

DOI: 10.5281/zenodo.122.12679

LEADERSHIP, INNOVATION PROCESSES, AND ORGANIZATIONAL READINESS: EXPLAINING ISO 56001 ADOPTION IN THE SAUDI BANKING SECTOR

Ahmed Alomari^{1*} and Hani Alamri¹

¹Department of Business Administration, Faculty of Economics and Administration, King Abdulaziz University, Jeddah 23589, Saudi Arabia, <https://orcid.org/0009-0004-9508-5939>, amalomari@stu.kau.edu.sa

Received: 07/11/2025
Accepted: 22/11/2025

Corresponding Author: Ahmed Alomari
(amalomari@stu.kau.edu.sa)

ABSTRACT

This study investigates the factors influencing the adoption of ISO 56001, an innovation management standard, in the banking sector. Based on a sample of banking employees and managers in Jeddah, Saudi Arabia, the findings reveal that ISO 56001 adoption is driven not solely by leadership commitment or external pressures but also by a combination of internal capabilities: leadership commitment, innovation process maturity, and organizational readiness for change. Leadership commitment influences adoption indirectly, primarily by shaping structured innovation processes and fostering a culture of readiness. Organizational readiness for change is found to be the most proximal driver of ISO 56001 adoption, with banks that have mature innovation processes and high readiness for change being more likely to integrate the standard into their daily operations. The study emphasized that leadership's role is to catalyze the development of these processes and a supportive change climate rather than directly driving adoption. By integrating resource-based and dynamic capabilities perspectives with leadership and readiness theories, this research provides a comprehensive framework for understanding ISO 56001 adoption in highly regulated sectors. The findings suggest that for successful adoption, banks must focus not only on formal procedures but also on building the internal capabilities that support innovation. The study offers valuable insights for both banking leaders and policymakers and highlights the need for future research extending these findings across different regions and banking contexts to further explore the adoption process.

KEYWORDS: ISO 56001, Innovation Management, Leadership Commitment, Organizational Readiness For Change, Innovation Process Maturity, Banking Sector, Dynamic Capabilities, Standard Adoption.

1. INTRODUCTION

Innovation-driven banking is rapidly evolving, with digital platforms, open banking interfaces, and data-driven risk models reshaping how financial institutions create value, manage risk, and comply with regulations. Evidence shows that banks treating innovation as a system-wide capability outperform those relying on ad hoc initiatives, especially in volatile markets (Hussain & Papastathopoulos, 2022; Hund et al., 2021). However, many institutions struggle to integrate digital projects into a cohesive innovation management system that is embedded in governance and routine practices.

Standard-based innovation management has emerged as a solution. The ISO 56000 family offers a framework for developing an innovation management system that links opportunity identification, portfolio selection, and learning to strategic objectives (Skjølsvik & Kaloudis, 2023). ISO 56002 provides guidance on system design, whereas ISO 56001 sets certification requirements. Initial studies suggest that ISO 56002 improves innovation processes, sustainability alignment, and performance outcomes (Carlsson & Nevzorova, 2024; Urain et al., 2022). However, most research has focused on manufacturing, with few studies in financial services (Ristyawan et al., 2023).

Leadership commitment is crucial for successful innovation management. Studies show that visible leadership is essential for mobilizing resources and fostering cross-functional collaboration (Trzeciak et al., 2022). In banking, leadership commitment drives the adoption of innovation practices, impacting environmental and social performance (Oladapo, 2024). However, how this commitment leads to the adoption of structured systems such as ISO 56001 remains underexplored.

Two key mechanisms are central: innovation process maturity and organizational readiness for change. Research shows that clear stages, decision rules, and feedback mechanisms are crucial for turning leadership intent into repeatable outcomes (Chiarabilli et al., 2024). Organizational readiness, defined as commitment, efficacy, and available resources, is a strong predictor of successful implementation (Hussain & Papastathopoulos, 2022; Adelson et al., 2021). However, little is known about how readiness affects the adoption of formal standards such as ISO 56001.

This study proposes a model in which leadership commitment drives ISO 56001 adoption directly and indirectly through structured innovation processes and organizational readiness for change. The study hypothesizes that leadership commitment enhances

innovation process maturity, which increases readiness for change and accelerates ISO 56001 adoption.

The contribution of this study is threefold: first, it integrates leadership commitment, innovation maturity, readiness for change, and ISO 56001 adoption into a framework tailored for financial institutions; second, it provides empirical evidence on ISO 56001 adoption in banking; and third, it offers a new approach to measuring innovation process maturity and readiness for change in standard adoption settings.

The paper is structured as follows: Section 2 presents the theoretical background, Section 3 develops hypotheses, Section 4 describes the methodology, Section 5 presents the results, Section 6 discusses the findings, Section 7 outlines implications, Section 8 identifies limitations, and Section 9 concludes.

2. THEORETICAL BACKGROUND

2.1. Resource-Based View and Dynamic Capabilities

The resource-based view (RBV) emphasizes that sustained competitive advantage arises from unique, valuable, and inimitable resources. However, in turbulent environments, this static perspective is complemented by the dynamic capabilities framework, which focuses on how firms sense, seize, and reconfigure resources over time (Adesina, 2025). Dynamic capabilities are particularly crucial in responding to digital and regulatory disruptions. Research highlights that firms with strong sensing, seizing, and reconfiguring routines are better equipped to implement digital innovations and adapt to sustainability challenges (Awan & Sroufe, 2022).

