ISO 9001:2015 Quality Management System (QMS) implementation in national irrigation administration Region IV-A service delivery

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Abstract

This study determined the influence of ISO 9001:2015 Quality Management System (QMS) implementation on service delivery and stakeholder satisfaction in the National Irrigation Administration (NIA) Region IV-A from 2025 to 2026. Specifically, it examined QMS dimensions such as process standardization and documentation, internal audit and corrective actions, risk management strategies, continuous improvement mechanisms, and employee involvement and training in relation to service delivery and stakeholder satisfaction. The study utilized a descriptive-correlational quantitative research design involving selected employees and stakeholders through stratified sampling. Data were collected using a validated structured questionnaire adapted from ISO QMS and service quality frameworks. Statistical tools such as mean and correlation analysis were used to analyze the data. Findings revealed that ISO 9001:2015 QMS implementation was generally evident and contributed to improved internal processes. Service delivery was rated satisfactory, while stakeholder satisfaction was generally positive. However, not all QMS dimensions showed significant relationships with service delivery and satisfaction, indicating that other organizational factors may also influence outcomes.

Keywords: ISO 9001:2015; Quality Management System; service delivery, stakeholder satisfaction, public administration

1. Introduction

Public Agencies are now recognizing the importance of adopting internationally accepted quality standards to ensure efficiency, transparency, and accountability in service delivery. The National Irrigation Administration (NIA), a government-owned and controlled corporation plays a vital role in the agricultural development of the Philippines by constructing, operating, and maintaining irrigation systems nationwide. To strengthen its commitment to providing reliable and sustainable irrigation services, NIA has embraced the implementation of the ISO 9001:2015 Quality Management System (QMS). This standard serves as a globally recognized framework that promotes consistent service delivery, continual improvement, and stakeholder satisfaction through a systematic and process-based approach.

The ISO 9001:2015 QMS emphasizes the principles of leadership, engagement of people, evidence-based decision-making, and risk-based thinking all essential in ensuring the organization's ability to meet both requirements and the expectations of its stakeholders. Within the context of NIA Region IV-A, which covers the Regional IV-A Office in Pila, Laguna under its management are the provinces of Cavite, Laguna, Batangas, Rizal, and Quezon, the implementation of the QMS holds particular importance. The region is characterized by diverse agricultural needs and varying operational challenges that demand efficiency, accountability, and effective coordination among field offices and service units.

The QMS, therefore, serves as a standard for improving documentation, standardizing procedures, and strengthening the delivery of irrigation services to farmers and irrigators' associations across the region.

The QMS provides a structured framework for improvement, its culture and daily operations. Understanding how the system functions in practice, and the extent to which it contributes to organizational performance and client satisfaction, is therefore essential.

This study aims to evaluate the implementation of the ISO 9001:2015 QMS in the National Irrigation Administration Region IV-A. Specifically, it seeks to determine its effectiveness in enhancing operational efficiency, effectiveness, timeliness, continuity. Through this assessment, the research hopes to contribute valuable insights that can support NIA's continuous journey toward quality driven governance and sustainable irrigation service delivery.

1.1. Background of the Study

Quality management has become an essential component of public administration. In the Philippine public administration, the integration of quality management systems (QMS) into government operations signifies a deliberate effort to institutionalize efficiency, transparency, and accountability. The issuance of Executive Order No. 605, series of 2007, mandated the adoption of the ISO 9001 Quality Management System across government agencies to enhance operational effectiveness, streamline processes, and promote a culture of continual improvement consistent with international best practices.

In this study, ISO 9001:2015 implementation in the National Irrigation Administration (NIA) Region IV-A is expected to strengthen service delivery and enhance stakeholder satisfaction through standardized processes, risk-based thinking, continuous improvement, and employee involvement. However, the observed results suggest that while QMS implementation contributes to improved internal systems, its effects on service delivery and stakeholder satisfaction may not always be direct or uniformly positive. This reflects the broader situation in public sector organizations where structural and operational constraints may limit the immediate translation of internal quality improvements into external service outcomes. In particular, some findings appear unexpected, as certain QMS components may show weak or even negative relationships with service responsiveness and satisfaction indicators, possibly due to implementation adjustments, increased procedural requirements, and transitional learning curves among employees. These results suggest that the benefits of ISO 9001 may be more long-term and indirect, aligning with literature that emphasizes gradual performance improvement and the influence of mediating factors such as organizational culture, leadership, and employee adaptation during system implementation.

The National Irrigation Administration (NIA), a government-owned and controlled corporation (GOCC), is mandated to develop, operate, and maintain irrigation systems nationwide to support agricultural productivity and rural development. Given its critical role in food security and sustainable agricultural growth, NIA's performance directly influences the welfare of farmers and the agricultural sector. In line with national government efforts to improve public sector efficiency and service quality, NIA Region IV-A adopted the ISO 9001:2015 Quality Management System (QMS) in 2018 as part of its institutional strengthening and modernization initiatives. This framework emphasizes process standardization, evidence-based decision-making, risk management, continuous improvement, and employee training to enhance organizational effectiveness. Through this adoption, NIA aims to ensure that its irrigation services are more responsive to stakeholder needs and aligned with internationally recognized quality standards.

NIA Region IV-A (CALABARZON) represents a particularly dynamic operational environment, including the Regional Office, and the operational area within the provinces of Cavite, Laguna, Batangas, Rizal, and Quezon. The region is characterized by diverse agricultural condition and rapid urbanization, and increasing demand for irrigation services. These conditions pose unique challenges to each office in terms of service delivery, including resource allocation, infrastructure maintenance, and stakeholder coordination. The implementation of the ISO 9001:2015 QMS in NIA Region IV-A regional office seeks to address these

challenges by ensuring that processes are standardized, documentation is properly managed, and performance outcomes are regularly monitored and evaluated.

Despite these institutional efforts, the study seeks to find out if there are challenges encountered in sustaining QMS implementation. And to address if there are Issues that may hinder the full realization of the system's benefits. Moreover, the degree to which ISO 9001:2015 has improved operational efficiency, employee performance, and stakeholder satisfaction within NIA Region IV-A still remains unexamined.

Hence, this study is undertaken to evaluate the implementation of ISO 9001:2015 QMS in the National Irrigation Administration Region IV-A. The study seeks to contribute to the broader effects on quality-driven governance in NIA Region IV-A and the advancement of public sector reform in the Philippines.

1.2. Theoretical Framework

The implementation of the ISO 9001:2015 Quality Management System (QMS) in public sector organizations such as the National Irrigation Administration (NIA) can be anchored on several interrelated theories that explain organizational behavior, performance improvement, and administrative reform. This study primarily draws on Total Quality Management (TQM) Theory, Systems Theory, and Institutional Theory as its theoretical foundation.

Total Quality Management (TQM) theory serves as the primary framework of this study. TQM emphasizes continuous improvement, customer focus, employee involvement, process orientation, and systematic quality enhancement in organizational operations. In relation to ISO 9001:2015, TQM explains that quality management practices such as process standardization, internal audits, corrective actions, risk management, continuous improvement mechanisms, and employee training are designed to improve internal organizational processes. However, improvements in internal systems may not automatically translate into immediate external outcomes such as service delivery performance or stakeholder satisfaction. Instead, TQM suggests that quality improvements are often realized progressively and may require strong organizational commitment, leadership support, and cultural integration before becoming fully reflected in service outcomes.

To further explain the organizational dynamics involved in ISO implementation, introduced by Ludwig von Bertalanffy (1950) is also applied. Systems Theory views an organization as an interconnected set of subsystems that interact with one another to produce overall performance outcomes. In the context of NIA, ISO 9001:2015 implementation affects specific subsystems such as documentation processes, auditing mechanisms, risk management practices, and employee training systems. However, service delivery outcomes are also influenced by other interrelated subsystems such as organizational structure, resource availability, leadership practices, and operational constraints. Thus, Systems Theory explains why improvements in ISO-related processes may not always result in direct or uniform effects on service delivery and stakeholder satisfaction, as organizational performance is shaped by the interaction of multiple internal and external factors. From this perspective, the QMS functions as a mechanism for integrating various subsystems within NIA Region IV such as operations, administration, and support services into a cohesive structure that ensures coordination and process alignment. Systems Theory reinforces the idea that the effectiveness of QMS implementation depends not only on individual compliance but also on the harmonious functioning of all components within the organizational system.

In addition, the SERVQUAL model developed by Parasuraman, Zeithaml, and Berry (1988) is utilized to explain stakeholder satisfaction. The model identifies five key dimensions of service quality, namely reliability, responsiveness, assurance, empathy, and tangibles, which influence how customers perceive and evaluate service performance. In this study, stakeholder satisfaction in NIA Region IV-A is understood through dimensions such as communication satisfaction, employee assistance, service reliability, responsiveness, and service continuity. The SERVQUAL model explains that satisfaction is determined by the gap between expected and perceived service performance, meaning that even if internal processes improve

through ISO 9001:2015 implementation, stakeholder satisfaction may still vary depending on how services are experienced and perceived by clients.

Expectancy Theory, developed by Vroom (2015), provides a useful perspective in explaining stakeholder satisfaction by emphasizing that individual behavior and satisfaction are influenced by expectations of outcomes and the perceived value of those outcomes. The theory posits that individuals are motivated when they believe that their efforts will lead to desired performance and that such performance will result in valued rewards or outcomes. In the context of public service delivery, stakeholders evaluate services based on whether their expectations such as timely response, reliable service, and effective assistance are met. Similarly, employees are more likely to perform effectively when they perceive that their efforts in implementing quality management practices, such as those required by ISO 9001:2015, will lead to positive outcomes, including recognition, improved work conditions, or organizational success. Thus, Expectancy Theory helps explain that stakeholder satisfaction is not solely determined by the presence of quality systems but by the extent to which service outcomes align with stakeholder expectations and perceived value.

Through the perspective of New Public Management (NPM) Theory as coined by Christopher Hood (1991) The implementation of the ISO 9001:2015 Quality Management System (QMS) in NIA Region IV-A can also be better understood. which encourages government institutions to adopt modern, results-oriented, and client-focused approaches. NPM emerged from the idea that public agencies, should continuously improve their systems to deliver services more efficiently and effectively. In this perspective the ISO 9001:2015 provides a structured framework that helps NIA strengthen the quality of its processes, reduce inconsistencies, and ensure that irrigation services are delivered with a higher level of reliability and professionalism. The QMS principles of continuous improvement, process standardization, and data-driven decision-making closely mirror NPM's call for innovation and performance enhancement in the public sector.

NPM also emphasizes the importance of accountability and transparency**,** which are essential in gaining the trust of the society who rely on government services. ISO 9001:2015 reinforces these values by requiring clear documentation, regular audits, and systematic monitoring of organizational performance. For NIA Region IV-A, this means that every step in its irrigation service delivery from planning to implementation and evaluation is guided by documented procedures and measurable indicators. Such practices not only promote operational discipline but also strengthen the agency's responsibility to its stakeholders, reflecting NPM's vision of a public sector that is more open, answerable, and committed to quality outcomes.

The Institutional Theory, as articulated by DiMaggio and Powell (1983), explains how organizations conform to institutional norms, standards, and external expectations to gain legitimacy and sustain credibility. In the public sector, ISO 9001:2015 certification represents an institutionalized form of legitimacy that signals adherence to global standards of quality and accountability. The adoption of QMS within NIA Region IV-A can thus be understood as both a compliance mechanism and a strategic response to pressures for modernization, transparency, and improved public service outcomes.

The Learning Organization Theory by Peter Senge provides an important foundation for understanding how ISO 9001:2015 QMS is implemented in NIA Region IV-A. Senge describes a learning organization as one that continuously adapts and improves because its people are encouraged to grow, share knowledge. In the case of NIA Region IV-A, the QMS becomes more than a compliance tool; it becomes a platform that supports a culture where employees learn from experience, refine their skills, and contribute to better service delivery.

It encourages organizations to view their processes, people, and decisions as interconnected. It is an idea in Senge's theory thinking ISO 9001:2015 supports this by requiring agencies to map their processes, understand how different functions interact, and monitor how changes in one area affect others. For NIA Region IV-A, adopting systems thinking means recognizing that improvements in documentation, maintenance, stakeholder service, and governance are not isolated efforts they collectively enhance the effectiveness of irrigation service delivery.

The stakeholder satisfaction component of this study may be anchored on the Expectancy - Disconfirmation Theory proposed by Richard L. Oliver (1980), which explains that satisfaction is determined by the comparison between prior expectations and actual service performance. According to this theory, stakeholders form expectations about the quality of services, and satisfaction occurs when perceived performance meets or exceeds these expectations, while dissatisfaction arises when performance falls short. In the context of the National Irrigation Administration, dimensions such as communication satisfaction, staff assistance satisfaction, service reliability satisfaction, service responsiveness satisfaction, and service continuation satisfaction reflect how clients evaluate service experiences relative to their expectations. For instance, clear communication, competent personnel, consistent service delivery, and prompt response to concerns contribute to positive disconfirmation, leading to higher satisfaction and continued engagement with the agency. Conversely, gaps between expected and actual service delivery may result in dissatisfaction and reduced trust. Thus, Disconfirmation Theory provides a strong theoretical basis for understanding how perceived service quality influences stakeholder satisfaction in public service organizations.

Integrating these theories provides a comprehensive lens through which the study can examine QMS implementation in NIA Region IV-A not only as a procedural reform, but as an organizational transformation process that reflects broader principles of quality governance and institutional capacity building in the Philippine public sector.

1.3. Conceptual Framework

This study is grounded on the assumption that the effective implementation of the ISO 9001:2015 Quality Management System (QMS) has an influence on the service delivery performance of the National Irrigation Administration (NIA) Region IV-A. The ISO 9001:2015 framework emphasizes a process-based approach, risk-based thinking, and continuous improvement, all of which are intended to enhance organizational efficiency, consistency, and responsiveness to stakeholder needs.

