

The Impact of the Functional Relationship Between Account Managers and Sales Teams on Enhancing Risk Management: A Case Study of Al Rajhi Bank in Riyadh, Saudi Arabia

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Dedication

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Abstract

Summary of the Study:

This study examines how the functional relationship between Account Managers (AMs) and Sales Teams—operationalized through four dimensions (Communication Quality & Cadence, Information Sharing & Data Integration, Goal/KPI & Incentive Alignment, and Decision Rights & Escalation Clarity)—influences Risk-Management Effectiveness at Al Rajhi Bank, Riyadh. The research premise is that stronger cross-functional integration at origination enhances early risk identification and onboarding quality, credit discipline and outcomes, liquidity/market-risk fit at origination, and operational resilience and third-party risk control.

Methodology:

A descriptive–analytical, quantitative design was employed. The research population (N=400) comprised employees within the Riyadh scope; the sample (n=196) was determined using Krejcie & Morgan at 95% confidence and 5% margin of error. Data were collected via a structured 5-point Likert questionnaire and analyzed with SPSS (v27). Construct validity and reliability were confirmed (high communalities, acceptable AVE, and excellent Cronbach’s alpha). Hypotheses were tested using correlation and regression models.

Findings:

Results indicate a strong, positive, and statistically significant association between the AM–Sales functional relationship and risk-management effectiveness ($R=0.885$; $R^2=0.784$; $p<0.001$). At the dimensional level, Information Sharing & Data Integration emerged as the dominant positive predictor; Goal/KPI & Incentive Alignment showed a smaller yet significant positive effect. Communication Quality & Cadence exhibited a negative coefficient when controlling for the “hard” mechanisms, suggesting specification/suppression effects or overlap. Decision Rights & Escalation Clarity (RACI) was not significant in the multivariate model.

Originality and Implications:

The study contributes a bank-specific, measurement-validated model linking AM–Sales integration to frontline risk outcomes. Practically, the findings recommend prioritizing data integration at origination, coupling risk-aware KPIs and incentives across AMs and Sales, re-engineering communication for decision latency and actionability, and refining decision rights with threshold-based escalations. These steps can materially improve early-risk controls, pricing/tenor/collateral discipline, market-risk fit, and operational resilience.

Keywords:

Functional relationship; Account Managers; Sales Teams; Information sharing; Data integration; KPI alignment; RACI; Risk-management effectiveness; Banking; Al Rajhi Bank; Riyadh; Saudi Arabia.

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1. Chapter 1: Introduction

1.1. Overview:

International Monetary Fund (2023) argues that tighter monetary policy, lingering core inflation, and shifting risk sentiment elevate interest-rate, liquidity, and market risks while compressing buffers-especially where stress-testing discipline and data quality are uneven. International Monetary Fund (2023) further contends that in such a regime, operational mistakes at origination-client selection, pricing, tenor, collateral, and covenants-carry outsized consequences for stability, because small misalignments propagate through balance-sheet and funding channels. Building on this macro lens, International Monetary Fund (2023) therefore reframes “risk” from a back-office compliance matter to a front-line execution problem that must be anticipated before deals are booked.

Organization for Economic Cooperation and Development (2022) maintains that rapid digitalization and the diffusion of fintech platforms have deepened banks’ reliance on cloud, data vendors, and embedded financial services, converting idiosyncratic outages and model errors into cross-organizational disruptions. Organization for Economic Cooperation and Development (2022) also notes that these interdependencies blur boundaries between commercial and control functions, implying that resilience hinges on information sharing, shared metrics, and pre-deal consultation rather than after-the-fact checks. This logic is particularly salient in Islamic banking, where product structuring and asset-backing requirements increase the number of coordination touchpoints that must be handled early and jointly.

Bank for International Settlements (2023) reinforces the operational nature of this challenge by showing that Basel III’s Liquidity Coverage Ratio translates prudential aims into daily constraints on product mix, pricing, and tenor that frontline teams must internalize. Bank for International Settlements (2023) therefore implies that compliance without cross-functional ownership-clear decision rights, timely escalations, and integrated data between account managers, sales, and risk-will underperform when liquidity tightens or markets gap. Taken together, International Monetary Fund (2023), Organization for Economic Cooperation and Development (2022), and Bank for International Settlements (2023) converge on a single premise: risk outcomes are an emergent property of how commercial and control teams collaborate, a premise this thesis examines in the Saudi context using Al Rajhi Bank as a strategic case.

Financial Stability Board (2023) characterizes the modern bank as a network of interdependent lines of defense: the front line (account managers and sales) originates and owns risk; the independent risk function sets appetites, models, and oversight; and assurance tests adherence and control quality. Financial Stability Board (2023) argues that breakdowns rarely stem from a single unit’s failure; they arise at the seams-misaligned incentives, asynchronous handoffs, and fragmented data-that distort how pricing, tenor, collateral, and covenants are decided in real time. In other words, resilience is not only “what the policy says” but “how the functions interact” while serving the same client.