In this study, leadership commitment, innovation process maturity, and organizational readiness for change are analyzed through this combined RBV–dynamic capabilities lens. Leadership commitment is seen as a strategic resource that shapes dynamic capabilities by fostering routines for opportunity sensing, resource allocation, and organizational reconfiguration (Pitelis et al., 2024). Innovation process maturity and organizational readiness reflect how these capabilities are codified into a coherent process architecture, enabling the adoption of ISO 56001 as an innovation management standard.

2.2. Transformational and Strategic Leadership Theory

Transformational leadership theory underpins

leadership commitment in innovation management. Transformational leaders articulate a compelling vision, stimulate intellectual engagement, and model behaviors that motivate followers, driving innovation (Deng et al., 2023). Empirical studies consistently link transformational leadership to improved job performance, innovation, and organizational behavior (Lee et al., 2020).

Strategically, transformational leaders are crucial during system-level changes, such as the adoption of new management standards. In banking, where risk aversion dominates, this leadership style helps reframe innovation as an enabler rather than a constraint. This study focuses on leadership commitment as a blend of transformational and strategic leadership, which directly influences ISO 56001 adoption by shaping innovation processes and fostering readiness for change (Kumar & Singh, 2023).

2.3. Process-Based View of Innovation and Organizational Routines

A process-based view emphasizes that innovation is not a series of isolated events but a continuous cycle of opportunity recognition, development, and scaling (Gustafsson et al., 2020). In service industries, innovation processes are intertwined with customer interactions and digital technologies, making them both critical and challenging to manage.

Recent research stresses the importance of formalized processes and organizational routines in stabilizing and scaling innovation. Effective innovation processes, supported by service design and clear governance, are essential for transforming ideas into market-ready solutions (Kurtmollaiev & Pedersen, 2022).

In this context, innovation process maturity refers to the extent to which innovation routines are institutionalized, enabling smoother ISO 56001 adoption. When processes are fragmented, ISO 56001 adoption necessitates significant redesign, posing greater risks and challenges.

2.4. Organizational Readiness for Change Theory

Organizational readiness for change refers to the collective belief in an organization's ability to implement change, supported by the availability of resources and a conducive context (Batterham et al., 2024). Studies in various sectors show that readiness is influenced by leadership, culture, and communication and directly impacts the successful implementation of new practices (Syarif et al., 2024).

For banking institutions adopting ISO 56001,

organizational readiness is a critical factor. Employees must believe in the benefits of the change and the organization's capacity to meet the demands of certification. Readiness thus mediates the relationship between leadership commitment, innovation process maturity, and the success of ISO 56001 adoption, shaping whether adoption is symbolic or substantial (Zhen et al., 2021; Jewapatarakul & Ueasangkomsate, 2024).

2.5. Institutional Theory and the Adoption of Management System Standards

While internal capabilities are essential, institutional theory highlights the role of external pressures in driving adoption. Organizations often adopt practices not only because they are efficient but also because they conform to norms and regulations (Galleli & Amaral, 2025). In the banking sector, external pressures from regulators, rating agencies, and customers shape the adoption of standards such as ISO 56001.

For banks, institutional pressures, combined with internal capabilities, determine whether adoption is substantive. Without strong internal processes and readiness, ISO 56001 may be adopted merely to satisfy external expectations, resulting in minimal impact on organizational practices (Arroyabe et al., 2024).

2.6. An Integrated Theoretical Framework for ISO 56001 Adoption in Banking

Combining these theoretical perspectives, this study develops an integrated framework for understanding ISO 56001 adoption by banks. Leadership commitment drives the development of dynamic capabilities, which shape innovation processes and routines, thereby influencing innovation process maturity.

Organizational readiness for change acts as a key mediator, ensuring that these processes are mobilized effectively for ISO 56001 adoption. Finally, institutional pressures reinforce the importance of adopting innovation management standards, making them both an internal priority and an external necessity.

This framework offers a comprehensive understanding of how leadership, organizational processes, readiness, and external pressures interact to shape ISO 56001 adoption. It lays the groundwork for the hypotheses and structural relationships tested in this study and contributes to the broader literature on innovation management systems, particularly in the banking sector.

3. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

3.1. *Innovation Management Standards and ISO 56001*

Innovation Management Systems (IMS) standards were introduced to provide a structure similar to that of ISO 9001 and ISO 14001 in terms of quality and environmental management. The ISO 56000 family, particularly ISO 56002, offers a framework to design and improve an IMS, integrating strategy, culture, processes, and performance measurement (Ristyawan et al., 2023). While ISO 56002 offers guidance, ISO 56001 transitions to formal certification requirements, positioning innovation management alongside other recognized management systems. However, empirical research on IMS is still nascent, and studies have focused mainly on conceptual frameworks, with limited applied research (Ristyawan et al., 2023; Kihlander et al., 2024).