The first set of variables pertains to the extent of ISO QMS implementation, operationalized through five dimensions: process standardization and documentation, internal audit and corrective actions, risk management strategies, continuous improvement mechanisms, and employee involvement and training. These elements represent the core operational components of ISO 9001:2015, and their effectiveness reflects how well the organization institutionalizes structured processes, identifies and addresses nonconformities, manages risks, pursues ongoing improvement, and equips its personnel to carry out quality-focused tasks. Each dimension is assumed to contribute uniquely to organizational consistency, performance monitoring, decision-making, and employee competence, which are necessary for quality service delivery.

The first set of dependent variables focuses on service delivery, described through five dimensions: efficiency, effectiveness, timeliness, reliability, and adaptability. These dimensions capture the actual outcomes experienced by NIA clients and stakeholders. Efficiency reflects optimal resource utilization and streamlines processes; effectiveness or quality measures the accuracy and adequacy of outputs; Timeliness assesses the speed and attentiveness of services; Reliability indicates the consistency of service performance; and adaptability represents the organization's capability to respond to changes, needs, or external conditions.

The second set dependent variable refers to stakeholder satisfaction, which is measured in terms of five dimensions: communication satisfaction, staff assistance satisfaction, service reliability satisfaction, service responsiveness satisfaction, and service continuation satisfaction. These dimensions reflect the perceived quality of service delivery as experienced by NIA clients and stakeholders. Communication satisfaction pertains to the clarity, timeliness, and adequacy of information provided by the agency; staff assistance satisfaction refers to the competence, courtesy, and helpfulness of personnel; service reliability satisfaction measures the consistency and dependability of services; service responsiveness satisfaction evaluates the promptness in addressing client needs and concerns; and service continuation satisfaction indicates stakeholders' overall confidence and willingness to continue engaging with the services of the National Irrigation Administration.

The framework imposes that the effective and extensive implementation of ISO 9001:2015 Quality Management System (QMS) components contribute to improvements in both service delivery and stakeholder satisfaction. Process standardization is assumed connected to enhanced efficiency, reliability, and consistency of services by reducing process variation. Internal audits and corrective actions are anticipated to improve service quality, responsiveness, and continuity through the identification and resolution of operational gaps. Risk management strategies are related to strengthening reliability, adaptability, and service continuity by anticipating potential disruptions and enabling preventive actions. Continuous improvement mechanisms are likewise expected to enhance effectiveness and responsiveness through the systematic refinement of processes. Employee involvement and training are presumed to influence all dimensions of service delivery and stakeholder satisfaction, given that competent and engaged personnel are essential in achieving consistent service quality and positive client experiences.

Anchored on this framework, the study hypothesizes that there is a significant relationship between the extent of ISO 9001:2015 QMS implementation and both service delivery and stakeholder satisfaction in the National Irrigation Administration (NIA) Region IV-A. The conceptual framework thus establishes the linkage between the ISO QMS dimensions as independent variables and the indicators of service delivery and stakeholder satisfaction as dependent variables, serving as the basis for examining how quality management practices influence organizational performance and perceived service outcomes.

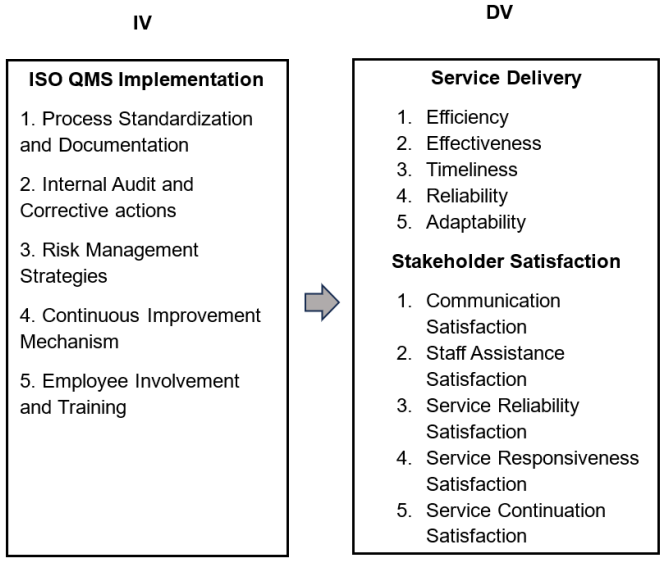

Figure 1. The Research Paradigm of the Study

1.4. Statement of the Problem

This study aimed to evaluate the implementation of the ISO 9001:2015 Quality Management System in NIA Region IV-A and determine its impact on the agency's service delivery and stakeholder satisfaction Specifically, this study aims to answer the following questions:

1. To what extent is the ISO 9001:2015 Quality Management System implemented in NIA Region IV-A in terms of:

1.1 Process standardization and documentation;
1.2 Internal audit and corrective actions;
1.3 Risk Management Strategies
1.4 Continuous improvement mechanisms; and
1.5 Employee involvement and training?

2. What is the level of service delivery in NIA Region IV-A, as described in terms of:
2.1 Efficiency;
2.2 Effectiveness;
2.3 Timeliness;
2.4 Reliability; and
2.5 Adaptability?
3. What is the level of stakeholder satisfaction with NIA Region IV-A services, in terms of:
3.1 Communication Satisfaction;
3.2 Staff Assistance Satisfaction;
3.3 Service Reliability Satisfaction;
3.4 Service Responsiveness Satisfaction; and
3.5 Service Continuation Satisfaction?
4. Is there a significant relationship between the extent of ISO 9001:2015 QMS implementation and the level of Service Delivery in the National Irrigation Administration Region IV-A?
5. Is there a significant relationship between the extent of implementation of the ISO 9001:2015 Quality Management System and the level of Stakeholder Satisfaction in the National Irrigation Administration (NIA) Region IV-A.
6. What plan may be proposed based on the results of the study?

1.5. Research Hypothesis

Ho1: There is no significant relationship between the extent of implementation of the ISO 9001:2015 Quality Management System and the level of Service Delivery in the National Irrigation Administration (NIA) Region IV-A.

Ho2: There is no significant relationship between the extent of implementation of the ISO 9001:2015 Quality Management System and the level of Stakeholder Satisfaction in the National Irrigation Administration (NIA) Region IV-A.

1.6. Scope and Limitations of the Study

This study is limited to evaluating the implementation of the ISO 9001:2015 Quality Management System (QMS) within the National Irrigation Administration (NIA) Regional Office IV-A only. It covers employees from the Engineering and Operations Division and the Administrative and Finance Division, both located in Pila, Laguna. The study focuses on examining the extent to which QMS principles and practices have been implemented in the regional office, particularly in the areas of process standardization and documentation, internal audit and corrective actions, risk management strategies, continuous improvement mechanisms, and employee involvement and training.

Furthermore, the study evaluates how these components influence the agency's Service Delivery, measured in terms of efficiency, effectiveness or quality, timeliness, Reliability, and adaptability, as well as Stakeholder Satisfaction, measured in terms of communication satisfaction, staff assistance satisfaction, service reliability satisfaction, service responsiveness satisfaction, and service continuation satisfaction.

The study is limited to the Regional Office IV-A and does not extend to the Irrigation Management Offices (IMOs) under its jurisdiction. The respondents consist of selected employees of the regional office who are directly engaged in the implementation of QMS-related activities. The research primarily utilizes available QMS data and official records from the regional office, supported by survey questionnaires.

The time frame of the study is confined to the accessible years of QMS implementation for which relevant data and documentation are available. The research aims to provide an objective evaluation of the current implementation status of ISO 9001:2015 within the NIA Regional Office IV-A and its influence on Service Delivery and Stakeholder Satisfaction.

However, the study is subject to certain limitations. It is restricted to the regional office level only and does not include comparative analysis with NIA Region IV-A field offices or other NIA regional and central offices. The findings rely on available internal records, employee and stakeholder responses, which may not capture all operational issues or reflect conditions beyond the study period. Moreover, the study does not account for external factors such as changes in government policies, budgetary constraints, or environmental conditions that may indirectly affect Service Delivery and Stakeholder Satisfaction outcomes.

Despite these limitations, the research aims to generate valuable insights into the implementation of ISO 9001:2015 QMS within NIA Region IV-A and to identify potential strategies for enhancing quality management practices, thereby contributing to improved Service Delivery and Stakeholder Satisfaction.

1.6. Significance of the Study

The implementation of the ISO 9001:2015 Quality Management System (QMS) within public agencies, such as the National Irrigation Administration (NIA) Regional Office IV-A located in Pila, Laguna, represents a vital component of the government's continuing efforts to institutionalize efficiency, accountability, and quality service delivery. This study is significant as it provides an assessment of how ISO 9001:2015 QMS has been implemented within NIA Region IV-A and how these may contribute to service delivery and stakeholder satisfaction.

NIA Regional Office IV-A. The results of this study will be of direct benefit to the management and employees of NIA Region IV-A. By identifying the strengths and areas for improvement in the implementation of ISO 9001:2015 QMS particularly in process standardization, internal audit, corrective actions, risk management strategies, continuous improvement mechanisms, and employee engagement the study will provide insights that can guide the enhancement of the agency's existing quality management practices. The findings may also assist NIA leadership in sustaining compliance with ISO standards and reinforcing a culture of quality across all operational levels.

National Irrigation Administration as a whole. The study serves as an important reference in promoting evidence-based decision making and organizational learning. The research outcomes may inform future policies, strategies, and capacity-building initiatives related to QMS implementation not only within Region IV-A but across other regional and field offices nationwide. Such insights can help strengthen NIA's commitment to providing efficient, reliable, and timely irrigation services that directly support agricultural productivity and rural development.

Other government agencies. This focuses on agencies that are currently implementing or aspiring to obtain ISO 9001:2015 certification. It can serve as a model or benchmark for understanding the challenges, enabling factors, and best practices associated with adopting quality management systems in the public sector. The findings may offer practical lessons on how ISO-based frameworks can be effectively integrated into bureaucratic structures to promote transparency, consistency, and continuous improvement in public service delivery.

Public administration perspective. This research contributes to the broader discourse on quality governance and performance management in the Philippine public sector. It demonstrates how international quality standards such as ISO 9001:2015 can be leveraged as tools for reform, modernization, and citizen centered governance.

Future researchers. The results of the study will provide a foundational reference for further inquiry on the implementation of quality management systems in government agencies. It may inspire comparative or longitudinal studies examining how ISO certification influences organizational effectiveness, employee engagement, and public satisfaction over time.

In essence, the significance of this study lies in its potential to promote a deeper understanding of quality management in the public sector supporting NIA Region IV-A, its IMOs, and other government agencies in their pursuit of operational excellence, institutional integrity, and responsive public service delivery.

1.7. Definition of Terms

This section presents the operational and conceptual definitions of key terms used in the study to ensure clarity and uniform understanding of how they are applied within the context of the research.

Adaptability. Referring to the ability of NIA's service delivery processes, personnel, and systems to adjust effectively to changes in policies, environmental conditions, and stakeholder needs.

Continuous Improvement. A recurring activity undertaken to enhance performance and achieve incremental gains in efficiency and quality of services.

Corrective Action. A step or process undertaken by NIA offices to eliminate the cause of nonconformities and prevent their recurrence within the organization.

Communication Satisfaction. Refers to the stakeholders' level of satisfaction with the clarity, accuracy, and timeliness of information provided by NIA regarding irrigation services.

Dependent Variable (DV). Refers to service delivery outcomes expected to be influenced by ISO 9001:2015 QMS implementation.

Documentation and Record Control. The systematic management of records and documents in NIA offices to ensure traceability, accountability, and compliance with QMS requirements.

Efficiency. The ability of NIA to maximize productivity in irrigation services and agricultural assistance while minimizing wasted time, effort, and financial resources.

Effectiveness. The extent to which organizational objectives are achieved, and the needs of stakeholders or farmers are satisfied.

Employee Involvement. Participation, commitment, and active contribution of employees in implementing and maintaining QMS processes.

Implementation. The process of integrating and applying QMS principles and standards into NIA's operational systems and procedures to achieve organizational goals.

Independent Variable (IV). Referring to ISO 9001:2015 QMS implementation, the factor presumed to influence service delivery outcomes.

Internal Audit. A systematic, independent, and documented process for obtaining and evaluating evidence to determine the extent of conformity to QMS requirements within NIA.

Irrigation Management Offices (IMOs). Field offices under NIA's regional supervision that directly manage irrigation systems and deliver services to farmers.

ISO 9001:2015. The international standard that specifies requirements for a Quality Management System (QMS), reflects the agency's commitment to improving quality management and irrigation service delivery.

National Irrigation Administration (NIA). The government-owned and controlled corporation responsible for irrigation development and management in the Philippines.

NIA Region IV-A. The regional office of NIA that oversees irrigation operations in the provinces of Cavite, Laguna, Batangas, Rizal, and Quezon, with headquarters in Pila, Laguna.

Process Standardization. The establishment and documentation of uniform procedures to ensure consistency and reliability of outputs.

Quality Management System (QMS). A structured framework of processes and procedures designed to ensure that an organization consistently meets stakeholder and regulatory requirements through established policies and systems.

Reliability. The consistency and dependability of the agency's service delivery over time.

Service Continuation Satisfaction. Refers to stakeholders' satisfaction with the agency's ability to consistently provide uninterrupted irrigation services over time.

Service Reliability Satisfaction. Refers to stakeholders' satisfaction with the dependability and consistency of NIA's service delivery.

Service Responsiveness Satisfaction. Refers to stakeholders' satisfaction with how promptly and effectively NIA responds to requests, complaints, and service needs.

Staff Assistance Satisfaction. Refers to stakeholders' satisfaction with the professionalism, competence, and helpfulness of NIA personnel in providing irrigation services.

Scope and Limitations. The boundaries and constraints of the study in terms of geographical coverage, participants, and data availability.

Service Delivery. The process and outcome of providing irrigation structures, water distribution services, and related assistance to stakeholders.

Stakeholder. Individuals or groups directly affected by NIA's irrigation services, including farmers' associations and cooperatives.

Stakeholder Satisfaction. In the context of NIA, this refers to the degree to which the needs and expectations of irrigation stakeholders and beneficiaries are met through services, processes, and interactions.

Timeliness. The ability of the agency to respond promptly and appropriately to stakeholder requests and service needs.