Thomas and Morris (2021) extend this logic to commercial execution, contending that sales–risk alignment is a leading indicator of portfolio quality: when revenue targets ignore risk-adjusted returns, front lines chase volume and defer hard conversations on limits and early warnings. Conversely, Thomas and Morris (2021) show that shared KPIs (e.g., RAROC,

delinquency, override discipline) and joint pipeline reviews tie origination quality directly to risk outcomes. Financial Stability Board (2023) complements this with governance mechanics-RACI clarity, pre-deal risk consultations embedded in CRM, and time-bound escalation paths-that convert policies into predictable behaviors at the point of sale.

Linking back to the macro-operational pressures outlined earlier, Financial Stability Board (2023) stresses that third-party and digital interdependencies magnify seam risk unless information is co-visible across business and risk. Looking ahead to the Saudi/Islamic context, Thomas and Morris (2021) imply that the same alignment logic should travel to settings where product structures and Shariah governance add touchpoints-making Account-Sales-Risk coordination decisive for accurate pricing, disciplined limit setting, and timely early-warning triggers.

International Monetary Fund (2023) argues that in a higher-for-longer rate regime, risk is no longer a back-office compliance task but an operational priority that shapes what gets sold, at what price, and on what terms each day; when funding costs and market volatility rise, small misjudgments at origination-client selection, tenor, collateral, and covenants-propagate quickly through earnings, capital, and liquidity buffers. International Monetary Fund (2023) further shows that shock transmission is heterogeneous across emerging markets, which means governance must translate macro vigilance into front-to-back routines-pre-deal risk consultation, co-visible early-warning signals, and disciplined overrides-so that commercial choices internalize risk before booking.

Bank for International Settlements (2023) makes this operational translation explicit through Basel III's Liquidity Coverage Ratio (LCR) and attendant liquidity-risk monitoring tools, which require banks to maintain high-quality liquid assets against short-term stressed outflows; this turns prudential aims into daily commercial constraints that account managers and sales must embed in pricing, product mix, and limit-setting. Bank for International Settlements (2023) also implies that LCR discipline is only as strong as the cross-functional execution behind it: if risk signals are absent from CRM workflows or escalation paths are slow, deals can meet formal policy yet still erode liquidity resilience when markets gap.

Bridging these perspectives, International Monetary Fund (2023) underscores that emerging-market banks face uneven data, stress-testing, and third-party dependencies, raising the premium on local governance capacity to adapt global standards to domestic structures. Bank for International Settlements (2023) therefore supports treating risk as an organizational capability-shared KPIs, clear decision rights, and time-bound escalations-so that commercial growth and liquidity fitness co-evolve rather than conflict.

Islamic Financial Services Board (2024) argues that the industry's recent growth comes with structurally distinct risk channels: asset-backing requirements, profit-and-loss sharing, and contractual specificity mean that murabaha, ijara, and musharaka transmit shocks through documentation quality, asset verification, and cash-flow allocation rather than interest-rate resets alone. Islamic Financial Services Board (2024) therefore contends that resilience hinges on early, cross-functional coordination among sales, account management, risk, compliance, and Shariah governance, because product feasibility, pricing logic, and limit setting are inseparable from contract form and evidence of underlying assets.

Al Hammadi (2025) extends this point empirically by showing that fintech adoption in Islamic banks can raise capability (faster onboarding, richer scoring, digital monitoring) and exposure (vendor concentration, model risk, data lineage) at the same time; Al Hammadi (2025) concludes that front-to-back collaboration must embed Shariah and risk checks before quotes are finalized, not after booking. Practically, Al Hammadi (2025) highlights three seam risks that collaboration can neutralize: (1) asset evidence risk-where weak documentation in murabaha/ijara undermines enforceability; (2) structuring risk-where pricing or tenor violates contract logic; and (3) third-party execution risk-where fintech/cloud partners affect onboarding and monitoring. Each seam is inherently cross-functional and cannot be solved within a single department.

Linking back to the macro-operational pressures outlined earlier, Islamic Financial Services Board (2024) implies that Islamic banks convert policy into resilience only when information is co-visible across commercial and control teams and when Shariah review is integrated as a design constraint, not a late-stage gate. Looking ahead to the case setting, Al Hammadi (2025) suggests that large, data-rich institutions are ideal to observe how Account–Sales–Risk–Shariah collaboration preserves margins without eroding resilience-a bridge to why Al Rajhi Bank offers a strategic context for testing these mechanisms.

Al Rajhi Bank (2023) positions itself as a systemically influential Islamic bank whose scale, diversified retail–corporate franchise, and deep digital footprint make front-to-back execution visible at operational granularity; that visibility matters because the collaboration between account managers and sales teams is most observable when product breadth, channel density, and client volumes are high. Saudi Central Bank (2023) characterizes the domestic system as resilient yet exposed to global macro and operational channels, which elevates the value of institutions where governance, risk, and commercial data are sufficiently rich to trace how functional relationships translate into risk outcomes-precisely the kind of transparency Al Rajhi Bank (2023) affords.