The standards suggest that adopting ISO 56001 requires more than just adding documents; it involves rethinking how innovation strategy, risk management, and learning are integrated into governance (Benraouane & Harrington, 2021). However, studies on service industries, particularly banking, are scarce, despite the growing recognition that service innovation is a critical firm-level capability (Mendoza, 2021). For banks, innovation often occurs in fragmented units, with a focus on incremental innovations, making the transition to formal standards such as ISO 56001 challenging. This model addresses these gaps by considering ISO 56001 adoption as a function of organizational conditions rather than just technical compliance.

3.2. *Leadership Commitment and Innovation*

Leadership commitment, especially ISO 56001, is critical for successful IMS adoption, especially ISO 56001. It requires visible, sustained actions from senior executives to prioritize innovation. Transformational leadership, which inspires teams, provides clear visions, fosters innovation behaviors, is particularly impactful in driving organizational change. Empirical studies across sectors consistently link transformational leadership to better innovation outcomes (Lee et al., 2020).

In the context of ISO 56001, leadership commitment not only initiates adoption but is also essential for embedding the system into the organization. Senior leaders in banking must balance regulatory compliance with innovation, and their commitment ensures that innovation management

becomes a core part of operations rather than a superficial requirement. Thus, leadership commitment is multifaceted, involving long-term strategic decisions, resource allocation, and championing innovation across the organization.

3.3. *Innovation Processes in Banking Organizations*

Innovation in services, including banking, is a continuous process rather than a one-off event. It involves opportunity recognition, idea generation, experimentation, and scaling (Gustafsson et al., 2020). In banking, this process must align with digital and regulatory constraints. Evidence shows that organizations with structured innovation processes are more successful at aligning innovations with customer needs and managing risks (Nguyen & Nguyen, 2024).

Digitalization has shifted banking innovation toward data-driven personalization and ecosystem partnerships (Lähteenmäki et al., 2022). Effective innovation processes are crucial for banks, as they allow for the systematic evaluation of new ideas and the integration of digital innovations into everyday operations. ISO 56001 adoption is most effective when these processes are already formalized, making it easier to align with the standard's requirements. When processes are fragmented, adopting ISO 56001 becomes more demanding and requires significant redesign.

3.4. *Organizational Readiness for Change*

Organizational readiness for change refers to the collective commitment to and belief in the organization's ability to implement change. Readiness is a dynamic state influenced by leadership, culture, and organizational conditions (Miake-Lye et al., 2020; Caci et al., 2025). When leadership demonstrates strong support for innovation, readiness tends to be high, which is crucial for successful ISO 56001 adoption.

In banking, readiness for change involves the ability to adapt to new standards while maintaining regulatory compliance. Employees must perceive that the change is valuable and that the organization has the resources and capabilities to implement it effectively. Organizational readiness, therefore, plays a key role in translating leadership commitment and innovation process maturity into successful ISO 56001 adoption, ensuring that adoption is substantive rather than symbolic.

3.5. Conceptual Model and Hypotheses Development

The literature points to a chain of relationships linking leadership commitment, innovation processes, organizational readiness, and ISO 56001 adoption. Leadership commitment significantly influences innovation outcomes by shaping organizational norms, expectations, and decision-making processes (Crossan & Apaydin, 2010; Gustafsson et al., 2020). In banks, where risk and compliance concerns dominate, leadership is crucial for embedding innovation into core processes (Nguyen & Nguyen, 2024).

The conceptual model hypothesizes that leadership commitment directly influences ISO 56001 adoption by motivating the organization to formalize innovation practices. It also posits that leadership commitment positively impacts innovation process maturity and organizational readiness for change, which in turn facilitate ISO 56001 adoption. Research on service innovation and leadership suggests that supportive leadership is key to establishing structured innovation processes and fostering readiness (Singh et al., 2020; Homayounfard & Zaefarian, 2022).

The model further explores how these mediators, innovation process maturity and organizational readiness, interact. Studies suggest that mature innovation processes help build organizational readiness by clarifying roles and reducing uncertainty, which aligns with the needs of ISO 56001 (Gustafsson et al., 2020; Gabutti et al., 2023). Banks with more mature innovation processes are more likely to adopt ISO 56001, and greater readiness for change further facilitates this adoption (Caci et al.,

2025; Silva et al., 2022).

The model also includes hypotheses on serial mediation effects. Leadership commitment influences innovation processes, which in turn enhance readiness for change, leading to higher adoption of ISO 56001 (Miake-Lye et al., 2020; Jewapatarakul & Ueasangkomsate, 2024). These relationships suggest that ISO 56001 adoption is not just a top-down decision but the result of complex interdependencies between leadership, innovation processes, and organizational readiness.

Hypotheses:

- H1: A stronger leadership commitment to innovation is positively associated with higher levels of ISO 56001 adoption by banks.
- H2: Leadership commitment positively influences organizational readiness for change.
- H3: Leadership commitment positively influences innovation process maturity.
- H4: Innovation process maturity positively influences organizational readiness for change.
- H5: Innovation process maturity positively affects ISO 56001 adoption.
- H6: Organizational readiness for change positively influences ISO 56001 adoption.
- H7: Innovation process maturity mediates the relationship between leadership commitment and ISO 56001 adoption.
- H8: Organizational readiness for change mediates the relationship between leadership commitment and ISO 56001 adoption.

This model integrates these relationships into a framework for understanding the factors that drive ISO 56001 adoption in the banking sector.

