculated by averaging the scores of the responses for the questions related to that clause. The overall QMS maturity level for each LGU was determined by averaging the maturity levels across all clauses.



#### 4. Result And Discussion

The evaluation results of the quality management system at The Company use a maturity model, which is described as numbers and graphs to facilitate the analysis, using a Likert scale as a measuring tool for respondents' answers. This questionnaire contains questions from Clause 4 to 10. The results are as follows:

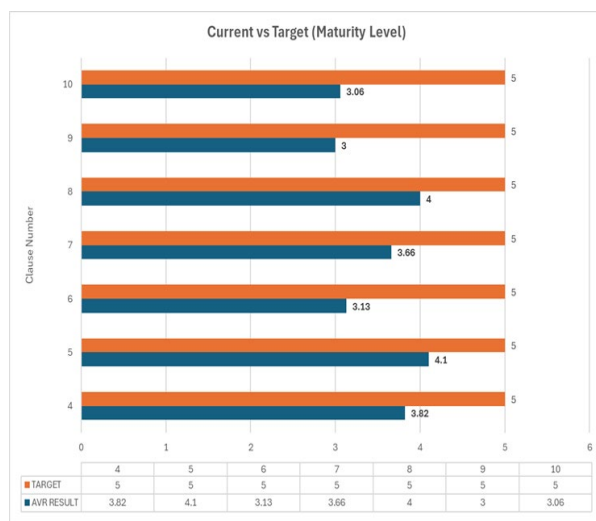


Fig.1. Current vs Target (Maturity Level)

Based on Table 2 and Figure 1, it is evident that none of the seven ISO 9001:2015 clauses achieved the desired maturity level of 5. This indicates that while the LGUs have made efforts toward implementing the quality management system, there is still a significant gap in reaching the highest level of maturity as defined by the study's scale.

The following are recommendations to achieve the targeted level of maturity:

Based on the maturity assessment result, Clause 4, the Context of the Organization shows a "Good" maturity level with an average result of 3.82; however, given this result, there's still an opportunity for improvement and enhancement. To elevate the performance of maturity level in this area, it is recommended that the LGU implement a more structured and thorough documentation approach to the contextual analysis of this study, which involves the enhancement of documentation of internal and external context of parties and issues. Also, it is recommended to utilize specific tools, techniques, or principles to ensure rigorous documentation, establish a documented process for the periodic or annual review and updating of this documentation, and maintain their relevance and significance. Moreover, it is crucial to integrate the context analysis into the strategic Planning of the Organization and decision-making process to demonstrate transparent and traceable linkages between the Organization's context and its Quality Management System as a whole.

Clause 5, Leadership, shows a "Good" level of maturity with an average score of 4.1. To improve it more and reach the target of 5.0 or "Very Good," it is recommended that the LGUs foster more proactive engagement of the top or higher management in the Quality Management System Activities, such as their involvement in the process of internal audits and process improvement initiatives. Strengthening the Organization's communication of the Quality Policy and Quality Objectives is an essential part of implementing the Standard, and it will ensure that the employees clearly understand that their contributions align with the requirements of the QMS and can be valued and add to the achievement of the QMS Objectives. This can be further supported by establishing a mechanism that can empower the employees to take ownership of quality and actively participate in continuous environment and improvement efforts.

Clause 6, Planning, shows a "Moderate" maturity level with an average score of 3.13, indicating a significant need for improvement. To address this by the LGUs, it is recommended that the LGU develop a more systematic approach to risk and opportunity management, including implementing a documented risk identification, assessment, monitoring, and mitigation process and procedures. Establishing measurable quality objectives at all levels of the Organization is critical in implementing the Standard, with clearly defined targets and realistic timelines to achieve these. Formalized a planning process and procedure to manage the impact of the changes or adapt change management processes to control the effect of the implemented Standard in the Organization, encompassing

Table.2.  
Target Maturity Level

Clause	Sub-clause	Result of Maturity Assessment	Average Result	Target Maturity Level
4	4.1	3.7	3.82	5
	4.2	4		
	4.3	3.9		
	4.4	3.7		
5	5.1	4	4.1	
	5.2	4.2		
	5.3	4.1		
6	6.1	3.1	3.13	
	6.2	3.1		
	6.3	3.2		
7	7.1	3.6	3.66	
	7.2	3.5		
	7.3	3.6		
	7.4	3.7		
	7.5	3.9		
8	8.1	4	4	
	8.2	4.2		
	8.3	4		
	8.4	4.1		
	8.5	4		
	8.6	3.9		
	8.7	3.8		
9	9.1	2.9	3	
	9.2	3		
	9.3	3.1		
10	10.1	3	3.06	
	10.2	3.2		
	10.3	3		

resource allocation, responsibility management and assignment, and comprehensive communication plans.