Building on the Islamic-finance specificities outlined earlier, Al Rajhi Bank (2023) discloses portfolios spanning murabaha, ijara, and other Shariah-compliant forms alongside expanding digital channels, implying numerous coordination touchpoints-from asset verification and onboarding to pricing, tenor, collateral, and covenant design-where account managers, sales, risk, compliance, and Shariah supervision must align. Saudi Central Bank (2023) underscores that sectoral stability rests on disciplined liquidity, credit, and operational-resilience practices embedded in business lines, so a large, data-rich bank provides a natural laboratory to test whether shared metrics, decision rights, and timely escalations actually materialize in day-to-day origination and monitoring. Al Rajhi Bank (2023), by documenting both performance and governance structures, enables such hypothesis-driven observation rather than anecdotal inference.

Critically, Al Rajhi Bank (2023) also offers policy relevance: insights about account–sales–risk coordination at scale can inform supervisory expectations around cross-functional ownership and third-party oversight, while Saudi Central Bank (2023) provides the macro-prudential frame against which those micro behaviors should be judged. In short, Al Rajhi Bank (2023) supplies the institutional depth, and Saudi Central Bank (2023) supplies the system context, together allowing this study to link collaboration quality to risk-management effectiveness in a way that is analytically tractable and practically consequential.

1.2. Research Problem

International Monetary Fund (2023) shows that higher-for-longer rates, sticky core inflation, and episodic market stress are amplifying interest-rate, liquidity, and market risks, making execution errors at origination more costly than before. Financial Stability Board (2023) adds that digitalization and third-party dependencies (fintech, cloud, data vendors) convert local operational issues into cross-organizational disruptions, so resilience now depends on how commercial and control functions collaborate, not on compliance alone. Bank for International Settlements (2023) further argues that Basel III/LCR turns prudential aims into daily commercial constraints on pricing, tenor, and product mix-disciplines that live where account managers and sales teams operate. Building on these pressures, Islamic Financial Services Board (2024) notes that Shariah-compliant forms (murabaha/ijara/musharaka) intensify coordination needs across Sales–Accounts–Risk–Compliance–Shariah, because asset evidence, structuring logic, and contract enforceability are inseparable from risk quality. In Saudi Arabia, Saudi Central Bank (2023) frames stability through governance, liquidity surveillance, and operational resilience, while Al Rajhi Bank (2023) provides a data-rich, systemically relevant setting to observe whether functional relationship quality translates into risk-management effectiveness. Therefore, this study asks whether stronger Communication, Information Sharing, Goal/KPI & Incentive Alignment, and Decision Rights & Escalation clarity (RACI) between account managers and sales improve Early Risk Identification, Credit Discipline, Liquidity/Market-Risk fit at origination, and Operational Resilience/Third-Party control (Financial Stability Board, 2023; Bank for International Settlements, 2023; International Monetary Fund, 2023).

1.2.1. Theoretical Gaps

1. Fragmented treatment of “risk as policy” vs. “risk as execution.”
Bank for International Settlements (2023) formalizes liquidity discipline, yet theory under-specifies how front-line collaboration operationalizes LCR-consistent pricing/tenor decisions in day-to-day pipelines (Bank for International Settlements, 2023).
2. Under-integration of sales–risk alignment into banking risk models.
Thomas and Morris (2021) show sales–risk alignment predicts portfolio quality, but mainstream banking frameworks still treat alignment as peripheral rather than a core antecedent of risk outcomes (Thomas & Morris, 2021).
3. Limited adaptation of risk-governance theory to Islamic contract structures.
Islamic Financial Services Board (2024) highlights distinct risk channels in murabaha/ijara/musharaka, yet cross-functional governance models rarely embed Shariah processes as design constraints from origination (Islamic Financial Services Board, 2024).
4. Insufficient linkage between macro prudential insights and micro collaboration.
International Monetary Fund (2023) details heterogeneous shock transmission, but theory often stops at policy level and does not specify the micro mechanisms (communication, RACI, incentives) that absorb shocks at the client/deal level (International Monetary Fund, 2023).