1.8. Review of Related Studies and Literature

1.8.1. Related Literature

The implementation of ISO 9001:2015 has become a key strategy for public and private organizations seeking to strengthen quality assurance systems, institutionalize standardized processes, and improve service delivery outcomes. Fonseca (2015) explains that ISO 9001 evolved from Total Quality Management (TQM) principles and early quality-management philosophies, emphasizing stakeholder focus, the process approach, evidence-based decision-making, and continual improvement. His review highlights that ISO 9001:2015 introduced major revisions such as risk-based thinking, consideration of organizational context, and the integration of knowledge management, signaling a shift toward a more holistic and adaptive quality framework. Similarly, Ramphal (2015) emphasizes that the 2015 revision reduced the focus on documentation and instead strengthened leadership accountability, risk management, and integration with broader organizational systems. These developments reshaped QMS from merely a compliance activity to a strategic driver of organizational performance. Reid (2015) adds that these changes influence not only general organizations but also sector-specific quality standards, as industries must realign their own frameworks with the revised ISO structure.

A central component of ISO implementation is the standardization and documentation of processes. Literature on process documentation underscores its importance in capturing organizational knowledge and ensuring consistent delivery of services. Haddadpoor, Taheri, Nasri, Heydari, and Bahrami (2015) highlight that process documentation exposes implicit knowledge that often resides informally among employees. Their analysis shows that effective documentation clarifies the flow of activities, identifies process inputs and outputs, and improves the training of new personnel. They assert that documentation becomes the foundation of organizational architecture, enabling streamlined operations and supporting continuous improvement. This aligns with ISO 9001's requirement that documented information should sustain consistent process execution and serve as a basis for monitoring, evaluating, and enhancing work procedures.

Another critical aspect of QMS implementation is the conduct of internal audits and corrective actions. Rasid, Rahmat, Abu, and Zazili (2025) note that internal audits serve as mechanisms for performance control, compliance checking, and improvement of internal control systems. Their study highlights that the quality of internal audits is heavily influenced by management support, which mediates their effectiveness and strengthens overall governance structures. Effective audits paired with appropriate corrective actions ensure that nonconformities are addressed systematically, reinforcing organizational learning and strengthening accountability. These findings support the ISO 9001 emphasis on monitoring, measurement, and continual improvement of the QMS.

Risk management has also become integral to ISO 9001:2015, particularly with the introduction of risk-based thinking. Ahmad and Teo (2024) discuss how organizations benefit from structured Enterprise Risk

Management (ERM) frameworks, which enable improved risk identification, mitigation, and decision-making. Although their review focuses on SMEs, the principles apply broadly to public-sector entities that face resource constraints and multiple operational risks. They argue that leadership commitment, organizational culture, and integration with strategic planning are essential for effective risk management practices. In a similar vein, Jodkowski (2015) explains that ISO 9001:2015's revised requirements place substantial emphasis on risk assessment as a proactive tool to ensure process stability and service quality. Sitnikov and Pîrvu (2017) further illustrate how risk-based thinking enhances client orientation, managerial involvement, and process control, suggesting that organizations implementing ISO 9001 must identify risks and opportunities in every process to support consistent and reliable service outcomes.

Continuous improvement mechanisms form another foundational principle of ISO 9001:2015. Sulaiman and McLaughlin (2018) describe continuous improvement as both a technical process and a cultural orientation that requires supportive values, leadership involvement, and employee participation. Their literature review indicates that organizations that successfully embed continuous improvement practices exhibit shared norms of learning, openness to change, and collaborative problem-solving. This cultural infrastructure enables the effective use of tools such as the Plan-Do-Check-Act (PDCA) cycle and other improvement methodologies like Kaizen, Lean, and Six Sigma. Through these mechanisms, organizations are better able to sustain operational efficiency and maintain high service-quality standards over time.

Employee involvement and training play a significant role in the success of QMS implementation. Ahmed and Idris (2020) argue that soft TQM elements specifically employee empowerment, involvement, training, and teamwork strongly influence employee satisfaction and organizational performance. Their findings reveal that empowered and well-trained employees are more committed to quality initiatives and more capable of ensuring consistent and reliable service delivery. These results mirror ISO 9001's emphasis on competence, awareness, and participation of personnel in achieving quality objectives. Literature on organizational learning also reinforces the idea that training enhances the organization's adaptive capacity, making it more responsive to stakeholder needs and environmental changes.

To understand the dependent variable of service delivery, the SERVQUAL model provides a strong conceptual foundation. Parasuraman, Zeithaml, and Berry (1988) conceptualize service quality through dimensions such as reliability, responsiveness, assurance, empathy, and tangibles. Although developed for private-sector services, the model is widely applied in public-sector research, as it captures key attributes of stakeholder-perceived service quality. The dimensions of efficiency, responsiveness, reliability, and adaptability outlined in the present study parallel SERVQUAL's constructs, linking QMS implementation with perceived service delivery performance.

Public sector literature further explains the complexity of service delivery. Sienkiewicz-Małyjurek (2023) describes public service delivery as a dynamic process shaped by uncertainties such as crises, resource constraints, and changing stakeholder demands. Her systematic review highlights the importance of coordinated processes, efficient resource flow, and inter-organizational relationships which are factors that correspond directly with ISO 9001's focus on process control, structured operations, and stakeholder engagement.

The literature on performance measurement strengthens the link between QMS and service delivery outcomes. Mickelson (2023) emphasizes that the use of Key Performance Indicators (KPIs) must align with organizational goals and stakeholder needs to be effective. His work asserts that measuring efficiency, effectiveness, reliability, and timeliness is essential to achieving continuous improvement. This directly relates to service delivery indicators used in the present study and demonstrates how QMS implementation can be assessed and improved systematically.

ISO 9001:2015 Quality Management Systems provide a structured framework for improving organizational performance through documentation and standardization, internal audit and corrective actions, risk-based thinking, continuous improvement, and employee involvement and training. Haddadpoor (2015) and Psomas (2013) emphasize that structured documentation systems and standardized procedures enhance process control, organizational efficiency, and service reliability by ensuring consistency in operations.

Likewise, Abuazza (2019) and Tashi (2016) highlight that internal audit systems and corrective and preventive action mechanisms are essential in identifying nonconformities, ensuring compliance with quality standards, and sustaining continuous improvement in ISO-certified organizations. In addition, Erzahovich (2017) and Chiarini (2020) explain that risk-based thinking promotes proactive decision-making, strengthens organizational resilience, and reduces service disruptions through systematic risk identification and mitigation. Furthermore, Jimoh (2019) and Olkiewicz (2020) stress that continuous improvement is central to quality management, especially when supported by stakeholder feedback and performance monitoring, leading to sustained quality enhancement over time. Lastly, Milovanović (2023) and Obeng-Tuaah (2025) emphasize that employee involvement and training are critical success factors in ISO implementation, as they enhance workforce competence, engagement, and overall organizational performance.

Service delivery is widely recognized as being influenced by efficiency, effectiveness, timeliness, reliability, and adaptability, all of which are strengthened through quality management practices and process optimization. Brastoro (2024) and Tzelepis (2006) emphasize that efficient service delivery is achieved through effective resource management and streamlined processes, where the application of quality management systems such as ISO 9001 enhances operational efficiency and resource utilization. In terms of effectiveness and service quality, Alzaydi (2017) and Mahmutaj (2015) highlight that customer focus, compliance with quality standards, and continuous monitoring of processes significantly improve service outcomes and satisfaction. Regarding timeliness, Setiono (2022) and Wadud (2024) identify responsiveness and speed of service delivery as key determinants of perceived service quality, noting that prompt responses and timely assistance positively influence customer satisfaction. For reliability and continuity, Chowdhary (2007) emphasizes reliability as a core dimension of service quality, referring to consistent and accurate service delivery, while Husain (2024) explains that ISO 9001-certified organizations tend to exhibit improved operational control, resulting in more consistent and continuous service performance. Lastly, Chiarini (2017) and Nasir (2025) highlight that adaptability is essential in dynamic service environments, where risk-based thinking and continuous improvement enable organizations to adjust processes effectively while maintaining service quality and performance stability.

Stakeholder satisfaction in public service delivery is shaped by key dimensions such as communication, employee competence, reliability, responsiveness, and service continuity, which collectively determine perceived service quality. Lahap (2016) and Vassillo (2025) emphasize that clear, timely, and transparent communication enhances stakeholder satisfaction by strengthening trust, improving service perceptions, and reinforcing organizational credibility. In addition, Setiono (2022) and Wu (2015) highlight that employee competence, courtesy, and interpersonal behavior significantly influence customer satisfaction, as positive service encounters and professional conduct contribute to higher satisfaction levels and improved organizational performance. Regarding reliability, Idayati (2020) identifies it as a core dimension of service quality, referring to the consistent and accurate delivery of promised services, while Husain (2024) explains that ISO 9001 implementation strengthens process control and organizational consistency, thereby enhancing service reliability and stakeholder confidence. Furthermore, Chowdhary (2007) underscores responsiveness as a key determinant of service quality, emphasizing the importance of prompt and dependable service delivery in shaping customer perceptions. Lastly, van Lierop (2016) and Parawansa (2018) note that service continuity and satisfaction are strongly associated with customer loyalty and long-term engagement, as higher satisfaction levels encourage sustained service use and stronger stakeholder relationships over time.

The ISO 9001:2015 Quality Management System (QMS) provides a process-based, risk-oriented framework that promotes consistency, accountability, and continual improvement in organizational operations. Key mechanisms such as process standardization, documentation, internal audits, corrective actions, risk management, continuous improvement, and employee involvement and training are intended to enhance operational control and service reliability. As emphasized by Oakland (2014), internal audits help identify inefficiencies and ensure operational consistency, while Hoyle (2017) notes that corrective actions address root causes of nonconformities to prevent recurrence and strengthen performance stability. Empirical findings by Psomas and Fotopoulos (2009) further support that audit and corrective systems contribute to

improved service quality and operational consistency. However, studies also indicate that ISO 9001 implementation does not automatically result in direct performance improvements, as Terziovski and Samson (1999) found that ISO-based practices alone are insufficient without supporting organizational factors, while Singh (2008) highlights the importance of leadership, culture, and employee engagement as mediating variables. In public sector settings, Bouckaert and Halligan (2008) explain that QMS implementation often strengthens compliance and standardization more than directly improving service performance outcomes due to bureaucratic and contextual constraints, and Anderson et al. (1994) similarly note that internal process improvements do not always immediately translate into observable service delivery gains. Furthermore, Sampaio et al. (2009) emphasize that ISO 9001 benefits tend to emerge gradually over time, while Total Quality Management perspectives suggest that practices such as employee involvement, continuous improvement, and risk management influence service delivery and stakeholder satisfaction indirectly by strengthening organizational systems, discipline, and culture rather than producing immediate direct effects.

Several studies indicate that ISO 9001:2015 implementation does not always lead to direct or statistically significant improvements in customer or stakeholder satisfaction, as its effects are often internal and process-oriented rather than immediately reflected in external perceptions. Terziovski and Samson (1999) found that ISO-based systems primarily enhance internal efficiency, compliance, and process control, with limited direct impact on customer satisfaction, while Singh (2008) emphasized that outcomes depend on mediating factors such as leadership, organizational culture, and employee behavior. In public sector settings, Bouckaert and Halligan (2008) further explained that QMS implementation tends to strengthen procedural compliance and accountability rather than directly improving stakeholder satisfaction, helping explain the weak or non-significant relationships between some QMS components and satisfaction indicators. In some cases, negative relationships may also emerge, particularly during implementation phases, where risk management strategies can introduce added procedural complexity and slow service flow, potentially affecting service continuity (Sampaio et al., 2009), while employee involvement and training may temporarily reduce responsiveness due to learning curves and increased standardization requirements (Oakland, 2014; Hoyle, 2017). Likewise, studies such as Sila and Ebrahimpour (2005) show that process-oriented practices like documentation, auditing, and continuous improvement often have inconsistent or indirect effects on customer satisfaction depending on context. Overall, the literature suggests that ISO 9001:2015 strengthens internal systems and operational discipline, but its effects on stakeholder satisfaction are often indirect, context-dependent, and may only become evident over time rather than in immediate or cross-sectional outcomes.

1.8.2. Related Studies

Empirical studies on ISO 9001:2015 implementation provide strong evidence that quality management practices significantly influence public-sector efficiency, responsiveness, and service outcomes. In the study conducted by Hambon (2025) on the City Government of Baguio, ISO 9001:2015 implementation was evaluated across four major dimensions quality planning, quality control, quality assurance, and quality improvement and its relationship with stakeholder satisfaction. Using a descriptive correlational design, the research revealed that the City Government of Baguio demonstrated high compliance with ISO requirements, particularly in process documentation, control mechanisms, corrective action procedures, and improvement initiatives. Stakeholders also reported high levels of satisfaction with the city's service culture, timeliness of service, accessibility, and professionalism of employees. Hambon concluded that the strengthened ISO 9001:2015 practices were positively associated with improved service quality, reliability, responsiveness, and stakeholder-focused work behaviors. The findings directly support the argument that QMS implementation enhances public-sector service delivery, aligning with the present study's investigation of NIA Region IV-A.

In the field of infrastructure and irrigation management, Guldekar and Ranit (2016) evaluated the quality management practices in seven irrigation project sites in India to identify the main factors affecting

construction performance and project efficiency. Using field observations and the Relative Importance Index (RII), the researchers identified 42 major delay and quality issues categorized under general, materials and equipment, management, and other factors. Their findings emphasized the critical role of process standardization, clear documentation, and well-defined procedures in preventing construction delays, ensuring coordination, and maintaining operational quality. Although the study focused on construction projects, its implications highlight that strong process documentation and consistent management practices which are key components of ISO 9001:2015 contribute substantially to efficiency, timeliness, and reliability in irrigation-related operations. This study provides contextual relevance because NIA's mandate includes infrastructure development and irrigation system management.

Internal audits and corrective actions have also been empirically shown to influence organizational performance. Domingues, Reis, Fonseca, and Avila (2019), through a global survey administered to IRCA-registered auditors and analyzed using Covariance-Based Structural Equation Modeling (CB-SEM), examined the perceived added value of ISO 9001:2015. Their results indicate that effective internal auditing depends heavily on auditor competence, experience, and proper interpretation of ISO requirements. The findings reinforce the idea that internal audits are not merely compliance checks but critical components that enhance reliability, continuity of services, and quality performance elements that closely relate to the dependent variable in the present study.