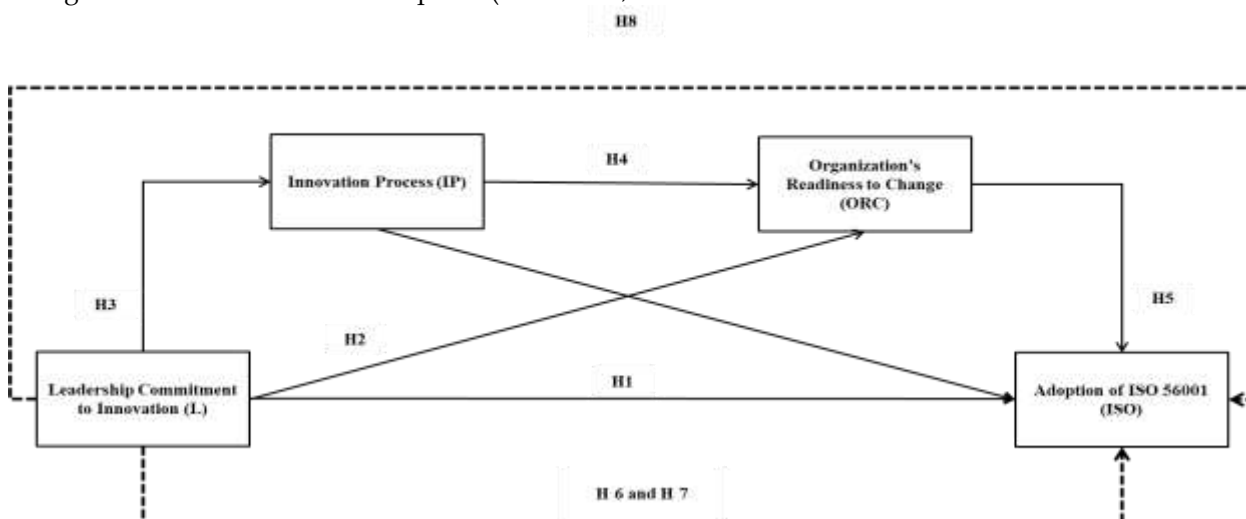


Figure 1. The conceptual model

4. RESEARCH METHODOLOGY

4.1. Research Design

The main approach in this study is a quantitative approach, which involves two main analytical procedures. The first is the measurement model, which was assessed to establish the reliability and validity of the latent constructs. The second is the structural model, which was evaluated to test the proposed research hypotheses through the estimation of standardized path coefficients, following the recommendations of Anderson and Gerbing (1988). This method allows researchers to evaluate both construct measurement quality and hypothesized causal relationships (Hair et al., 2022) and is widely adopted in business research. The following sections provide more details about the sample, population, and data collection methods.

4.2. Sample and Data Collection

Managers and professional employees working in the banking sector in Jeddah, Saudi Arabia, composed the main target population of this study. Specifically, they were selected on the basis of their knowledge of innovation-related activities, quality management, process improvement, and organizational change initiatives. The main reason for choosing the banking sector in Saudi Arabia is its increasing engagement with structured innovation management systems and regulatory-driven transformation, making it a suitable context for examining ISO 56001 adoption.

The main data collection tool in this research is a questionnaire-based survey, which is one of the most common methods recommended for examining causal relationships between organizational constructs and generating generalizable empirical evidence (Belhadi et al., 2020; Kamble et al., 2020; Rialti et al., 2019). The survey was developed and designed via the Google Forms platform and then distributed online to the target sample through official email, along with a cover letter that clarified the purpose of the survey, highlighted confidentiality, and emphasized voluntary participation.

A total of 160 responses were initially collected. Following data screening procedures, including checks for missing values, incomplete responses, and response consistency, 21 questionnaires were excluded. Consequently, 139 valid responses were retained for the final analysis, representing a usable response rate deemed acceptable and consistent with prior empirical studies conducted in similar organizational contexts. The unit of analysis in this study is the organization, with each questionnaire completed by a single knowledgeable respondent occupying a managerial or professional role. To

enhance response quality, the survey targeted individuals with direct exposure to innovation initiatives, leadership practices, and change management activities within their respective banks. Table 1 below presents the sample characteristics.

Table 1: Sample Characteristics.

Demographics Variables	Categories	Frequency	Percentage %
Position	Manager	78	56.1
	Employee	61	43.9
Year of Experience	Less than 5 years	20	14.4
	5 to 10 years	61	43.9
	11 to 15 years	29	20.9
	More than 15 years	29	20.9
Gender	Male	88	63.3
	Female	51	36.7

The demographic profile of the respondents was examined across three key variables: position, years of experience, and gender. With respect to organizational position, 78 respondents (56.1%) were managers, whereas 61 respondents (43.9%) were employees. In terms of professional experience, 20 respondents (14.4%) reported having less than five years of experience, 61 respondents (43.9%) had between five and ten years, 29 respondents (20.9%) had between eleven and fifteen years, and 29 respondents (20.9%) had more than fifteen years of experience. With respect to gender distribution, the sample comprised 88 male respondents (63.3%) and 51 female respondents (36.7%). These demographic characteristics provide a balanced representation of both managerial and nonmanagerial roles, varied levels of professional experience, and gender diversity within the banking sector in Jeddah, Saudi Arabia.