1.2.2. Empirical Gaps

1. Few bank-level tests connecting AM–Sales collaboration to risk outcomes.
Financial Stability Board (2023) prescribes cross-functional tools, yet empirical studies tying those tools to early-warning coverage, override discipline, and covenant outcomes remain scarce (Financial Stability Board, 2023).
2. Limited evidence on liquidity/market-risk fit at the point of sale.
Bank for International Settlements (2023) sets LCR, but studies rarely measure whether collaboration improves deal-level liquidity fitness (e.g., tenor/collateral vs. HQLA buffers) (Bank for International Settlements, 2023).
3. Sparse Islamic-bank tests that join Shariah governance with front-line coordination.
Al Hammadi (2025) indicates fintech raises capability and exposure simultaneously, yet there is little causal evidence that early, joint AM–Sales–Risk–Shariah involvement reduces asset-evidence and structuring defects (Al Hammadi, 2025; Islamic Financial Services Board, 2024).
4. GCC/Saudi case evidence is under-developed despite data richness.
Saudi Central Bank (2023) documents sector resilience and Al Rajhi Bank (2023) reports governance/digital breadth, but comparative, quantitative studies linking functional relationship quality to risk-management KPIs inside Saudi banks remain limited (Saudi Central Bank, 2023; Al Rajhi Bank, 2023).

1.2.3. Main Research Question

Given these gaps, this study asks:

- ▲ How does the functional relationship between account managers and sales teams relate to risk-management effectiveness at Al Rajhi Bank in Riyadh?

1.3. Research Significance

International Monetary Fund (2023) argues that the current macro-financial regime turns risk from a back-office checklist into an organizational capability that must be executed through front-to-back routines; this study answers that call by treating the functional relationship between account managers and sales as a first-order driver of risk-management effectiveness rather than a contextual detail (International Monetary Fund, 2023). Bank for International Settlements (2023) further shows that Basel III/LCR translates prudential aims into day-to-day commercial constraints, which makes collaboration on pricing, tenor, and product mix an analytical locus rather than an operational footnote (Bank for International Settlements, 2023). In Islamic banking, Islamic Financial Services Board (2024) highlights distinct risk channels in murabaha/ijara/musharaka, implying that coordination with Shariah governance is not optional but constitutive of risk quality (Islamic Financial Services Board, 2024). Within Saudi Arabia, Saudi Central Bank (2023) frames stability around governance, liquidity surveillance, and operational resilience; studying Al Rajhi Bank therefore offers system relevance and data depth to detect whether AM–Sales collaboration improves early identification, credit discipline, liquidity/market-risk fit, and third-party resilience (Saudi Central Bank, 2023; Al Rajhi Bank, 2023).

1.3.1. Theoretical Significance

1.3.1.1. Development of a front-to-back integration framework.

Financial Stability Board (2023) contends that resilience emerges at the seams where functions meet-communication cadence, information co-visibility, shared KPIs, and RACI-based escalation-yet mainstream models still privilege policy over execution (Financial Stability Board, 2023). By specifying the IV as four execution mechanisms (Communication Quality & Cadence; Information Sharing & Data Integration; Goal/KPI & Incentive Alignment; Decision Rights & Escalation Clarity) and the DV as four outcome domains (Early Risk Identification & Onboarding Quality; Credit Discipline & Outcomes; Liquidity & Market-Risk Fit at Origination; Operational Resilience & Third-Party Control), the study theorizes a causal pathway that operationalizes prudential intent at the point of sale (Bank for International Settlements, 2023).

1.3.1.2. Extension to Islamic-finance governance.

Islamic Financial Services Board (2024) shows that asset-backing and contract specificity make Shariah review a design constraint, not a late gate; integrating Shariah, risk, and commercial inputs before pricing aligns form and substance (Islamic Financial Services Board, 2024). Al Hammadi (2025) adds that fintech enablement can raise capability and exposure simultaneously, reinforcing why conceptual models must embed early, joint involvement of AM–Sales–Risk–Shariah to avoid asset-evidence and structuring defects (Al Hammadi, 2025). Thus, the study advances theory by fusing cross-functional execution with Islamic-contract mechanics, rather than treating them as parallel tracks (Islamic Financial Services Board, 2024; Al Hammadi, 2025).

1.3.2. Empirical Significance

1.3.2.1. Validation of collaboration–risk links in a systemically relevant bank.

Thomas and Morris (2021) argue that sales–risk alignment predicts portfolio quality; this study tests that proposition inside Al Rajhi Bank, linking the four IV mechanisms to the four DV domains with survey-based measures and bank-context indicators (Thomas & Morris, 2021). Saudi Central Bank (2023) positions governance and operational resilience as stability pillars, so evidence from Al Rajhi provides policy-relevant validation of whether shared KPIs, pre-deal consultations, and time-bound escalations translate into early-warning coverage, override discipline, covenant outcomes, and LCR-consistent origination (Saudi Central Bank, 2023; Bank for International Settlements, 2023).

1.3.2.2. Generation of actionable design levers for front lines.

Financial Stability Board (2023) prescribes toolkits but leaves open which levers matter most in practice; by estimating the relative weights of communication, data co-visibility, incentive alignment, and RACI clarity on each risk outcome, the study identifies “high-leverage” interventions managers can implement in CRM workflows and performance systems (Financial Stability Board, 2023). In Islamic settings, Islamic Financial Services Board (2024) and Al Hammadi (2025) imply that embedding Shariah checkpoints upstream reduces defect rates and third-party seam risks, so the findings will guide where to place coordination touchpoints to preserve margins without eroding resilience (Islamic Financial Services Board, 2024; Al Hammadi, 2025).