Risk management practices under ISO 9001:2015 have likewise been examined empirically in the context of service organizations. Sitnikov and Pîrvu (2017) developed and validated a risk-management model for financial service companies implementing ISO 9001:2015. Their research demonstrated that risk-based thinking strengthens managerial involvement, process control, and client-focused operations. The model showed that identifying risks and opportunities within each process contributed to better decision-making, improved process stability, and more reliable service performance. This study emphasizes that risk management enhances reliability and continuity two major dimensions of service delivery assessed in the present research which are demonstrating the importance of proactive risk strategies within quality management systems.

Continuous improvement initiatives have also been widely studied in relation to organizational performance. In a structural equation model–system dynamics research involving 411 respondents from Mexican manufacturing firms, a study on lean manufacturing and continuous improvement found that Kaizen, Total Quality Management (TQM), Kanban, and Poka-Yoke significantly influenced organizational alignment to strategic goals. The researchers demonstrated that continuous improvement programs require long-term commitment, reaching full maturity only after 8 to 13 years of sustained implementation. These findings underscore that improvement mechanisms are not short-term interventions but long-term cultural and operational strategies that enhance efficiency, timeliness, and adaptability in services an insight relevant to ISO 9001-driven improvement initiatives within government agencies.

Employee involvement and training, as essential elements of ISO 9001:2015, are supported by empirical evidence from Sudanese ISO-certified oil companies. Ahmed and Idris (2020) examined the relationship between soft Total Quality Management (TQM) aspects including employee empowerment, teamwork, training, employee involvement, and management support and employee job satisfaction. Using regression analysis on data from 253 employees, the study found that soft TQM elements explained 74% of the variance in employee satisfaction, with empowerment and training emerging as the strongest predictors. The results suggest that QMS implementation is more effective when employees are trained, engaged, and empowered to participate in quality initiatives. These findings support the present study's independent variable on employee involvement and training and highlight that human resource-oriented quality practices enhance service responsiveness, professionalism, and overall organizational performance.

Across these empirical works, a consistent pattern emerges: ISO 9001:2015 implementation characterized by standardized processes, strong documentation, effective audits, risk-based management, continuous improvement, and employee participation leads to measurable improvements in service delivery. These studies collectively affirm that organizations with well-integrated QMS frameworks tend to be more

efficient, reliable, responsive, and stakeholder centered.

2. Methodology

This study employed a descriptive quantitative research design to determine the extent of ISO 9001:2015 Quality Management System (QMS) implementation in the National Irrigation Administration (NIA) Region IV-A. This design is used as the study aimed to present an accurate description of the current state of ISO 9001 implementation through the use of measurable, objective, and systematically gathered data.

2.1. Research Design

This study will adopt a descriptive-correlational research design to assess the extent of ISO 9001:2015 Quality Management System (QMS) implementation in NIA Region IV-A. Data will be collected using structured survey questionnaires administered to both internal (employees) and external (stakeholders) respondents.

The gathered data will be organized and summarized using frequency distribution tables. Descriptive statistics will be employed to present the overall status of each variable, while Pearson's correlation coefficient (r) will be used to examine the relationships between QMS implementation, service delivery, and stakeholder satisfaction.

2.2. Population and Sampling Technique

The study employed a stratified sampling technique in selecting the respondents. The population was first divided into two main strata, namely the internal respondents, composed of employees of the National Irrigation Administration (NIA) Region IV-A, and the external respondents, composed of stakeholders who are currently availing or have previously availed of NIA services.

A total of 100 respondents were included in the study, consisting of 50 internal respondents and 50 external respondents. This equal allocation was done to ensure balanced representation between the two major groups involved in the study.

Within each stratum, respondents were selected using stratified sampling, ensuring that each subgroup had an equal opportunity to be included in the sample. For the internal respondents, representation was drawn from key functional divisions of the organization, including Engineering and Operations, as well as Administrative and Finance units, and across different employment statuses. For the external respondents, selection was made among clients or stakeholders who had direct experience in availing NIA services.

The sample size was guided by the principles of Krejcie and Morgan (1970), which provide a widely accepted basis for determining adequate sample sizes in research. Although the exact population size of both internal and external respondents was not fully available at the time of the study, the Krejcie and Morgan table served as a benchmark to ensure that the sample size was sufficient for statistical analysis.

This stratified sampling approach ensured that all relevant subgroups were adequately represented, allowing for a more comprehensive analysis of ISO 9001:2015 Quality Management System (QMS) implementation, service delivery, and stakeholder satisfaction within the organization.

TABLE 1. Planned Distribution of Respondents by Strata

Strata of Respondents	Basis for Inclusion	Expected Accessible Population (3-Month Period)	Planned Sample Size	Allocation (%)
Internal Respondents (NIA Region IV-A Employees)	Personnel from key divisions (Engineering & Operations; Administrative & Finance) involved in ISO 9001:2015 QMS processes	Limited and fixed workforce within regional office operations	50	50%
External Respondents (Stakeholders)	Individuals with actual and recent transactions with NIA services within the data collection period	Moderate and time-bound due to project cycles, irrigation scheduling, and service requests	50	50%
Total			**100**	**100%**

Prior to data collection, the study determined an equal allocation of 50 internal respondents and 50 external respondents based on methodological and practical considerations. The primary objective of the study is comparative in nature, focusing on examining differences and relationships between internal respondents and external respondents. In such research designs, equal sample sizes across strata are recommended to ensure balanced statistical comparison and to prevent one group from disproportionately influencing the results.

From an operational standpoint, the three-month data collection period also influenced the determination of sample size. For internal respondents, the number of personnel available within the identified divisions (Engineering and Operations, Administrative, and Finance) is limited and structured, making a sample of 50 both feasible and sufficient to capture variability across organizational roles and levels.

For external respondents, the study limited participation to stakeholders who had actual and recent transactions with NIA within the data collection period. Given that stakeholder engagement depends on scheduled irrigation activities, project implementation cycles, and service requests, the number of accessible and eligible respondents within a three-month timeframe was expected to be moderate rather than extensive. Thus, setting the external sample at 50 ensured that only relevant and experience-based responses were gathered while maintaining feasibility in data collection.

Furthermore, equal allocation in stratified sampling is supported in research where subgroup comparison is prioritized over proportional population representation. This approach enhances analytical balance, allowing clearer interpretation of differences in perceptions of ISO 9001:2015 QMS implementation, service delivery, and stakeholder satisfaction.

Although stratified sampling in this study may still have certain limitations in terms of generalizability when compared to pure probability-based random sampling, it remains useful in ensuring that key subgroups within the population are properly represented and that comparisons between internal and external respondents can be meaningfully conducted. In the context of this study, it allows for a more focused

and balanced assessment of experiences across different stakeholder groups, thereby improving the relevance and interpretability of the findings for organizational evaluation and decision-making. Therefore, the distribution was established prior to data gathering as a practical, methodologically sound, and comparison-oriented sampling strategy appropriate to the scope and timeframe of the study.

2.3. Research Procedure

The study employed a descriptive quantitative research design, aimed at assessing the implementation of the ISO 9001 Quality Management System in NIA Region IV-A. The research will begin with the identification of the problem, followed by a review of relevant literature and studies to establish a solid theoretical and conceptual foundation. A structured questionnaire will be carefully developed and validated by experts to ensure its reliability and relevance, and it will then be administered to the employees as respondents within the NIA Region IV-A office. The respondents will be given ample time to answer the questionnaires. The collected data will be systematically analyzed using appropriate statistical techniques to evaluate the level of ISO 9001 implementation. Findings from the analysis will form the basis for drawing conclusions and providing evidence-based recommendations for improving the organization's quality management practices and guiding future research.

2.4. Research Instrument

The research instrument for this study is an implementation assessment survey questionnaire, designed to quantitatively measure employees' perceptions regarding the extent of ISO 9001 Quality Management System implementation in the NIA Region IV-A office, in alignment with the objectives of the study. The questionnaire will be developed by the researcher and submitted for review, approval, and validation by a panel of experts in public administration to ensure its reliability and relevance.

The research instrument will consist of two (2) parts. The first part will collect the demographic profile of the respondents, including variables such as training, knowledge, and level of understanding of Quality Management System (QMS) policies. The second part will contain structured items in a Likert-scale format designed to measure respondents' perceptions, practices, and experiences related to ISO 9001 implementation.

Two sets of questionnaires will be utilized in this study. The first set will be administered to internal respondents, specifically selected employees of the National Irrigation Administration (NIA) Regional Office IV-A. This instrument will assess their level of understanding of ISO 9001 implementation as well as the level of service delivery within the organization. The second set of questionnaires will be distributed to external respondents, particularly stakeholders who have availed of NIA services, and will focus on measuring their level of satisfaction with the services provided. This approach generated a quantitative data which were systematically analyzed to assess the effectiveness and scope of the Quality Management System in the organization.

The study utilized a five-point Likert scale with a 0.80 interval range to measure the extent of ISO 9001:2015 QMS implementation, service delivery, and stakeholder satisfaction. The use of a five-point scale enables respondents to express varying degrees of perception in a structured and quantifiable manner, making it appropriate for statistical analyses such as the computation of means and correlation coefficients.

The interval of 0.80 was derived by dividing the scale range ($5 - 1 = 4$) by the number of response categories (5), resulting in equal class intervals that ensure consistent interpretation of responses. This approach allows numerical values to be translated into descriptive equivalents such as "Highly Implemented," "Moderately Implemented," and related categories, thereby facilitating clearer analysis and presentation of findings.

The use of Likert-type scales is supported by Likert (1932), who introduced this method as an effective approach for measuring attitudes and perceptions systematically. Moreover, Boone and Boone

(2012) emphasized that five-point Likert scales provide an appropriate balance between reliability and ease of response, and that such data may be treated as approximately interval, thereby justifying the use of parametric statistical techniques. The application of equal intervals further supports consistency in data interpretation and strengthens the validity of statistical analysis. Additionally, this scaling approach enhances comparability across responses, allowing for more accurate aggregation and interpretation of respondents' perceptions in quantitative research.

Table 2. The Five-Point Likert Scale to Measure the Respondents Response (ISO 9001:2015 QMS Implementation)

SCALE	NUMERICAL VALUE	DESCRIPTIVE VALUE
5	4.21 - 5.00	Highly Implemented
4	3.41 - 4.20	Moderately Implemented
3	2.61 - 3.40	Implemented
2	1.81 - 2.60	Less Implemented
1	1.00 - 1.80	Implemented

Table 3. The Five-Point Likert Scale to Measure the Respondents Response (Service Delivery)

SCALE	NUMERICAL VALUE	DESCRIPTIVE VALUE
5	4.21 - 5.00	Strongly Agree
4	3.41 - 4.20	Agree
3	2.61 - 3.40	Neutral
2	1.81 - 2.60	Disagree
1	1.00 - 1.80	Strongly Disagree

The three tables presented above correspond to the different sections of the questionnaire. Table 2 measures ISO 9001:2015 QMS Implementation and is answered by NIA employees, using a scale from 5 for Highly Implemented to 1 for Not Implemented. Table 3 evaluates Service Delivery and is also answered by NIA employees, using a scale from 5 for Strongly Agree to 1 for Strongly Disagree. Table 4 assesses Stakeholder Satisfaction and is answered by stakeholders, using a scale from 5 for Very Satisfied to 1 for Very Dissatisfied. The 5-point Likert scales produce ordinal data, which can be treated as interval-level for statistical analyses such as descriptive statistics, correlation, and regression (Carifio & Perla, 2008), enabling consistent measurement of ISO QMS implementation, service delivery performance, and stakeholder satisfaction.

2.5. Statistical Treatment of Data

The collected data were tabulated and analyzed using descriptive, narrative, and statistical methods to provide a comprehensive understanding of the study's findings. The mean was calculated to determine the central tendency of the data. This measure represents the average value and is obtained by summing all data points and dividing the total by the number of observations, providing a clear summary of the overall trends.

To examine the relationship between the identified variables and the extent of ISO 9001 Quality Management System implementation in NIA Region IV-A, the Pearson correlation coefficient was employed. This statistical method measures the strength and direction of a linear relationship between two variables, with values ranging from -1 to 1. Positive values indicate a direct relationship, negative values indicate an inverse

relationship, and values near zero suggest little or no linear association. The use of this analysis allowed the study to determine the degree to which the selected variables influence the implementation of the Quality Management System, thereby providing evidence to support or refute the research hypothesis

2.6. Pearson Correlation Coefficient

The Pearson correlation coefficient (r) is a statistical measure used to determine the degree and direction of the linear relationship between two continuous variables, with values ranging from –1 to +1. A positive value indicates a direct relationship, a negative value indicates an inverse relationship, and a value of 0 indicates no linear relationship between variables.

In this study, the strength of the relationships between variables was interpreted using Evans (1996), which provides a standard classification for Pearson's correlation coefficient (r) in terms of very weak, weak, moderate, strong, and very strong associations.

Table 5. Evan's (1996) Interpretation scale for Pearson's "r"

R	Interpretation
0.00 – 0.19	Very weak correlation
0.20 – 0.39	Weak correlation
0.40 – 0.59	Moderate correlation
0.60 – 0.79	Strong correlation
0.80 – 1.00	Very strong correlation

3. Results and Discussion

The extent of implementation of the ISO 9001:2015 Quality Management System (QMS) in the National Irrigation Administration (NIA) Region IV-A was assessed across key dimensions, namely process standardization and documentation, internal audit and corrective actions, risk management strategies, continuous improvement mechanisms, and employee involvement and training. The results present the level of implementation in each of these areas, reflecting the current practices of the organization in relation to established quality management processes.