4.3. Instrument Development and Pre-testing

The measurement items used in this study were adapted from well-established scales in innovation management, leadership, and organizational change literature to ensure content validity. A total of 25 measurement items were used to operationalize the four latent constructs included in the research model. To enhance the robustness of the measurement instrument, a two-stage procedure was conducted. In the first stage, the questionnaire was reviewed by a panel of four academic experts specializing in innovation management, quality standards, and organizational change. Their feedback focused on content relevance, construct clarity, and alignment with the ISO 56001 context. Based on their recommendations, minor wording refinements were made.

In the second stage, the revised instrument was evaluated by four practitioners from the banking sector to assess item clarity, understandability, and potential ambiguity. This step ensured that the questionnaire language was appropriate for the professional context and that all the items were interpreted consistently by the respondents.

4.4. Measures

All latent constructs in this study were measured using multi-item reflective scales developed on the basis of an extensive review of ISO 56001 standard specifications and requirements, with minor modifications to ensure contextual relevance to the Saudi banking sector. Leadership commitment to innovation (L) captures the extent to which senior management actively supports, prioritizes, and allocates resources toward innovation initiatives. The innovation process (IP) reflects the degree to which organizations implement structured mechanisms for idea generation, evaluation, selection, and implementation. Organizational Readiness for Change (ORC) assesses employees' collective beliefs, preparedness, and willingness to engage with innovation-driven change. ISO 56001 adoption (ISO) evaluates the extent to which organizations have implemented or aligned their innovation management practices with ISO 56001 requirements.

The respondents indicated their level of agreement with each statement using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The use of a five-point scale is consistent with prior studies in innovation and quality management and is suitable for capturing perceptual assessments of organizational practices.

4.5. Data Analysis Technique

The proposed research model was tested using Partial Least Squares Structural Equation Modelling (PLS-SEM). This technique is particularly appropriate for studies focusing on theory development, mediation analysis, and complex models with multiple latent constructs. PLS-SEM is also suitable for relatively small to medium sample sizes and does not require strict assumptions of data normality, making it appropriate for the present study. The analysis followed established PLS-SEM guidelines, beginning with the assessment of internal consistency reliability, convergent validity, and discriminant validity of the measurement model. The structural model was subsequently evaluated by examining path coefficients, coefficients of determination (R^2), effect sizes, and mediation effects. Bootstrapping procedures were employed to

assess the statistical significance of direct and indirect relationships.

The adequacy of the final sample size for estimating the proposed PLS-SEM model was assessed using a priori statistical power rationale based on the regression equivalent of the structural relations. The maximum number of predictors pointing to any endogenous construct in the structural model is two. Using conventional parameters ($\alpha = 0.05$; power = 0.80) and a medium effect size ($f^2 = 0.15$), the minimum required sample size is 68 observations (Cohen, 1988; Faul et al., 2009). The final usable sample in this study ($N = 139$) exceeds this threshold, indicating sufficient statistical power for hypothesis testing in the proposed model. This conclusion is also consistent with established PLS-SEM guidance for minimum sample considerations in models of comparable complexity (Hair et al., 2019; Hair et al., 2022).

4.6. Nonresponse bias, data normality and common method bias

As the data for this study were collected via a self-administered survey instrument, nonresponse bias represents a potential threat to the validity of the findings (Wamba et al., 2020; Belhadi et al., 2020). To assess the presence of nonresponse bias, a two-step procedure was employed. First, the dataset was examined for distributional properties by computing skewness and kurtosis values for all measurement items. The results indicated that the skewness values ranged within acceptable limits, with a maximum absolute value below 1, whereas the kurtosis values remained well within the recommended threshold, confirming the normality of the data distribution and suggesting the absence of serious nonresponse bias concerns (Belhadi et al., 2020).

In addition, common method bias (CMB) was considered, as the data for all the constructs were collected from a single respondent via the same measurement method. According to Podsakoff et al. (2003), common method variance (CMV) may inflate observed relationships when perceptual measures are obtained from a single source. To address this concern, two widely adopted diagnostic tests have been conducted. First, Harman's single-factor test was applied, whereby all measurement items were loaded into an exploratory factor analysis without rotation. The results revealed that the largest factor accounted for less than 50% of the total variance (37.95%), indicating that CMV is unlikely to be a significant concern in this study (Harman, 1976). Therefore, the analysis confirms that nonresponse bias and common method bias do not pose serious

threats to the validity of the study's results (Podsakoff et al., 2003).

4.7. Analysis and Empirical results

Structural equation modeling (SEM) was employed as the primary analytical technique because it requires the estimation of a set of regression relationships among multiple latent constructs while accounting for measurement error in both exogenous and endogenous variables (Fornell & Larcker, 1981; Jin et al., 2020). SEM provides an integrated framework for measurement assessment as well as functional, predictive, and causal hypothesis testing, which aligns with the objectives of this study (Jin et al., 2020). Accordingly, a variance-based SEM technique, partial least squares structural equation modeling (PLS-SEM), was adopted and implemented using SmartPLS. PLS-SEM is a flexible approach suitable for exploratory, confirmatory, and predictive models, and it is particularly efficient for evaluating relationships among multi-item constructs (Hair et al., 2019; Sarstedt et al., 2021; Richter et al., 2016). Prior to model estimation, IBM SPSS v26 was used for initial data screening and descriptive analysis. The proposed structural model was then estimated, and the hypothesized relationships were assessed via SEM procedures, which are consistent with recent methodological recommendations (Jin et al., 2020). However, this includes two main steps: measurement and structural model assessments.