▲ Overall contribution.

International Monetary Fund (2023) motivates the macro need to move beyond compliance, Bank for International Settlements (2023) anchors the liquidity translation to daily decisions, Financial Stability Board (2023) supplies execution mechanisms, and Islamic Financial Services Board (2024) plus Al Hammadi (2025) extend the lens to Islamic-contract realities; within this frame, Al Rajhi Bank (2023) and Saudi Central Bank (2023) provide the context where a front-to-back collaboration model can be empirically tested and practically applied.

1.4. Research Question

International Monetary Fund (2023) argues that risk has shifted from a back-office checklist to an execution capability under macro uncertainty, while Bank for International Settlements (2023) shows that Basel III/LCR embeds liquidity constraints directly into day-to-day commercial decisions; together with Financial Stability Board (2023) on cross-functional seams and Islamic Financial Services Board (2024) on Shariah-governance specifics, and within the Saudi context framed by Saudi Central Bank (2023), these insights motivate the following question for Al Rajhi Bank.

▲ Main Research Question:

- How does the functional relationship between account managers and sales teams relate to risk-management effectiveness at Al Rajhi Bank in Riyadh?

⇒ Sub-questions:

1. To what extent does Communication Quality & Cadence between account managers and sales improve Early Risk Identification & Onboarding Quality?
2. How does Information Sharing & Data Integration relate to Credit Discipline & Outcomes at the point of origination and during monitoring?
3. To what degree does Goal/KPI & Incentive Alignment enhance Liquidity & Market-Risk Fit at Origination under Basel III LCR constraints?
4. How does Decision Rights & Escalation Clarity (RACI) affect Operational Resilience & Third-Party Risk Control, particularly where fintech/cloud vendors are involved?

1.5. Research Objectives

Aligned with macro-prudential and execution-focused perspectives in banking (International Monetary Fund, 2023; Bank for International Settlements, 2023; Financial Stability Board, 2023), and with Islamic-finance governance specifics (Islamic Financial Services Board, 2024), the study sets the following objectives for Al Rajhi Bank:

1. To examine the influence of the functional relationship between account managers and sales teams on overall risk-management effectiveness.
2. To identify which elements of the functional relationship-Communication Quality & Cadence, Information Sharing & Data Integration, Goal/KPI & Incentive Alignment, and Decision Rights & Escalation Clarity (RACI)-contribute most to specific risk outcomes.
3. To assess the impact of those elements on the dimensions of risk-management effectiveness-Early Risk Identification & Onboarding Quality, Credit Discipline & Outcomes, Liquidity & Market-Risk Fit at Origination, and Operational Resilience & Third-Party Risk Control.

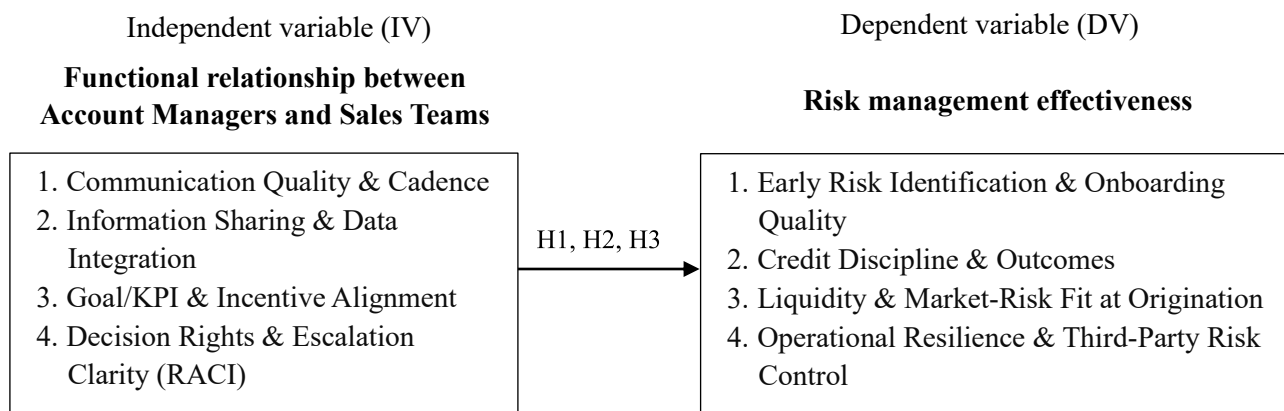
4. To evaluate the current implementation level and maturity of cross-functional collaboration practices at Al Rajhi Bank, with attention to Basel III/LCR liquidity constraints and Shariah-governance touchpoints.
5. These objectives translate prudential intent into measurable front-to-back mechanisms at the point of origination and monitoring

1.6. Research hypotheses:

1. There is a statistically significant positive relationship between the functional relationship between account managers and sales teams and risk-management effectiveness.
2. There is a significant positive correlation between the dimensions of the functional relationship-Communication Quality & Cadence, Information Sharing & Data Integration, Goal/KPI & Incentive Alignment, and Decision Rights & Escalation Clarity (RACI)-and overall risk-management effectiveness.
3. There is a statistically significant positive relationship between the functional relationship between account managers and sales teams and the dimensions of risk-management effectiveness-Early Risk Identification & Onboarding Quality, Credit Discipline & Outcomes, Liquidity & Market-Risk Fit at Origination, and Operational Resilience & Third-Party Risk Control.