Table 6. Level of ISO QMS Implementation in Terms of Process standardization and documentation

Indicator	Mean	SD	VI	Remarks
1. Required forms, records, and documents are properly filed.	4.50	0.61	HI	Highly Effective
2. Policies and procedures are reviewed when necessary.	4.48	0.68	HI	Highly Effective
3. Changes in processes are clearly recorded.	4.34	0.69	HI	Highly Effective
4.The office follows clearly documented procedures and guidelines in carrying out its functions.	4.32	0.71	HI	Highly Effective

5. Employees consistently adhere to established standard operating procedures.	4.26	0.63	HI	Highly Effective
Overall Mean and SD	**4.3800**	**0.29485**		
Overall Interpretation	*Highly Implemented*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Highly Implemented (HI), 3.41–4.20= Moderately Implemented (MI), 2.61–3.40= Implemented (I), 1.81–2.60= Less Implemented (LI), 1.00–1.80= Not Implemented (NI).

Table 6 indicates a high level of implementation of the ISO 9001:2015 Quality Management System (QMS) in the National Irrigation Administration (NIA) Region IV-A in terms of process standardization and documentation. All indicators related to documentation control, policy review, and adherence to standard operating procedures fall within the "Highly Implemented" range, reflecting favorable assessments from the respondents.

These findings are consistent with studies emphasizing that organizations adopting ISO 9001 frameworks achieve higher levels of operational consistency through effective documentation and standardized procedures. For instance, Haddadpoor (2015) found that structured documentation systems significantly enhance process control and organizational efficiency. Similarly, Psomas (2013) highlighted that strong documentation practices and adherence to standardized procedures are critical factors in improving quality performance and ensuring reliable service delivery.

Among the indicators, "Required forms, records, and documents are properly filed" obtained the highest mean of 4.50, followed by "Policies and procedures are reviewed when necessary" with a mean of 4.48. The remaining indicators yielded closely comparable mean scores, demonstrating a uniform level of implementation across all aspects of process standardization and documentation. Meanwhile, "Employees consistently adhere to established standard operating procedures" registered the lowest mean of 4.26, although still within the "Highly Implemented" category, suggesting minimal variation in compliance among personnel.

The overall mean score for process standardization and documentation is 4.38, with a standard deviation of 0.29, indicating that the established procedures and documentation practices are consistently applied across the organization. The results suggest that NIA Region IV-A demonstrates a strong implementation of process standardization and documentation practices. Respondents affirm that proper documentation control, regular policy review, and adherence to procedures contribute to consistent operations, thereby supporting efficient and reliable service delivery within the organization.

Table 7. Level of ISO QMS Implementation in Terms of Internal Audit and Corrective Actions

Indicator	Mean	SD	VI	Remarks
1. The office effectively monitors the progress of corrective and preventive actions.	4.52	0.71	HI	Highly Effective
2. Audit findings are properly communicated to concerned personnel or units.	4.44	0.76	HI	Highly Effective
3. Internal audits are conducted regularly.	4.40	0.64	HI	Highly Effective
4. Policies and procedures are updated when necessary	4.38	0.75	HI	Highly Effective
5. Changes in processes or documentation are clearly addressed.	4.32	0.62	HI	Highly Effective
Overall Mean and SD	**4.41**	**0.32**		
Overall Interpretation	*Highly Implemented*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Highly Implemented (HI), 3.41–4.20= Moderately Implemented (MI), 2.61–3.40= Implemented (I), 1.81–2.60= Less Implemented (LI), 1.00–1.80= Not Implemented (NI).

Table 7 indicates a generally high level of implementation of the ISO 9001:2015 Quality Management System (QMS) in the National Irrigation Administration (NIA) Region IV-A in terms of internal audit and corrective actions. All indicators related to audit practices, communication of findings, and monitoring of corrective measures fall within the "Highly Implemented" range, reflecting favorable perceptions among respondents.

Among the indicators, "The office effectively monitors the progress of corrective and preventive actions" obtained the highest mean of 4.52, followed by "Audit findings are properly communicated" (M = 4.44) and "Internal audits are conducted regularly" (M = 4.40). The remaining indicators also yielded closely comparable mean scores, demonstrating a consistent level of implementation across all aspects of internal auditing and corrective action processes. Meanwhile, "Changes in processes or documentation are clearly addressed" registered the lowest mean of 4.32, although still within the "Highly Implemented" category, indicating minor variations in managing process updates and revisions.

These findings are consistent with studies emphasizing that effective internal audit systems and corrective action mechanisms are critical in sustaining quality management systems. For instance, Abuazza (2019) found that internal audits play a vital role in identifying nonconformities and ensuring continuous improvement in ISO-certified organizations. Similarly, Tashi (2016) highlighted that corrective and preventive action systems are essential in enhancing process control and maintaining compliance with quality standards, ultimately improving organizational performance.

The overall mean score for internal audit and corrective actions is 4.41, with a standard deviation of 0.32, indicating that audit-related processes and corrective mechanisms are consistently practiced within the organization. The results suggest that NIA Region IV-A demonstrates a strong implementation of internal audit and corrective action practices. Respondents affirm that regular audits, effective communication of findings, and consistent monitoring of corrective measures contribute to continuous process improvement and organizational effectiveness.

Table 8. Level of ISO QMS Implementation in Terms of Risk Management Strategies

Indicator	Mean	SD	VI	Remarks
1. Management regularly reviews emerging risks to ensure the organization remains prepared.	4.52	0.65	HI	Highly Effective
2. The office actively identifies risks that may affect its daily operations and overall service delivery.	4.50	0.65	HI	Highly Effective
3. Employees are adequately informed about risks that may influence their duties and responsibilities.	4.46	0.65	HI	Highly Effective
4.The office regularly assesses identified operational risks to determine their potential impact on service delivery.	4.44	0.64	HI	Highly Effective
5. The office implements measures to manage or mitigate identified risks.	4.42	0.61	HI	Highly Effective
Overall Mean and SD	**4.4680**	**0.27880**		
Overall Interpretation	*Highly Implemented*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Highly Implemented (HI), 3.41–4.20= Moderately Implemented (MI), 2.61–3.40= Implemented (I), 1.81–2.60= Less Implemented (LI), 1.00–1.80= Not Implemented (NI).

Table 8 indicates a generally high level of implementation of the ISO 9001:2015 Quality Management System (QMS) in the National Irrigation Administration (NIA) Region IV-A in terms of risk management strategies. All indicators related to risk identification, assessment, monitoring, and mitigation fall within the "Highly Implemented" range, reflecting favorable perceptions among respondents regarding the organization's risk-based approach.

Among the indicators, "Management regularly reviews emerging risks" obtained the highest mean of 4.52, followed by "The office actively identifies risks" with a mean of 4.50, demonstrating strong awareness and proactive management of potential risks. Other indicators, including risk assessment (M = 4.44), employee awareness of risks (M = 4.46), and implementation of risk mitigation measures (M = 4.42), yielded closely comparable mean scores, indicating a uniform level of implementation across all dimensions of risk management.

These findings are consistent with studies emphasizing the importance of risk-based thinking in quality management systems. For instance, Erzahovich (2017) found that the integration of risk-based thinking in ISO 9001:2015 enhances organizational resilience and supports proactive decision-making. Similarly, Chiarini (2020) highlighted that effective risk management practices in ISO-certified organizations contribute to improved operational stability and reduced service disruptions through systematic identification and mitigation of risks.

The overall mean score for risk management strategies is 4.47, with a standard deviation of 0.28, indicating that risk management practices are consistently applied across the organization. The results suggest that NIA Region IV-A demonstrates a strong implementation of risk management strategies. Respondents affirm that continuous risk identification, assessment, and monitoring, along with proactive mitigation measures, contribute to organizational preparedness and the minimization of potential disruptions in service delivery.

Table 9. Level of ISO QMS Implementation in Terms of Continuous Improvement Mechanisms

Indicator	Mean	SD	VI	Remarks
1. The office has established formal procedures for continuous improvement.	4.42	0.64	HI	Highly Effective
2. The office regularly identifies opportunities for improving its processes and services.	4.40	0.67	HI	Highly Effective
3. Stakeholder feedback is considered vital to improve service delivery.	4.40	0.73	HI	Highly Effective
4. Management supports initiatives aimed at improving organizational processes.	4.38	0.64	HI	Highly Effective
5. Performance indicators are used to guide decision-making.	4.34	0.72	HI	Highly Effective
Overall Mean and SD	4.39	0.34		
Overall Interpretation	*Highly Implemented*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Highly Implemented (HI), 3.41–4.20= Moderately Implemented (MI), 2.61–3.40= Implemented (I), 1.81–2.60= Less Implemented (LI), 1.00–1.80= Not Implemented (NI).

Table 9 indicates a generally high level of implementation of the ISO 9001:2015 Quality Management System (QMS) in the National Irrigation Administration (NIA) Region IV-A in terms of continuous improvement mechanisms. All indicators related to improvement processes, stakeholder feedback, and performance-based decision-making fall within the "Highly Implemented" range, reflecting favorable perceptions among respondents regarding the organization's commitment to continuous enhancement.

Among the indicators, "The office has established formal procedures for continuous improvement"

obtained the highest mean of 4.42, followed by "The office regularly identifies opportunities for improvement" and "Stakeholder feedback is considered vital", both with a mean of 4.40. These results highlight a strong culture of continuous improvement and stakeholder orientation. Other indicators, including management support for improvement initiatives (M = 4.38) and use of performance indicators in decision-making (M = 4.34), yielded closely comparable mean scores, indicating a consistent level of implementation across all aspects of continuous improvement.

These findings are consistent with studies emphasizing that continuous improvement is a core principle of effective quality management systems. For instance, Jimoh (2019) found that structured continuous improvement practices significantly enhance organizational performance and operational efficiency. Similarly, Olkiewicz (2020) highlighted that organizations that integrate stakeholder feedback and performance metrics into their improvement processes achieve sustained quality enhancement and better service outcomes.

The overall mean score for continuous improvement mechanisms is 4.39, with a standard deviation of 0.34, indicating that improvement-related practices are consistently applied across the organization. The results suggest that NIA Region IV-A demonstrates a strong implementation of continuous improvement mechanisms. Respondents affirm that formalized improvement procedures, active stakeholder engagement, and data-driven decision-making contribute to the sustained enhancement of service delivery and overall organizational performance.

Table 10. Level of ISO QMS Implementation in Terms of Employee Involvement and Training

Indicator	Mean	SD	VI	Remarks
1. Training programs contribute to improving employee job performance.	4.54	0.58	HI	Highly Effective
2. Staff are encouraged to take part in QMS-related programs and activities.	4.48	0.61	HI	Highly Effective
3. Employees receive sufficient training related to ISO 9001:2015 and its requirements.	4.44	0.73	HI	Highly Effective
4. Employees have a clear understanding of their roles in QMS.	4.38	0.67	HI	Highly Effective
5. Management supports the continued development of employee skills.	4.34	0.66	HI	Highly Effective
Overall Mean and SD	**4.44**	**0.35**		
Overall Interpretation	*Highly Implemented*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Highly Implemented (HI), 3.41–4.20= Moderately Implemented (MI), 2.61–3.40= Implemented (I), 1.81–2.60= Less Implemented (LI), 1.00–1.80= Not Implemented (NI).

Table 10 indicates a generally high level of implementation of the ISO 9001:2015 Quality Management System (QMS) in the National Irrigation Administration (NIA) Region IV-A in terms of employee involvement and training. All indicators related to staff participation, capability development, and training effectiveness fall within the "Highly Implemented" range, reflecting favorable perceptions among respondents regarding the organization's support for human resource development.

Among the indicators, "Training programs contribute to improving employee job performance" obtained the highest mean of 4.54, followed by "Staff are encouraged to take part in QMS-related programs" (M = 4.48) and "Employees receive sufficient ISO-related training" (M = 4.44). These results demonstrate the effectiveness of training initiatives and the organization's strong emphasis on employee participation. Meanwhile, "Management supports continued development of employee skills" registered the lowest mean of

4.34, although still within the "Highly Implemented" category, indicating slight variation in perceived managerial support for ongoing professional development.

These findings are consistent with studies emphasizing that employee involvement and training are critical success factors in the effective implementation of quality management systems. For instance, Milovanović (2023) found that employee training and active participation significantly influence the successful adoption and performance of ISO 9001 systems. Similarly, Obeng-Tuaah (2025) highlighted that continuous training and employee engagement enhance workforce competence and contribute to improved organizational quality performance.

The overall mean score for employee involvement and training is 4.44, with a standard deviation of 0.35, indicating that training programs and employee engagement initiatives are consistently practiced across the organization. The results suggest that NIA Region IV-A demonstrates a strong implementation of employee involvement and training practices. Respondents affirm that effective training programs, active participation in QMS initiatives, and support for employee development contribute to enhanced competence and the successful implementation of the quality management system.

Table 11. Level of Service Delivery in Terms of Efficiency

Indicator	Mean	SD	VI	Remarks
1. Tasks are completed with minimal wastage of resources	4.52	0.61	SA	Highly Efficient
2. Resources such as time, personnel, and budget are used efficiently in service delivery.	4.48	0.68	SA	Highly Efficient
3. The office maximizes available resources to achieve optimal service output	4.42	0.61	SA	Highly Efficient
4. Workflows are organized to avoid excessive paperwork and repeated procedures.	4.38	0.67	SA	Highly Efficient
5. Processes are designed to reduce delays and unnecessary steps.	4.34	0.63	SA	Highly Efficient
Overall Mean and SD	**4.44**	**0.35**		
Overall Interpretation	*Strongly Agree*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Strongly Agree (SA), 3.41–4.20= Agree (A), 2.61–3.40= Neutral (N), 1.81–2.60= Disagree (D), 1.00–1.80= Strongly Disagree (SD).

Table 11 presented indicates a generally very high level of service delivery efficiency in the National Irrigation Administration (NIA) Region IV-A. All indicators related to resource utilization, time management, and process optimization fall within the "Very High" range, reflecting strong agreement among respondents that services are delivered efficiently.

Among the indicators, "Task completion with minimal wastage of resources" obtained the highest mean of 4.52, followed by "Efficient use of time, personnel, and budget" (M = 4.48). These findings highlight the organization's strong capability in managing its resources effectively. The remaining indicators yielded closely comparable mean scores, demonstrating a consistent level of efficiency across all aspects evaluated. Meanwhile, "Processes are designed to reduce delays" registered the lowest mean of 4.34, although still within the "Very High" category, suggesting a slight area for improvement in workflow simplification and delay reduction.