Clause 7, Support, shows a "Good" maturity level with an average score of 3.66. To better improve this support clause of the Standard, it is recommended that the LGUs implement a system for the evaluation process on the effectiveness of training and development activities of the employees for their improvement in terms of employee competency and eligibility, the human resource can develop a training-evaluation system process to support this recommendation. Also, it is recommended to improve the communication processes to ensure the timely and accurate dissemination of Standard - QMS-related information because it plays a critical role, as mentioned in the previous clause's recommendation; it includes document management control, accessibility issues, and secure information system protection.

Clause 8, Operation, shows a "Good" maturity level with an average score of 4.0. It shows a close to the target of 5.0; however, to progress this, it is recommended that further standardization and optimization of their processes internally

and externally. Principles like process mapping, analysis techniques, and tools can be utilized for standardization. It will enhance the control of external providers, such as suppliers, customers, etc. because they play crucial roles in the Organization and can be covered by establishing selection, evaluation, and performance monitoring criteria. Additionally, the LGU can implement a robust system for the traceability and identification of service delivery that ensures accountability and corrective actions when it is necessary.

Clause 9, Performance Evaluation, shows a "Moderate" maturity level with an average score of 3.0, indicating a need for improvement for this clause. To address this low maturity level, it is recommended that the LGUs establish a system for monitoring and measuring the developed Key Performance Indicators (KPIs) concerning their Quality Objectives. This can also be input to the Organization's Internal Audit Program.

Clause 10, Improvement, shows a "Moderate" maturity level of assessment with a score of 3.06. Clause 10 assessment of maturity also indicates a need for improvement. This clause recommends developing and implementing a strict non-conformity management and correction action process and

procedure. However, there's an existing process and procedure for their correction action. Is it not correctly implemented, and does it just act as a requirement for their Standard in the Organization? Aside from this, properly implemented corrective action emphasizes root cause analysis and preventive action, which is not only a band-aid solution for problems that occur. They should establish a mechanism to track and evaluate the effectiveness of these initiatives, ensuring that initiatives are translated into tangible and measurable results

### 5. Conclusion

The maturity level assessment of the selected LGU's ISO 9001:2015 – Quality Management System implementation in the Tarlac Province shows a diverse result of progress and the areas needed for improvement and attention. While the study evidenced the adaptation of the LGU ISO 9001:2015 implementation, none of the seven assess maturity level clauses has reached the target of maturity level of 5.0, which indicates that the LGU is still on its journey towards to the Full implementation of the ISO 9001:2015 maturity.

Specifically, the maturity level assessment highlighted that Leadership, Clause 5, with an average maturity level of 4.1 represents a relative strength from the other clauses, suggesting that the commitment of the top management and leadership commitment and involvement in their organization generally have a positive impact. Similarly, Operation (Clause) 8, which scores a 4.0, indicates a reasonably good level of control over the operational process of the Organization

However, Planning (Clause 6), Performance Evaluation (Clause 9), and Improvement (Clause 10) all of these clauses scored an assessment of maturity level of 3, which signifies critical areas requiring substantial improvement and focus. The lower maturity in the Planning clause suggests potential weaknesses in the process of risk management, setting of organizational objectives, and change management process. Low scores in the Performance evaluation and improvement signify a need for the strengthening of the measurement and monitoring practices, including internal auditing, reviews of the top management (management review), implementing and strict implementation of preventive and corrective actions, and more embedded culture of continuous improvement.

Overall, the result of the study suggests that while the LGUs have made a milestone by implementing ISO 9001:2015 to achieve the full potential and benefits of the Standard, it will require more effort to enhance the maturity in the key areas.

*Study Implications, Limitation, And Future Research Directions:*

This research contributes to the body of knowledge by providing a detailed assessment of ISO 9001:2015 QMS maturity within specific LGUs in Tarlac Province. It highlights the critical moderating factors that influence implementation success and offers targeted recommendations for improvement, which can inform future research and practical interventions in similar contexts.

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