1.7. Research model:

Figure 1: Suggested project model



Source: Researcher

1.8. Scope of the Study

1.8.1. Introduction About Al Rajhi Bank

Al Rajhi Bank is a leading Islamic bank headquartered in Riyadh, with a diversified retail–corporate franchise and advanced digital channels. Its scale and operational breadth make front-to-back execution observable at a practical level.

1.8.2. Vision

This study aligns with a sector vision that couples growth with stability by embedding risk considerations into everyday commercial decisions across business lines.

1.8.3. Mission

The thesis examines how front-line collaboration between account managers and sales translates prudential aims into deal-level choices on pricing, tenor, collateral, and onboarding quality.

1.8.4. Business Lines and Service Context

The bank offers broad Shariah-compliant product sets across retail and corporate banking alongside expanding digital delivery, creating numerous coordination touchpoints among commercial, risk, compliance, and Shariah functions.

1.8.5. Importance of Studying Al Rajhi Bank

- Systemic relevance and data richness: The bank's size and reporting depth enable rigorous observation of how collaboration mechanisms affect risk outcomes.
- Islamic-finance specificity: Contract form and asset evidence are integral to risk quality, which elevates the value of early cross-functional coordination.
- Execution under prudential constraints: Liquidity and funding considerations must be internalized in day-to-day origination decisions.
- Digital interdependencies: Fintech and cloud enablement increase the premium on communication cadence, data co-visibility, and clear escalation paths.

1.8.6. Spatial Scope

The empirical focus is on Al Rajhi Bank units in Riyadh, emphasizing account-management and sales teams in their interactions with risk, compliance, and Shariah for origination and monitoring.

1.8.7. Temporal Scope

The study covers the period 2024–2025 to capture current monetary conditions and ongoing digital enablement that shape risk and execution incentives.

1.8.8. Thematic Scope

The independent construct is the functional relationship between account managers and sales teams-operationalized via Communication Quality & Cadence; Information Sharing & Data Integration; Goal/KPI & Incentive Alignment; Decision Rights & Escalation Clarity (RACI). The dependent construct is risk-management effectiveness-captured by Early Risk Identification & Onboarding Quality; Credit Discipline & Outcomes; Liquidity & Market-Risk Fit at Origination; Operational Resilience & Third-Party Risk Control.

1.8.9. Organizational Scope (Inclusions/Exclusions)

Included respondents are account managers and sales staff directly involved in origination and client monitoring. Interfaces with risk, compliance, and Shariah are analyzed as collaboration counterparts rather than primary survey populations. Treasury and market-risk specialists may inform interpretation of liquidity fit.