These findings are consistent with studies emphasizing that efficient service delivery is closely associated with effective resource management and process optimization. For instance, Brastoro (2024) found that organizations that focus on efficient use of resources and streamlined processes achieve higher organizational performance. Similarly, Tzelepis (2006) highlighted that the implementation of quality

management practices, such as those in ISO 9001, significantly improves operational efficiency and resource utilization.

The overall mean score for efficiency is 4.4280, with a standard deviation of 0.25237, indicating that efficient practices are consistently observed across the organization. The results suggest that NIA Region IV-A demonstrates a very high level of efficiency in service delivery. Respondents affirm that effective resource utilization, time management, and operational practices contribute to the organization's ability to deliver services efficiently, while minor improvements in process design may further enhance overall performance.

Table 12 indicates a generally very high level of effectiveness or quality of service delivery in the National Irrigation Administration (NIA) Region IV-A. All indicators related to meeting stakeholder needs, service outcomes, quality evaluation, and compliance with standards fall within the "Very High" range, reflecting strong agreement among respondents that services are delivered with high quality and effectiveness.

Table 12. Level of Service Delivery in Terms of Effectiveness

Indicator	Mean	SD	VI	Remarks
1. Delivered services contribute to improved outcomes for stakeholders.	4.50	0.65	SA	Highly Effective
2. Services provided meet the needs and expectations of farmers and other stakeholders.	4.50	0.61	SA	Highly Effective
3. Client concerns and issues are addressed satisfactorily.	4.44	0.67	SA	Highly Effective
4. Outputs consistently comply with established quality standards.	4.38	0.63	SA	Highly Effective
5. The office regularly evaluates the quality of its services.	4.32	0.68	SA	Highly Effective
Overall Mean and SD	**4.43**	**0.30**		
Overall Interpretation	*Strongly Agree*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Strongly Agree (SA), 3.41–4.20= Agree (A), 2.61–3.40= Neutral (N), 1.81–2.60= Disagree (D), 1.00–1.80= Strongly Disagree (SD).

Among the indicators, "Meeting stakeholder needs and expectations" and "Contribution of services to improved stakeholder outcomes" both obtained the highest mean of 4.50, highlighting the organization's strong stakeholder orientation and outcome-driven approach. Other indicators, including regular evaluation of service quality (M = 4.44) and compliance with quality standards (M = 4.38), also yielded high ratings, demonstrating consistent application of quality management practices. Meanwhile, "Addressing client concerns and issues" registered the lowest mean of 4.32, although still within the "Very High" category, suggesting a slight area for improvement in strengthening client feedback and resolution mechanisms.

These findings are consistent with studies emphasizing that service quality and effectiveness are strongly influenced by customer focus and adherence to quality standards. For instance, Alzaydi (2017) highlighted that meeting customer expectations and delivering reliable service outcomes are central dimensions of perceived service quality. Similarly, Mahmutaj (2015) found that the implementation of quality management practices, such as ISO 9001, significantly enhances service effectiveness and customer satisfaction through continuous monitoring and improvement.

The overall mean score for effectiveness or quality is 4.4280, with a standard deviation of 0.30, indicating that quality service practices are consistently observed across the organization. The results suggest that NIA Region IV-A demonstrates a very high level of effectiveness in service delivery. Respondents affirm that the organization consistently meets stakeholder expectations, delivers meaningful outcomes, and

maintains quality standards, while minor improvements in addressing client concerns may further strengthen overall service performance.

Table 13 presented indicates a generally very high level of timeliness of service delivery in the National Irrigation Administration (NIA) Region IV-A. All indicators related to prompt action, response to inquiries, and timely provision of information fall within the "Highly Implemented" range, reflecting strong agreement among respondents that services are delivered within expected timeframes and with a high degree of responsiveness.

Table 13. Level of Service Delivery in Terms of Timeliness

Indicator	Mean	SD	VI	Remarks
1.Urgent matters are addressed without unnecessary delay.	4.56	0.58	SA	Highly Responsive
3.Clients receive timely updates and information regarding services.	4.44	0.54	SA	Highly Responsive
2.Employees respond promptly to inquiries and concerns.	4.34	0.72	SA	Highly Responsive
4.The office effectively manages deadlines for its commitments.	4.34	0.59	SA	Highly Responsive
1.Client requests are acted upon within the expected time.	4.30	0.74	SA	Highly Responsive
Overall Mean and SD	**4.40**	**0.30**		
Overall Interpretation	*Strongly Agree*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Strongly Agree (SA), 3.41–4.20= Agree (A), 2.61–3.40= Neutral (N), 1.81–2.60= Disagree (D), 1.00–1.80= Strongly Disagree (SD).

These findings are consistent with studies emphasizing that Timeliness are key determinants of service quality and customer satisfaction. For instance, Setiono (2022) identified responsiveness as a core dimension of service quality, highlighting the importance of prompt service and willingness to assist clients. Similarly, (Wadud, 2024) found that speed of service delivery and timely responses significantly influence customer perceptions of service performance and overall satisfaction.

The overall mean score for TIMELINESS is 4.3960, with a standard deviation of 0.27845, indicating that prompt service practices are consistently observed across the organization. The results suggest that NIA Region IV-A demonstrates a very high level of timeliness in service delivery. Respondents affirm that prompt handling of urgent concerns, timely communication, and responsive actions contribute to effective service provision, while minor improvements in turnaround time consistency may further enhance service performance.

Table 14. Level of Service Delivery in Terms of Reliability

Indicator	Mean	SD	VI	Remarks
1. The office can sustain its operations even during unforeseen events	4.52	0.61	SA	Highly Reliable
2. Procedures are in place to ensure continuity of operations during disruptions.	4.44	0.71	SA	Highly Reliable
3. Services are delivered consistently even in the presence of challenges.	4.30	0.65	SA	Highly Reliable

4. Commitments to clients are fulfilled as promised.	4.30	0.65	SA	Highly Reliable
5. Service delivery remains dependable regardless of external circumstances.	4.28	0.73	SA	Highly Reliable
Overall Mean and SD	**4.37**	**0.31**		
Overall Interpretation	*Strongly Agree*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Strongly Agree (SA), 3.41–4.20= Agree (A), 2.61–3.40= Neutral (N), 1.81–2.60= Disagree (D), 1.00–1.80= Strongly Disagree (SD).

Table 14 presented indicates a generally very high level of reliability of service delivery in the National Irrigation Administration (NIA) Region IV-A. All indicators related to service consistency, operational continuity, and fulfillment of commitments fall within the "Very High" range, reflecting strong agreement among respondents that services are dependable and consistently delivered.

Among the indicators, "Sustaining operations during unforeseen events" obtained the highest mean of 4.52, demonstrating the organization's strong capability to maintain operations despite disruptions. This is followed by "Availability of continuity procedures" (M = 4.44) and "Fulfillment of commitments to clients" (M = 4.30), reflecting structured systems and dependable service performance. Meanwhile, "Dependability regardless of external circumstances" registered the lowest mean of 4.28, although still within the "Very High" category, suggesting slight variation in perceived service stability under varying external conditions.

These findings are consistent with studies emphasizing that reliability and continuity are fundamental components of service quality and organizational performance. For instance, Chowdhary (2007) identified reliability as the most critical dimension of service quality, referring to the ability to perform promised services dependably and accurately. Similarly, Husain (2024) found that ISO 9001-certified organizations demonstrate improved operational control and service consistency, contributing to enhanced reliability and continuity of services.

The overall mean score for Reliability is 4.3680, with a standard deviation of 0.31131, indicating that reliable service practices are consistently observed across the organization. The results suggest that NIA Region IV-A demonstrates a very high level of reliability in service delivery. Respondents affirm that the organization consistently fulfills commitments, maintains operations during disruptions, and implements continuity procedures, while minor improvements in ensuring stability across varying conditions may further strengthen service dependability.

Table 15 indicates a generally very high level of adaptability of service delivery in the National Irrigation Administration (NIA) Region IV-A. All indicators related to flexibility, responsiveness to change, and openness to innovation fall within the "Very High" range, reflecting strong agreement among respondents that the organization effectively adjusts to evolving service conditions.

Table 15. Level of Service Delivery in Terms of Adaptability

Indicator	Mean	SD	VI	Remarks
1. The organization is open to trying new approaches or technologies that may improve service delivery.	4.50	0.59	SA	Highly Adaptable
2. The office responds flexibly to unexpected conditions while maintaining the quality of its services.	4.40	0.73	SA	Highly Adaptable
3. Employees can adapt well to changes in policies, procedures, or service requirements.	4.36	0.60	SA	Highly Adaptable

4.The office adjusts its processes effectively when new challenges or situations arise.	4.32	0.62	SA	Highly Adaptable
5. Client and stakeholder feedback is thoughtfully considered when making service adjustments.	4.32	0.72	SA	Highly Adaptable
Overall Mean and SD	4.38	0.28		
Overall Interpretation	*Strongly Agree*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Strongly Agree (SA), 3.41–4.20= Agree (A), 2.61–3.40= Neutral (N), 1.81–2.60= Disagree (D), 1.00–1.80= Strongly Disagree (SD).

Among the indicators, "Employees adapt well to changes in policies and procedures" obtained the highest mean of 4.50, demonstrating strong staff flexibility and responsiveness to institutional changes. This is followed by "Stakeholder feedback is considered in service adjustments" (M = 4.40) and "Openness to new approaches or technologies" (M = 4.36), reflecting a culture of continuous learning and innovation. Meanwhile, "Processes are adjusted to new challenges" and "Flexible responses are implemented while maintaining quality" both registered the lowest mean of 4.32, although still within the "Very High" category, indicating consistent adaptability with slight variation in managing emerging challenges.

These findings are consistent with studies emphasizing that adaptability and flexibility are essential for sustaining service quality in dynamic environments. For instance, Chiarini (2017) highlighted that ISO 9001:2015 promotes risk-based thinking and adaptability, enabling organizations to respond effectively to changing conditions. Similarly, Nasir (2025) emphasized that organizations with strong continuous improvement cultures are more capable of adapting processes and maintaining quality performance amid change.

The overall mean score for adaptability is 4.3800, with a standard deviation of 0.27775, indicating that adaptive practices are consistently observed across the organization. The results suggest that NIA Region IV-A demonstrates a very high level of adaptability in service delivery. Respondents affirm that employee flexibility, responsiveness to stakeholder feedback, and openness to innovation support the organization's ability to adjust to changing conditions while maintaining service quality.

Table 16 indicates a generally very high level of communication satisfaction among stakeholders in the National Irrigation Administration (NIA) Region IV-A. All indicators related to clarity, timeliness, and reliability of communication fall within the "Very High" range, reflecting strong agreement among respondents that the agency effectively communicates relevant information.

Table 16. Level of Stakeholder Satisfaction in Terms of Communication

Indicator	Mean	SD	IV	Remarks
1. NIA explains procedures in an understandable way.	4.52	0.65	VS	Highly Communicative
2. I feel confident in the information provided by NIA.	4.52	0.58	VS	Highly Communicative
3. NIA keeps stakeholders informed about updates or changes.	4.48	0.68	VS	Highly Communicative
4. Communication from NIA is timely.	4.46	0.73	VS	Highly Communicative

5. NIA provides clear information about services.	4.44	0.73	VS	Highly Communicative
Overall Mean and SD	**4.48**	**0.31**		
Overall Interpretation	*Very Satisfactory*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Very Satisfactory (VS), 3.41–4.20= Satisfactory (S), 2.61–3.40= Neutral (N), 1.81–2.60= Dissatisfied (D), 1.00–1.80= Very Dissatisfied (VD).

Among the indicators, "Clear explanation of procedures" and "Confidence in the information provided" both obtained the highest mean of 4.52, demonstrating strong stakeholder trust and understanding of the agency's communication processes. This is followed by "Keeping stakeholders informed of updates" (M = 4.48) and "Timely communication" (M = 4.46), reflecting consistent and proactive information dissemination. Meanwhile, "Clarity of information about services" registered the lowest mean of 4.44, although still within the "Very High" category, indicating uniformly positive perceptions across all communication aspects.

These findings are consistent with studies emphasizing that effective communication is a key determinant of stakeholder satisfaction and trust in public service delivery. For instance, Lahap (2016) highlighted that clear and reliable communication enhances customer perceptions of service quality and strengthens trust. Similarly, Vassillo (2025) found that timely and transparent communication significantly improves stakeholder satisfaction and organizational credibility in service-oriented institutions.

The overall mean score for communication satisfaction is 4.4840, with a standard deviation of 0.30796, indicating that communication practices are consistently perceived as effective across the organization. The results suggest that NIA Region IV-A demonstrates a very high level of communication satisfaction among stakeholders. Respondents affirm that clear, timely, and reliable communication practices contribute to transparency, trust, and overall satisfaction, aligning with ISO 9001:2015 principles on customer focus and effective information management.

Table 17. Level of Stakeholder Satisfaction in Terms of Staff Assistance

Indicator	Mean	SD	VI	Remarks
1. Staff are knowledgeable about NIA services.	4.62	0.60	VS	Highly Responsive
2. NIA staff are courteous during assistance.	4.48	0.71	VS	Highly Responsive
3. Staff provide helpful guidance when needed.	4.46	0.61	VS	Highly Responsive
4. Staff make me feel valued as a stakeholder.	4.46	0.71	VS	Highly Responsive
5. Staff respond promptly to my inquiries.	4.38	0.73	VS	Highly Responsive
Overall Mean and SD	**4.48**	**0.34**		
Overall Interpretation	*Very Satisfactory*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Very Satisfactory (VS), 3.41–4.20= Satisfactory (S), 2.61–3.40= Neutral (N), 1.81–2.60= Dissatisfied (D), 1.00–1.80= Very Dissatisfied (VD).

Table 17 indicates a generally very high level of staff assistance satisfaction among stakeholders in

the National Irrigation Administration (NIA) Region IV-A. All indicators related to staff competence, courtesy, responsiveness, and support fall within the "Very High" range, reflecting strong agreement among respondents that personnel provide effective and satisfactory assistance.