4.7.1. Measurement model assessment

The measurement model was evaluated to ensure that the indicators adequately captured the theoretical concepts and that the constructs demonstrated satisfactory reliability and validity (Campbell & Fiske, 1959; Hair et al., 2009; Hair et al., 2017; Sarstedt et al., 2021). First, indicator reliability and construct validity were assessed through item (outer) loadings, where values of 0.70 or higher are considered acceptable; all measurement items met this criterion except one Leadership Commitment to Innovation (L) indicator (L1) which was removed due to weak loadings (0.599). Next, internal consistency reliability was examined using Cronbach's alpha (CA) and composite reliability (CR; also referred to as Jöreskog's rho, ρ_c), with threshold values exceeding 0.70 indicating satisfactory reliability (Hair et al., 2009; Fornell & Larcker, 1981). As reported in Table 2, both CA and CR exceeded the recommended cutoffs for all the constructs, confirming strong internal consistency. Convergent validity was then verified using the average variance

extracted (AVE), where AVE values above 0.50 indicate that a construct explains more than half of the variance in its indicators (Hair et al., 2009; Sarstedt et al., 2021). The AVE results satisfied this requirement, supporting convergent validity. Table 2 below summarizes these results.

Table 2: Measurement Model Assessment.

Construct	Items	Factor Loading	AVE	Cronbach's alpha CA	Composite reliability CR
Leadership Commitment to Innovation (L)	L2	0.731	0.641	0.884	0.913
	L3	0.844			
	L4	0.860			
	L5	0.876			
	L6	0.856			
	IP1	0.742			
Innovation Process (IP)	IP2	0.811	0.652	0.910	0.929
	IP3	0.746			
	IP4	0.821			
	IP5	0.845			
	IP6	0.842			
	IP7	0.836			
	ORC1	0.827			
Organization's Readiness to Change (ORC)	ORC2	0.848	0.763	0.948	0.958
	ORC3	0.851			
	ORC4	0.89			
	ORC5	0.867			
	ORC6	0.897			
	ORC7	0.931			
	ISO1	0.836			
Adoption of ISO 56001 (ISO)	ISO2	0.794	0.758	0.919	0.927
	ISO3	0.899			
	ISO4	0.906			
	ISO5	0.913			

Discriminant validity was assessed using complementary procedures. First, the Fornell-Larcker criterion was applied by comparing the square root of each construct's AVE (diagonal values) with its inter-construct correlations; discriminant validity is supported when the square root of the AVE is greater than the corresponding correlation (Fornell & Larcker, 1981, 1982; Hair et al., 2017). Table 3 exhibits that the discriminant validity values of all the constructs are higher on the diagonal, which gives an acceptable value for all the constructs, as recommended (Hu & Bentler, 1999).

Table 3: Discriminant validity.

Construct	IP	ISO	L	ORC
IP	0.807			
ISO	0.665	0.867		
L	0.323	0.510	0.801	
ORC	0.635	0.785	0.578	0.865

4.7.3. Structural Model Assessments

The structural model was evaluated in terms of

explanatory power (R^2 /adjusted R^2) and model fit (SRMR), following established PLS-SEM guidelines (Chin, 1998; Cohen, 2013; Henseler et al., 2016; Hair et al., 2017; Sarstedt et al., 2017). First, the coefficient of determination indicates that the model explains 68.2% of the variance in ISO 56001 adoption ($R^2 = 0.682$; $R^2_{adj} = 0.674$), demonstrating strong predictive . In contrast, innovation process exhibits a relatively low explained variance, with the model accounting for 10.4% of its variance ($R^2 = 0.104$; $R^2_{adj} = 0.098$). Furthermore, the model explains 59.0% of the variance in organizational readiness for change ($R^2 = 0.590$; $R^2_{adj} = 0.584$), indicating a substantial level of explanatory power.

Second, overall model fit was supported by SRMR = 0.051 for the saturated model, which is below the recommended threshold of 0.08, indicating an adequate fit between the hypothesized model and the observed data (Henseler et al., 2016).

4.7.4. Hypotheses Testing

Following the completion of bias and normality assessments, as well as construct validity and unidimensionality checks, the structural model (Figure 2) was estimated, and the study hypotheses were tested. Table 3 presents the outcomes of the hypothesized relationships. To evaluate the statistical significance of the path coefficients (β) and obtain robust t statistics, a nonparametric bootstrapping procedure was applied. Consistent with methodological recommendations, bootstrapping was conducted using 5,000 subsamples to ensure stable coefficient estimates and reliable inference for hypothesis testing (Sarstedt et al., 2022; Wamba et al., 2020).