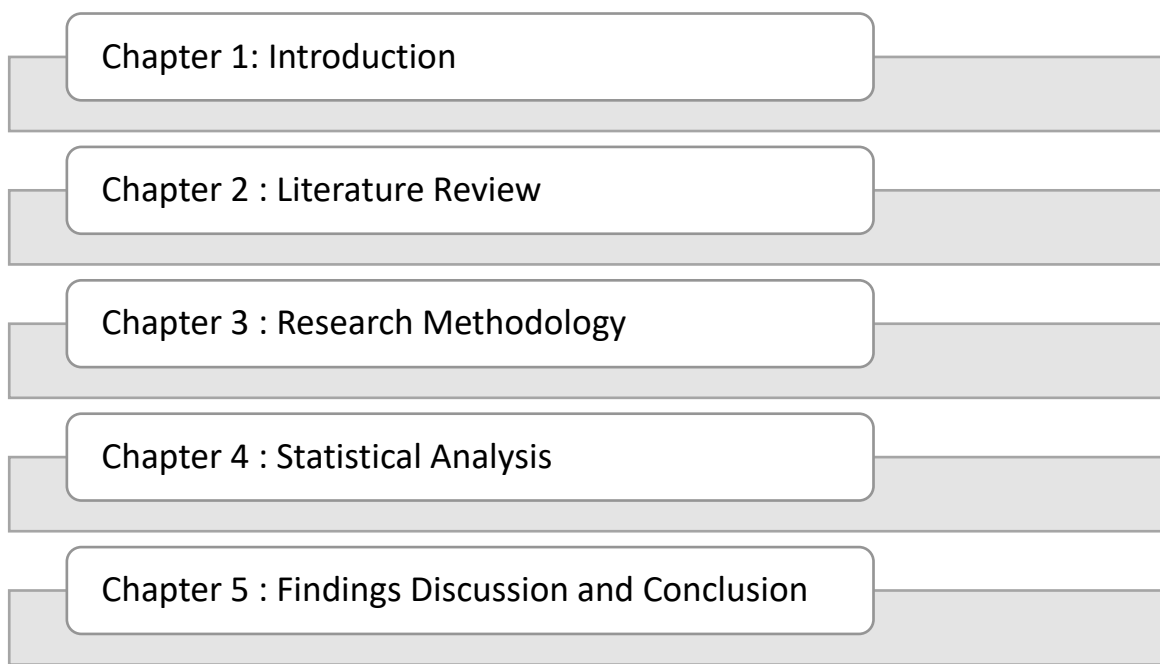
1.8.10. Methodological Boundaries

The design is cross-sectional with correlational testing (e.g., regression/SEM) to estimate associations rather than causality. Results are interpreted within the organization's governance and product-structure context.

1.8.11. Conclusion

Positioning Al Rajhi Bank as the case site enables a focused examination of front-line collaboration under prudential and Shariah constraints, linking organizational mechanisms to measurable risk outcomes in a systemically relevant Islamic-bank setting.

1.9. The The Project structure:



Chapter 1: Introduction

Chapter 2 : Literature Review

Chapter 3 : Research Methodology

Chapter 4 : Statistical Analysis

Chapter 5 : Findings Discussion and Conclusion

2. Chapter 2: literature review

2.1. Introduction:

International Monetary Fund (2023) argues that banking risk has migrated from back-office compliance to a frontline execution capability in a higher-for-longer, volatility-prone environment, which means origination choices on client selection, pricing, tenor, collateral, and covenants now carry outsized consequences. Bank for International Settlements (2013) translates this shift into day-to-day constraints through the Liquidity Coverage Ratio and liquidity-risk monitoring tools, making it operationally necessary for commercial teams to internalize prudential limits rather than treat them as after-the-fact checks. Financial Stability Board (2023) extends the argument to the seams between functions, contending that resilience depends on how well account managers and sales coordinate on communication cadence, information/data sharing, KPI & incentive alignment, and decision rights & escalation (RACI)-mechanisms that can plausibly explain variation in risk outcomes beyond what formal policy alone predicts.

Saudi Central Bank (2023) provides a system context in which governance, liquidity discipline, and operational resilience are explicitly prioritized, while Islamic Financial Services Board (2024) shows that the contractual specificities of murabaha, ijara, and musharaka make Shariah governance a design constraint rather than a late gate. Al Rajhi Bank (2023) offers the necessary scale, product breadth, and digital depth to observe these mechanisms in practice, enabling an inquiry that moves from abstract prescriptions to observable front-to-back routines. Accordingly, the purpose of this chapter is to synthesize and critically compare prior work on the functional relationship between account managers and sales teams, isolating where evidence is strong, where it is thin or contradictory, and how Islamic-bank features alter coordination demands.

Linking back to Chapter 1, this review operationalizes the research problem-risk as coordinated execution-by specifying the scope (organizational, process, and governance studies with deal-level implications) and by structuring the chapter to serve the objectives and hypotheses. The chapter proceeds from construct definitions and theoretical anchors (International Monetary Fund, 2023; Bank for International Settlements, 2013) to mechanism-specific subsections for the independent variable (Financial Stability Board, 2023), then to outcome-specific subsections for the dependent variable with Islamic-finance adaptations (Islamic Financial Services Board, 2024), and finally to an integrative synthesis that previews the conceptual model tested in later chapters. Concretely, the model posits four paths-Communication → Early Risk Identification & Onboarding, Information/Data → Credit Discipline & Outcomes, KPI/Incentive Alignment → Liquidity & Market-Risk Fit at Origination, and RACI/Escalation → Operational Resilience & Third-Party Control-which the empirical design will examine in the Al Rajhi Bank context (Saudi Central Bank, 2023; Al Rajhi Bank, 2023).

2.2. Functional Relationship between Account Managers and Sales Teams (IV)

International Monetary Fund (2023) argues that banking risk is a frontline execution problem, not a back-office checklist, making the “functional relationship” between account managers and sales an operational construct, not informal goodwill. Bank for International

Settlements (2013) embeds liquidity discipline into daily pricing and tenor, situating prudential compliance where AM–Sales interactions actually occur. Financial Stability Board (2023) adds that resilience is decided at the seams-communication cadence, shared data, incentive alignment, and RACI-driven escalation. In Islamic banks, contractual specificities (murabaha/ijara/musharaka) require earlier cross-functional integration so Shariah governance becomes a design input, not a late gate (Islamic Financial Services Board, 2024). The subsections unpack definitions, theory, mechanisms, and measurement.