Among the indicators, "Staff are knowledgeable about NIA services" obtained the highest mean of 4.62, demonstrating strong technical competence among employees. This is followed by "Courtesy during transactions" (M = 4.48), "Prompt response to inquiries" (M = 4.46), and "Feeling valued as a stakeholder" (M = 4.46), reflecting professionalism and a stakeholder-centered approach in service delivery. Meanwhile, "Provision of helpful guidance" registered the lowest mean of 4.38, although still within the "Very High" category, indicating consistently positive experiences with minor variation in the level of guidance provided.

These findings are consistent with studies emphasizing that employee competence and interpersonal behavior significantly influence stakeholder satisfaction. For instance, Setiono (2022) found that employee behavior, including courtesy and responsiveness, plays a critical role in shaping customer satisfaction during service encounters. Similarly, Wu (2015) highlighted that employee competence and service quality are directly linked to higher levels of customer satisfaction and organizational performance.

The overall mean score for staff assistance satisfaction is 4.4800, with a standard deviation of 0.33564, indicating that positive staff-related service experiences are consistently observed across the organization. The results suggest that NIA Region IV-A demonstrates a very high level of staff assistance satisfaction. Respondents affirm that knowledgeable, courteous, and responsive personnel contribute to positive service experiences, reinforcing professionalism and alignment with ISO 9001:2015 principles on customer focus and employee competence.

Table 18. Level of Stakeholder Satisfaction in Terms of Service Reliability Satisfaction

Indicator	Mean	SD	VI	Remarks
1. NIA services meet the expected standards every time.	4.66	0.59	VS	Highly Reliable
2. NIA delivers services as promised.	4.56	0.67	VS	Highly Reliable
3. NIA resolves service issues effectively.	4.44	0.67	VS	Highly Reliable
4. Service quality is consistent over time.	4.36	0.80	VS	Highly Reliable
5. I can rely on NIA to address my irrigation needs.	4.36	0.66	VS	Highly Reliable
Overall Mean and SD	4.47	0.29		
Overall Interpretation	Very Satisfactory			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Very Satisfactory (VS), 3.41–4.20= Satisfactory (S), 2.61–3.40= Neutral (N), 1.81–2.60= Dissatisfied (D), 1.00–1.80= Very Dissatisfied (VD).

Table 18 indicates a generally very high level of service reliability satisfaction among stakeholders in the National Irrigation Administration (NIA) Region IV-A. All indicators related to consistency, dependability, and fulfillment of service commitments fall within the "Very High" range, reflecting strong agreement among respondents that NIA services are reliable and consistently delivered.

Among the indicators, "Meeting expected standards every time" obtained the highest mean of 4.66, followed by "Delivery of services as promised" with a mean of 4.56, demonstrating strong stakeholder trust in the agency's ability to consistently meet commitments. Meanwhile, "Service consistency over time" and "Reliability in addressing irrigation needs" both registered the lowest mean of 4.36, although still within the

"Very High" category, suggesting minor perceived variation in long-term consistency and responsiveness to irrigation concerns.

These findings are consistent with studies emphasizing that reliability is a core determinant of customer satisfaction and perceived service quality. For instance, Idayati (2020) identified reliability as the most critical dimension of service quality, referring to the ability to deliver promised services accurately and dependably. Similarly, Husain (2024) found that ISO 9001 implementation enhances organizational consistency and process control, resulting in improved service reliability and stakeholder confidence.

The overall mean score for service reliability satisfaction is 4.4760, with a standard deviation of 0.29106, indicating that dependable service experiences are consistently observed across stakeholders. The results suggest that NIA Region IV-A demonstrates a very high level of service reliability satisfaction. Respondents affirm that consistent delivery of promised services and adherence to standards contribute to strong stakeholder trust, while minor improvements in long-term consistency may further strengthen reliability perceptions.

Table 19. Level of Stakeholder Satisfaction in Terms of Service Responsiveness Satisfaction

Indicators	Mean	SD	VI	Remarks
1. NIA provides irrigation services consistently according to schedule.	4.54	0.61	VS	Highly Reliable
2. Service issues are resolved in a timely manner.	4.50	0.71	VS	Highly Reliable
3. Service quality is maintained across different tasks and periods.	4.42	0.73	VS	Highly Reliable
4. NIA meets expected service standards consistently.	4.42	0.67	VS	Highly Reliable
5. Irrigation needs are addressed dependably by NIA staff.	4.34	0.72	VS	Highly Reliable
Overall Mean and SD	**4.44**	**0.31**		
Overall Interpretation	*Very Satisfactory*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Very Satisfactory (VS), 3.41–4.20= Satisfactory (S), 2.61–3.40= Neutral (N), 1.81–2.60= Dissatisfied (D), 1.00–1.80= Very Dissatisfied (VD).

Table 19 indicates a generally very high level of service responsiveness satisfaction among stakeholders in the National Irrigation Administration (NIA) Region IV-A. All indicators related to promptness, consistency, and dependability of response fall within the "Very High" range, reflecting strong agreement among respondents that the agency responds effectively to service needs.

Among the indicators, "Maintaining expected service standards consistently" obtained the highest mean of 4.54, followed by "Dependable response to irrigation needs" with a mean of 4.50, demonstrating strong stakeholder confidence in the agency's ability to provide consistent and reliable responses. Meanwhile, "Maintaining service quality across tasks and periods" registered the lowest mean of 4.34, although still within the "Very High" category, suggesting minor perceived variations in consistency across different tasks and time periods.

These findings are consistent with studies emphasizing that responsiveness and consistency are key determinants of perceived service quality and customer satisfaction. For instance, Chowdhary (2007) identified responsiveness as a core dimension of service quality, emphasizing the importance of prompt and dependable service delivery.

The overall mean score for service responsiveness satisfaction is 4.4440, with a standard deviation of 0.30583, indicating that responsive service practices are consistently observed across stakeholders. The results suggest that NIA Region IV-A demonstrates a very high level of service responsiveness satisfaction.

Respondents affirm that consistent service standards and dependable responses to irrigation needs contribute to strong stakeholder confidence, while minor variations in consistency across tasks and periods may further be improved.

Table 20 indicates a generally very high level of service continuation satisfaction among stakeholders in the National Irrigation Administration (NIA) Region IV-A. All indicators related to continued engagement, future utilization, and long-term service assurance fall within the "Very High" range, reflecting strong agreement among respondents that they intend to continue availing of NIA services.

Among the indicators, "Satisfaction with ongoing engagement with NIA services" obtained the highest mean of 4.58, followed by "Continued use of irrigation services in the future" with a mean of 4.52, demonstrating strong stakeholder loyalty and trust in the agency's services. Meanwhile, "Assurance of continued reliable irrigation support" registered the lowest mean of 4.28, although still within the "Very High" category, suggesting a slightly lower but still positive level of confidence in long-term service assurance.

Table 20. Level of Stakeholder Satisfaction in Terms of Service Continuation Satisfaction

Indicator	Mean	SD	VI	Remarks
1. I am satisfied with my ongoing engagement with NIA services.	4.58	0.70	VS	Highly Satisfied
2. I plan to continue using NIA irrigation services in the future.	4.52	0.61	VS	Highly Satisfied
3. I trust NIA to provide irrigation support when needed	4.44	0.79	VS	Highly Satisfied
4. I would recommend NIA irrigation services to other farmers or stakeholders.	4.34	0.72	VS	Highly Satisfied
5. I feel assured that NIA will continue providing reliable irrigation services.	4.28	0.83	VS	Highly Satisfied
Overall Mean and SD	**4.43**	**0.34**		
Overall Interpretation	*Very Satisfactory*			

Note. *N*=50. V.I.=Verbal interpretation. The mean is interpreted as follows: 4.21–5:00= Very Satisfactory (VS), 3.41–4.20= Satisfactory (S), 2.61–3.40= Neutral (N), 1.81–2.60= Dissatisfied (D), 1.00–1.80= Very Dissatisfied (VD).

These findings are consistent with studies emphasizing that service continuity and satisfaction strongly influence customer loyalty and sustained engagement. For instance, van Lierop (2016) highlighted that customer satisfaction significantly drives behavioral loyalty, including continued use of services over time. Similarly, Parawansa (2018) found that service quality and satisfaction are strong predictors of customer retention and long-term relationship commitment in service organizations.

The overall mean score for service continuation satisfaction is 4.4320, with a standard deviation of 4.33651, indicating that positive intentions for continued engagement are consistently observed across stakeholders. The results suggest that NIA Region IV-A demonstrates a very high level of service continuation satisfaction. Respondents affirm strong willingness to continue engaging with the agency, indicating sustained trust and loyalty, while slight improvements in perceived long-term assurance may further strengthen stakeholder confidence.

Table 21 indicates that most relationships between the ISO 9001:2015 Quality Management System (QMS) implementation variables and service delivery indicators are not statistically significant ($p > 0.05$). This suggests that, in general, there is insufficient evidence to establish a significant relationship between most QMS components and service delivery dimensions; hence, the null hypothesis is generally accepted for

most tested relationships.

However, a significant relationship was identified between Internal Audit and Corrective Actions (IACA) and Reliability (r = 0.349, p = 0.013). This indicates a statistically significant positive relationship, implying that stronger implementation of internal audit and corrective action mechanisms is associated with higher service reliability in the National Irrigation Administration (NIA) Region IV-A. This finding suggests that systematic monitoring, identification of nonconformities, and timely corrective actions contribute meaningfully to more dependable and consistent service delivery.

Table 21. Significant Relationship between ISO 9001:2015 QMS Implementation and Service Delivery

ISO 9001:2015 QMS Implementation	Service Delivery in National Irrigation Administration Region IV-A				
	Efficiency	**Quality**	**Timeliness**	**Reliability**	**Adaptability**
Process standardization and documentation	r = 0.183	r = 0.165	r = -0.031	r = 0.064	r = 0.065
	very weak corr	very weak corr	very weak corr	very weak corr	very weak corr
	0.203	0.252	0.832	0.659	0.655
Internal audit and corrective actions	r = -0.106	r = -0.077	r = -0.183	r =.349*	r =-0.154
	very weak corr	very weak corr	very weak corr	weak corr	very weak corr
	0.466	0.596	0.203	0.013	0.286
Risk Management Strategies	r =0.135	r =0.027	r =0.182	r =0.204	r =-0.014
	very weak corr	very weak corr	very weak corr	weak corr	very weak corr
	0.351	0.850	0.205	0.155	0.925
Continuous Improvement Mechanisms	r = 0.127	r = 0.166	r = -0.026	r = -0.027	r = -0.063
	very weak corr	very weak corr	very weak corr	very weak corr	very weak corr
	0.379	0.250	0.856	0.854	0.665
Employee involvement and training	r = -0.077	r = -0.069	r = -0.192	r = -0.042	r = -0.136
	very weak corr	very weak corr	very weak corr	very weak corr	very weak corr
	0.597	0.634	0.183	0.773	0.348

Note. Cell contains Pearson correlation coefficient, interpretation of its strength, and its corresponding *p*

value. N=50, Degree of freedom is 48. *p<.05. **p<.01. ***p<.001. The strength of the relationship was interpreted based on Evans (1996), where 0.00–0.19 indicates very weak, 0.20–0.39 weak, 0.40–0.59 moderate, 0.60–0.79 strong, and 0.80–1.00 very strong correlation. *Correlation is significant at the 0.05 level (2-tailed).

In contrast, all other relationships between QMS components which are Process Standardization and Documentation (PSD), Risk Management Strategies (RMS), Continuous Improvement Mechanism (CIM), and Employee Involvement and Training (EIT) and service delivery dimensions (efficiency, effectiveness, timeliness, reliability, and adaptability) were found to be statistically insignificant. This implies that, although these QMS practices are highly implemented, their direct statistical influence on service delivery outcomes is not evident in the current dataset.

The findings are consistent with the principles of ISO 9001:2015, particularly regarding the roles of internal audit and corrective action in ensuring process consistency and minimizing nonconformities. The significant relationship between Internal Audit and Corrective Actions (IACA) and reliability suggests that systematic monitoring and timely resolution of process deviations contribute to more consistent and dependable service delivery. This supports previous studies which emphasize that internal audits and corrective mechanisms enhance operational consistency and service quality (Oakland, 2014; Hoyle, 2017; Psomas & Fotopoulos, 2009).

On the other hand, the absence of significant relationships between other QMS components namely Process Standardization and Documentation (PSD), Risk Management Strategies (RMS), Continuous Improvement Mechanisms (CIM), and Employee Involvement and Training (EIT) and service delivery dimensions indicates that their effects may not be directly observable in the current context. This finding is consistent with existing literature suggesting that ISO 9001 implementation does not always result in immediate or direct performance improvements and may depend on intervening factors such as organizational culture and leadership (Terziovski & Samson, 1999; Singh, 2008). In public sector organizations, QMS practices are often associated with improved compliance and procedural standardization rather than measurable service outcomes (Bouckaert & Halligan, 2008). Moreover, the impact of these practices may be indirect or may emerge over time, which may not be captured in a cross-sectional analysis (Sampaio et al., 2009).

Table 22 indicates that most relationships between the ISO 9001:2015 Quality Management System (QMS) implementation variables and stakeholder satisfaction indicators are not statistically significant ($p > 0.05$). This suggests that, in general, there is insufficient evidence to establish a significant relationship between most QMS components and stakeholder satisfaction dimensions; thus, the null hypothesis is largely accepted.

However, two statistically significant relationships were identified. First, Risk Management Strategies (RMS) and Service Continuation (SC) exhibit a significant negative relationship ($r = -0.337$, $p = 0.017$), indicating that higher levels of risk management implementation are associated with lower perceived service continuation satisfaction. Second, Employee Involvement and Training (EIT) and Service Responsiveness Satisfaction (SRS2) also show a significant negative relationship ($r = -0.329$, $p = 0.020$), suggesting that stronger employee involvement and training is associated with lower perceived responsiveness satisfaction. These inverse relationships may reflect possible implementation challenges, transitional adjustments, or gaps between internal improvements and stakeholder perceptions.