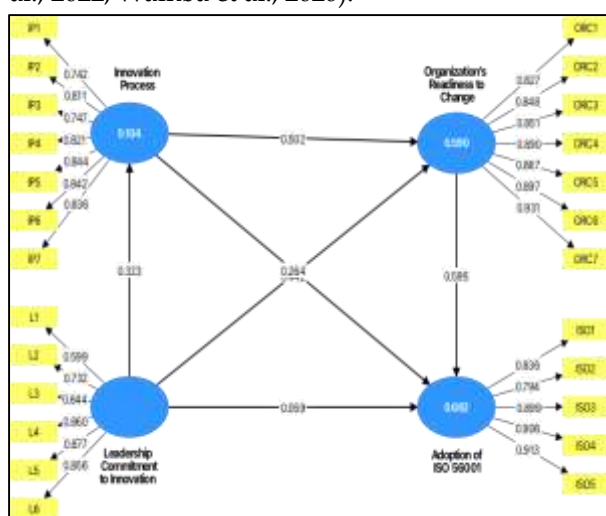


Figure 2: Path Model

4.7.5. Direct Path

Table 4: Structure Path Estimates.

Relationship	Path coefficient	S. Deviation	T Statistics	P Values	Decision
(H1) L → ISO	0.059	0.069	0.852	0.394	Not Supported
(H2) L → ORC	0.442	0.062	7.124	0.000	Supported
(H3) L → IP	0.323	0.079	4.085	0.000	Supported
(H4) IP → ORC	0.502	0.052	9.650	0.000	Supported
(H5) ORC → ISO	0.595	0.092	6.480	0.000	Supported

An analysis of the structural path estimates summarized in Table 4 reveals that the direct effect of leadership commitment to innovation on ISO 56001 adoption is positive but statistically insignificant (Path coeff. = 0.059, $p = 0.394$). Therefore, H1 is not supported, suggesting that leadership commitment alone does not directly translate into the adoption of ISO 56001.

In contrast, leadership commitment to innovation exerts a strong and statistically significant positive effect on organizational readiness for change (Path coeff. = 0.442, $p < 0.001$), providing empirical support for H2. Similarly, the direct and positive influence of leadership commitment on the innovation process is confirmed (Path coeff. = 0.323, $p < 0.001$), indicating support for H3. These findings suggest that leadership commitment primarily operates through internal organizational mechanisms rather than exerting a direct influence on standard adoption.

Furthermore, the results demonstrate a strong positive relationship between the innovation process and organizational readiness for change (Path coeff. = 0.502, $p < 0.001$), thereby supporting H4. This finding underscores the role of structured innovation processes in enhancing employees' preparedness and willingness to engage with innovation-driven change initiatives. Finally, organizational readiness for change has a significant and substantial positive effect on ISO 56001 adoption (Path coeff. = 0.595, $p < 0.001$), confirming H5. This result highlights readiness for change as a critical driver of successful ISO 56001 implementation.

4.7.6. Indirect Path

In addition to the direct effects, the mediating relationships were examined to better understand the underlying mechanisms linking leadership commitment to innovation and ISO 56001 adoption. The results indicate that the innovation process significantly mediates the relationship between

leadership commitment and ISO 56001 adoption (Path coeff. = 0.085, $p = 0.010$). Accordingly, H6 is supported. Moreover, the mediating role of organizational readiness for change is also found to be positive and statistically significant (Path coeff. = 0.096, $p = 0.001$), thereby providing empirical support for H7.

Table 5: Indirect Path Estimates.

Relationship	Path coefficient	S. Deviation	T Statistics	P Values	Decision
(H6) L → IP → ISO	0.085	0.033	2.588	0.010	Supported Full mediation
(H7) L → ORC → ISO	0.096	0.029	3.318	0.001	Supported Full mediation

In addition to the parallel mediation effects, the study further examined the presence of a serial mediation mechanism involving the innovation process and organizational readiness for change. The results reveal that the indirect effect of leadership commitment on ISO 56001 adoption through the innovation process and organizational readiness for change, in sequence, is positive and statistically significant (Path coeff. = 0.088, $p = 0.001$). Therefore, H8 is supported.

Table 6: Indirect Path Estimates (Serial Mediation).

Relationship	Path coefficient	S. Deviation	T Statistics	P Values	Decision
(H8) L → IP → ORC → ISO	0.088	0.027	3.224	0.001	Supported Full serial mediation

4.8. Discussion

4.8.1. Overview of Main Findings

The study reveals that leadership commitment to innovation does not directly influence ISO 56001 adoption but instead works through two internal mechanisms: innovation process maturity and organizational readiness for change. Leadership commitment positively impacts both the innovation process and readiness, with readiness being the strongest driver of ISO 56001 adoption. The serial mediation analysis underscores this flow: leadership strengthens innovation processes, those processes enhance readiness, and readiness leads to ISO 56001 adoption.

4.8.2. Leadership Commitment, Processes, and Readiness

The absence of a direct path from leadership commitment to ISO 56001 adoption suggests that leadership functions through enabling capabilities rather than a simple “command-response” mechanism. Leadership shapes an organization’s ability to develop structured innovation routines and readiness to engage with ISO 56001. Transformational and strategic leadership theories align with this, emphasizing leadership’s role in setting priorities and fostering the conditions necessary for change.

4.8.3. The Role of Innovation Processes in Banking

Mature innovation processes are a crucial element in building readiness for change. In banks, structured processes clarify roles, decision-making, and risk management, which reduces resistance to change. These processes not only manage innovation but also build psychological readiness, making ISO 56001 adoption feel like a natural extension of existing practices.