Table 22. Significant Relationship between ISO 9001:2015 QMS Implementation and Stakeholder Satisfaction

ISO 9001:2015 QMS Implementation	Stakeholder Satisfaction in the National Irrigation Administration Region IV-A				
	Comm.	Staff Asst	Service Rel.	Service Resp.	Service Cont.
Process standardization and documentation	r =0.019	r =0.041	r =-0.058	r = -0.044	r = -0.174
	very weak corr	very weak corr	very weak corr	very weak corr	very weak corr
	0.896	0.776	0.689	0.760	0.226
Internal audit and corrective actions	r = 0.181	r =0.044	r = -0.028	r = -0.014	r = 0.019
	very weak corr	very weak corr	very weak corr	very weak corr	very weak corr
	0.210	0.761	0.849	0.924	0.895
Risk Management Strategies	r = 0.056	r = -0.216	r = -0.085	r = 0.050	r = -.337*
	very weak corr	very weak corr	very weak corr	very weak corr	weak corr
	0.701	0.131	0.557	0.728	0.017
Continuous Improvement Mechanisms	r = -0.091	r = 0.023	r = 0.067	r = -0.237	r = -0.039
	very weak corr	very weak corr	very weak corr	very weak corr	very weak corr
	0.529	0.875	0.645	0.097	0.787
Employee involvement and training	r = 0.085	r = -0.018	r = 0.157	r = -.329*	r = 0.025
	very weak corr	very weak corr	very weak corr	weak corr	very weak corr
	0.556	0.901	0.275	0.020	0.865

Note. Cell contains Pearson correlation coefficient, interpretation of its strength, and its corresponding *p* value. N=50, Degree of freedom is 48. *p<.05. **p<.01. ***p<.001. The strength of the relationship was interpreted based on Evans (1996), where 0.00–0.19 indicates very weak, 0.20–0.39 weak, 0.40–0.59 moderate, 0.60–0.79 strong, and 0.80–1.00 very strong correlation. *Correlation is significant at the 0.05 level (2-tailed).

In contrast, all other relationships between QMS components which are the Process Standardization and Documentation (PSD), Internal Audit and Corrective Actions (IACA), and Continuous Improvement

Mechanism (CIM) and stakeholder satisfaction dimensions (Communication Satisfaction, Staff Assistance Satisfaction, Service Reliability Satisfaction, Service Responsiveness Satisfaction, and Service Continuation) were found to be statistically insignificant.

The findings suggest that the implementation of the ISO 9001:2015 Quality Management System (QMS) has limited direct statistical influence on both service delivery and stakeholder satisfaction in NIA Region IV-A.

Consistent with the studies of Terziovski, Mile and Samson, Danny (1999), as well as Singh, P.J. (2008), QMS implementation may improve internal processes but does not always translate into significant external performance outcomes such as service delivery or satisfaction. Similarly, Bouckaert, Geert and Halligan, John (2008) noted that in public sector organizations, QMS often strengthens compliance and internal control rather than directly influencing stakeholder perceptions.

For service delivery, most QMS components including Process Standardization and Documentation (PSD), Risk Management Strategies (RMS), Continuous Improvement Mechanism (CIM), and Employee Involvement and Training (EIT) showed no significant relationships with performance indicators. This supports findings that QMS effects are often indirect and not immediately observable in external outcomes.

However, Internal Audit and Corrective Actions (IACA) showed a significant positive relationship with service reliability, aligning with the emphasis of quality literature that internal monitoring and corrective mechanisms improve consistency and operational stability.

For stakeholder satisfaction, most relationships were also not significant. Notably, RMS and EIT showed significant negative relationships with Service Continuation and Service Responsiveness Satisfaction. This is consistent with Sampaio, Paulo et al. (2009), who explained that risk-based systems may initially introduce complexity and delays, and with Oakland, John S. (2014) and Hoyle, David (2017), who noted that training and standardization may temporarily reduce operational speed due to adjustment periods.

Overall, the findings support literature indicating that QMS benefits are often indirect, context-dependent, and may not immediately translate into observable improvements in external performance. This highlights the importance of aligning internal quality mechanisms with stakeholder-facing service outcomes, particularly in public sector organizations.

Proposed Action Plan Based on the Findings of the Study

This section presents a proposed action plan derived from the study's findings on ISO 9001:2015 Quality Management System implementation, service delivery, and stakeholder satisfaction in NIA Region IV-A. The plan outlines strategic interventions to address identified gaps and enhance organizational performance and service outcomes. Key focus areas include internal audit and corrective actions, integration of ISO standards in service delivery, employee training and engagement, risk management, and continuous improvement mechanisms. Each area defines objectives, action steps, responsible units, timelines, expected outcomes, and required resources. The plan also encourages future research to expand understanding of ISO implementation. Overall, it aims to strengthen quality management and improve efficiency and stakeholder satisfaction.

Table 23-A. Action Plan (Strategic Areas & Objectives)

Key Area	Objective	Responsible Unit	Timeline
Internal Audit & Corrective Actions	Strengthen audit effectiveness to improve service reliability	QMO / Internal Audit Team	Ongoing (Quarterly)
Integration of ISO into Service Delivery	Enhance ISO application in frontline services	Process Owners / Management	3–6 Months
Employee Training & Involvement	Improve staff competence and responsiveness	HR and Training Unit	6 Months and Ongoing
Risk Management Strategy	Balance risk control and service continuity	Risk Management Unit	3–6 Months
Continuous Improvement Mechanisms	Strengthen feedback system for service improvement	QMO / Planning Unit	Quarterly
Future Research Enhancement	Expand ISO-related studies across contexts	Future Researchers	Future Studies

Table 23-B. Action Plan (Implementation Details)

Key Area	Action Steps	Expected Outcome	Resources Needed
Internal Audit & Corrective Actions	Institutionalize audits; standardize corrective actions; conduct management reviews	Improved ISO compliance and service reliability	Audit tools, training modules
Integration of ISO into Service Delivery	Review SOPs; align documentation; evaluate operations	Improved efficiency and service performance	SOP manuals, process tools
Employee Training & Involvement	Role-based training; field simulations; competency assessments	More competent and responsive staff	Training budget, modules
Risk Management Strategy	Review policies; identify restrictive procedures; apply flexible mitigation	Reduced disruption and better continuity	Risk tools, policy framework
Continuous Improvement Mechanisms	Conduct surveys; establish feedback channels; integrate feedback in reviews	Higher stakeholder satisfaction	Survey tools, data system
Future Research Enhancement	Expand studies; use mixed methods; analyze weak relationships	Broader understanding of ISO implementation	Research funding, instruments

4. Summary, Conclusion, and Recommendations

4.1. Summary of Findings

This section presents the consolidated findings of the study, which examine the level of ISO 9001:2015 Quality Management System (QMS) implementation in the National Irrigation Administration (NIA) Region IV-A, its relationship with service delivery, and stakeholder satisfaction. It also summarizes the perceived levels of service delivery performance and stakeholder satisfaction across the identified dimensions.

1. ISO QMS Implementation

1.1. Process standardization and documentation are highly implemented, with consistent documentation control, policy review, and adherence to procedures supporting efficient and reliable service delivery.

1.2. Internal audit and corrective action practices are highly implemented, with consistent monitoring, regular audits, and effective communication supporting continuous improvement.

1.3. Risk management strategies are highly implemented, reflecting proactive risk identification, assessment, and mitigation that enhance organizational preparedness and stability.

1.4. Continuous improvement mechanisms are highly implemented, with formal procedures, stakeholder feedback, and data-driven decision-making supporting sustained service enhancement.

1.5. Employee involvement and training are highly implemented, with effective training programs and active staff participation enhancing competence and QMS implementation.

2. Service Delivery

2.1. Efficiency in service delivery is highly agreed upon, reflecting effective resource utilization, time management, and streamlined processes.

2.2. Effectiveness in service delivery is highly agreed upon, reflecting the organization's ability to meet stakeholder needs, deliver quality outcomes, and maintain service standards.

2.3. TIMELINESS in service delivery are highly agreed upon, reflecting prompt action, timely communication, and responsive service provision.

2.4. Reliability in service delivery is highly agreed upon, reflecting consistent performance, fulfillment of commitments, and sustained operations.

2.5. Adaptability in service delivery is highly agreed upon, reflecting flexibility, responsiveness to change, and openness to innovation.

3. Stakeholder Satisfaction

3.1. Communication satisfaction is very high among stakeholders, reflecting clear, timely, and reliable information exchange that fosters trust and transparency.

3.2. Staff assistance satisfaction is very high among stakeholders, reflecting competent, courteous, and responsive personnel who provide effective support.

3.3. Service Reliability Satisfaction: Service reliability satisfaction is very high among stakeholders, reflecting consistent, dependable, and standards-based service delivery.

3.4. Service Responsiveness Satisfaction: Service responsiveness satisfaction is very high among stakeholders, reflecting timely, consistent, and dependable responses to service needs.

3.5. Service Continuation Satisfaction: Service continuation satisfaction is very high among stakeholders, reflecting strong trust, loyalty, and intention to continue using NIA services.

4. Relationship Between ISO QMS and Service Delivery

4.1. Most ISO 9001:2015 QMS implementation variables show no significant relationship with service delivery indicators, with only Internal Audit and Corrective Actions significantly and positively related to reliability.

5. Relationship Between ISO QMS and Stakeholder Satisfaction

5.1. Most QMS components show no significant relationship with stakeholder satisfaction, with only Risk Management Strategies and Employee Involvement and Training showing significant negative relationships with selected satisfaction dimensions.

4.2. Conclusions

The findings of the study indicate that the National Irrigation Administration (NIA) Region IV-A demonstrates a generally high to very high level of ISO 9001:2015 Quality Management System (QMS) implementation across all dimensions, including process standardization and documentation, internal audit and corrective actions, risk management strategies, continuous improvement mechanisms, and employee involvement and training. This suggests that ISO-aligned quality practices are consistently observed and institutionalized within the organization.

In terms of service delivery, respondents highly agree that the organization performs well across efficiency, effectiveness, timeliness, reliability, and adaptability. Similarly, stakeholder satisfaction is consistently rated as very satisfactory across communication, staff assistance, service reliability, responsiveness, and service continuation, indicating strong positive perceptions of service quality and organizational performance.

However, correlation analysis reveals that most QMS implementation variables do not have a statistically significant relationship with service delivery and stakeholder satisfaction dimensions. Only a limited number of relationships were found to be significant, specifically the positive relationship between internal audit and corrective actions and service reliability, and negative relationships involving risk management strategies and employee involvement and training with selected satisfaction indicators. This suggests that while ISO 9001:2015 practices are well implemented, their direct measurable influence on perceived outcomes is limited in this study.

Decision on Hypotheses (Ho1):

As a significant positive relationship exists between Internal Audit and Corrective Actions and service reliability, while no significant relationships were found between the other QMS components and service delivery indicators, Ho1 is partially rejected. This indicates that most ISO 9001:2015 QMS practices do not directly translate into measurable improvements in service delivery, except for internal audit mechanisms which play a key role in ensuring reliability.

The findings suggest that strengthening internal audit systems, corrective action processes, and compliance monitoring may be the most effective approach to improving dependable and consistent service delivery in NIA Region IV-A. This aligns with studies emphasizing that robust audit and corrective action mechanisms are central to maintaining operational control and service quality within ISO-certified organizations.

Decision on Hypotheses (Ho2):

As significant relationships were identified between Risk Management Strategies and Service Continuation, and between Employee Involvement and Training and Service Responsiveness Satisfaction, while all other correlations were not significant, Ho2 is partially rejected. This suggests that ISO 9001:2015 QMS implementation does not uniformly enhance stakeholder satisfaction across all dimensions.

The presence of negative significant relationships implies that certain QMS practices, particularly in risk management and employee training, may introduce operational constraints or transitional effects that influence stakeholder perceptions. These findings highlight the need for improved alignment, communication, and stakeholder-focused implementation to ensure that internal quality improvements are more effectively reflected in perceived service outcomes and satisfaction.

The results imply that NIA Region IV-A has established a strong quality management system and maintains high service standards, but further enhancement may be needed to strengthen the linkage between QMS implementation and perceived service outcomes and stakeholder satisfaction

4.3. Recommendations

Based on the findings of the study, the following recommendations are proposed:

- **For the National Irrigation Administration (NIA) Region IV-A**. Strengthen the implementation of ISO 9001:2015 internal audit and corrective action systems, as these were found to significantly influence service reliability. Regular review and strict monitoring of audit findings should be institutionalized to ensure continuous service improvement. This supports long-term operational sustainability, as Zeng, Shi, and Arter (1989) found that sustained audit and corrective systems are essential in maintaining consistent quality performance over time.
- **For Process Owners and Management.** Although ISO QMS implementation is high, its weak relationship with service outcomes suggests a need to enhance the integration between ISO procedures and actual frontline service delivery. Focus should be given to translating documented systems into measurable operational improvements. This aligns with Boiral (2011), who emphasized that the sustainability of ISO systems depends on how deeply they are embedded in daily organizational practices rather than merely documented.
- **For Training and Human Resource Development Units.** Since employee involvement and training showed a significant relationship with service responsiveness satisfaction (though negative), training programs should be reassessed to ensure they are practical, service-oriented, and directly aligned with field service requirements. Sustainable performance improvement requires continuous competency development, as highlighted by Slavković (2019), who noted that effective training must be continuously adapted to organizational needs.
- **For Risk Management Units.** Risk management strategies should be refined to ensure that they enhance, rather than limit, stakeholder satisfaction particularly in service continuation. Risk controls should be balanced with service accessibility and continuity. This supports sustainable service delivery, as Gupta (2016) emphasized that effective risk management frameworks must balance control and operational flexibility to maintain long-term service continuity.
- **For Continuous Improvement Mechanisms**. Strengthen feedback systems from stakeholders to ensure that continuous improvement initiatives are responsive to actual service needs. Regular stakeholder surveys and feedback loops should be institutionalized. This promotes sustainability of improvements, as Jain (1995) emphasized that continuous feedback and iterative improvement are essential for long-term quality and organizational learning.
- **For Future Researchers.** Future studies may expand the scope by including other NIA regional offices or comparing multiple agencies to better understand how ISO 9001:2015 implementation affects service outcomes across different organizational contexts. Qualitative methods may also be used to explore why some ISO components show weak or negative relationships with satisfaction and service delivery. This aligns with Mikalef (2019) who advocated for mixed-method approaches to generate deeper and more sustainable insights into organizational performance.

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