4.8.4. Organizational Readiness as the Proximal Driver of ISO 56001 Adoption

Organizational readiness emerges as the most critical factor in ISO 56001 adoption. Without high readiness, leadership commitment alone does not drive substantive change. Readiness integrates cultural and capability aspects, helping banks implement ISO 56001 meaningfully.

4.8.5. An Integrated View of Leadership, Processes, Readiness, and ISO 56001

ISO 56001 adoption is a result of leadership commitment shaping innovation processes, which build readiness, and this shared readiness ultimately drives ISO 56001 adoption. Leadership is essential but works through processes and readiness to embed the standard into bank operations.

4.9. Implications

4.9.1. Theoretical Implications

This study offers several contributions to the literature on ISO 56001. It introduces a structured model for understanding ISO 56001 adoption in banks, emphasizing internal capabilities, leadership, process maturity, and readiness, for adoption rather than external pressures. Leadership commitment, while essential, works through innovation processes and readiness, supporting a more nuanced view of

leadership. The study also strengthens the link between innovation process maturity and organizational readiness, showing that these factors help reduce resistance to change and support ISO 56001 adoption. The findings also challenge institutional theory by highlighting how internal capabilities, not just external pressures, determine the depth of ISO 56001 adoption in the banking sector.

4.9.3. Managerial and Policy Implications

For bank leaders, the key message is that leadership commitment must translate into structured innovation processes, with clear decision-making and risk management. They must also prioritize organizational readiness for change by investing in skills, training, and empowering employees. The study suggests that the sequence of implementing ISO 56001 matters: strengthening innovation processes first, then building readiness, and only then pursuing full adoption. For policymakers, the findings highlight that ISO 56001 adoption should be coupled with capacity-building initiatives, ensuring that the standard drives real improvements in innovation management rather than serving as a symbolic gesture.

4.9.4. Limitations And Directions For Future Research

This study has several limitations. First, the sampling frame is confined to banks in Jeddah, which may not reflect broader national or international patterns. Future research should extend the study to multi-city and multi-country samples to test the model's applicability across diverse financial systems.

Second, the cross-sectional design limits the ability to establish temporal causality. Longitudinal studies tracking ISO 56001 adoption over time would offer deeper insights into how leadership, processes, and readiness evolve.

Third, relying on self-reported perceptions introduces concerns about common method bias. Future studies could triangulate survey data with objective indicators, such as audit results or performance metrics, and incorporate multi-respondent designs to enhance reliability.

Finally, the model excludes factors such as innovation strategy and resources. Future research could explore how these elements interact with leadership and ISO 56001 adoption. Methodologically, alternative approaches, such as covariance-based SEM, could provide further insights.

Generalizability and boundary conditions. The findings should be generalized cautiously beyond the Saudi banking context. Saudi banks operate within a tightly regulated environment with strong governance expectations, formal compliance infrastructures, and sector-wide transformation initiatives. These institutional features may amplify the role of organizational readiness and internal process formalization in driving the adoption of management system standards. Because ISO 56001 adoption entails system-level documentation, governance, evidence requirements, and auditability, the proposed relationships are expected to transfer more readily to organizations pursuing formal management system standards than to settings where innovation remains primarily ad hoc. Therefore, the observed relationships are most likely to generalize to organizations operating in similarly regulated and risk-sensitive service sectors (e.g., banking and financial services, insurance, and other compliance-intensive industries) where standard adoption requires cross-functional coordination and demonstrable governance. By contrast, generalization to less regulated contexts, smaller firms with informal innovation routines, or industries where innovation governance is weakly institutionalized should be approached with caution. Future research should test the model across sectors and countries with varying institutional pressures and standardization maturity to strengthen external validity.

5. CONCLUSION

This study explores how banks transition from innovation intentions to the adoption of ISO 56001 as an innovation management system. The findings show that ISO 56001 adoption is driven by internal conditions: committed leadership, mature innovation processes, and organizational readiness for change, with readiness being the most proximal driver. Leadership commitment influences adoption indirectly, primarily through its impact on processes and readiness.

The study highlights the critical role of leadership in governance, emphasizing that leadership must foster structured processes and readiness for change to ensure meaningful ISO 56001 adoption. When processes are fragmented and readiness is low, adoption remains symbolic. In contrast, banks with mature processes and high readiness are more likely to embed ISO 56001 as a living system.

The study integrates resource-based, dynamic capability, and leadership theories, providing a framework for understanding ISO 56001 adoption in

regulated service sectors with similar governance and compliance requirements. Future research should extend these findings to diverse regions and banking contexts.

Author Contributions: "Conceptualization, Ahmed Alomari and Hani Alamri; methodology, Ahmed Alomari; validation, Ahmed Alomari, and Hani Alamri; formal analysis, Ahmed Alomari; investigation, Ahmed Alomari; resources, Ahmed Alomari; data curation, Ahmed Alomari; writing, original draft preparation, Ahmed Alomari; writing, review and editing, Ahmed Alomari and Hani Alamri; supervision, Hani Alamri; project administration, Ahmed Alomari; funding acquisition, none. All authors have read and agreed to the published version of the manuscript."

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