2.2.1. Conceptualization and Definitions

International Monetary Fund (2023) reframes bank risk as a frontline execution challenge, implying that what happens between account managers and sales at origination is not “soft coordination” but a capability that shapes pricing, tenor, collateral, and onboarding quality. Bank for International Settlements (2013) makes this operational by embedding LCR and liquidity monitoring into day-to-day decisions, so prudential aims must be internalized where AM–Sales actually interact rather than treated as late checks. Financial Stability Board (2023) adds that resilience is decided at the seams-through cadence, shared indicators, incentive design, and time-bound escalation-turning the AM–Sales link into a governed mechanism, not ad-hoc goodwill.

Building on that foundation, KPMG (2025) translates the Three Lines model into concrete tools-RACI, approval thresholds, and SLAs-so decision ownership and escalation speed become measurable properties of the AM–Sales interface. Habel, Alavi, and Heinitz (2023) show that analytics change behavior only when information is embedded in daily routines and co-visible in CRM/risk systems, while Lang, Peltonen, and Sarlin (2018) demonstrate that early-warning performance depends on cadence and feedback loops that surface weak signals before booking. In Islamic settings, Islamic Financial Services Board (2024) treats murabaha/ijara/musharaka as contract-form constraints that require early Shariah inputs, binding AM–Sales coordination to risk quality by design. Guided by these strands, the subsections that follow define the construct, lay out the theoretical bases, and examine the four mechanisms-communication cadence, information/data sharing, KPI & incentive alignment, and RACI-based decision rights-as measurable dimensions of the study’s independent variable.

A. From Informal Coordination to a Structured Functional Relationship

- Definition and contrast

Financial Stability Board (2023) characterizes effective cross-functional work as a designed and auditable governance mechanism-with set meeting rhythms, shared indicators, and time-bound handoffs-rather than ad-hoc “goodwill.” Building on this, International Monetary Fund (2023) argues that risk today is execution under uncertainty, so person-dependent, episodic coordination is structurally fragile when volatility rises. In this thesis, a functional relationship between account managers and sales is defined as a structured front-to-back execution system comprising four mechanisms: communication quality and cadence, information sharing and data integration, goal/KPI and incentive alignment, and decision rights and escalation clarity (RACI). By contrast, informal coordination lacks standard cadence, co-visible data, aligned incentives, and explicit escalation, making outcomes inconsistent and hard to audit.

- Why structure matters.

Bank for International Settlements (2013) embeds prudential liquidity discipline through the LCR into day-to-day pricing and tenor, implying that AM–Sales must internalize constraints at origination, not at a late gate. KPMG (2025) translates the Three Lines model into operational tools-RACI, approval thresholds, and service-level agreements-so ownership and escalation speed become measurable properties of the AM–Sales interface. Habel, Alavi, and Heinitz (2023) show that analytics reshape behavior only when insights are embedded in daily routines and seen in the same systems, while Lang, Peltonen, and Sarlin (2018) demonstrate that early-warning performance improves when feedback loops surface weak signals before booking-a design that hinges on cadence and co-visibility. In Islamic contexts, Islamic Financial Services Board (2024) treats murabaha, ijara, and musharaka as contract-form constraints requiring early Shariah inputs, tying AM–Sales coordination to risk quality by design.

- Implication for this study.

International Monetary Fund (2023) motivates viewing the AM–Sales link as an execution capability; Bank for International Settlements (2013) and KPMG (2025) specify the operating mechanics that make it observable and measurable; Habel, Alavi, and Heinitz (2023) and Lang, Peltonen, and Sarlin (2018) identify the information-processing levers that translate structure into outcomes; and Islamic Financial Services Board (2024) adds the Shariah design constraint. Accordingly, the thesis operationalizes the functional relationship as a multi-dimensional construct-distinct from informal coordination-and tests its links to risk-management effectiveness at Al Rajhi Bank.

2.2.1.1. Front-to-Back Execution: Defining Role Boundaries between AM and Sales

- Concept and rationale.

International Monetary Fund (2023) portrays risk as a *frontline* execution problem, which recasts front-to-back execution as a designed chain of decisions from prospecting to booking and early monitoring. In this chain, Sales originates demand and frames commercial intent, while the Account Manager (AM) owns end-to-end viability-screening fit, shaping pricing/tenor/collateral, and ensuring onboarding quality-so decisions embed prudential logic at the point of origination.

- Operational implications.

Bank for International Settlements (2013) makes the logic concrete by imposing Liquidity Coverage Ratio constraints that must be internalized before approval, not repaired at a late gate; hence AMs translate funding and liquidity realities into structure, while Sales manages client advocacy and pipeline velocity. Financial Stability Board (2023) extends this to the seams: cadence, shared indicators, and time-bound handoffs prevent policy–execution gaps, implying that AM–Sales boundaries are governed by routines rather than personalities.

- Governance anchors.

KPMG (2025) converts the Three Lines model into RACI, approval thresholds, and service-level agreements, turning “who decides, when, and on what evidence” into measurable properties. Under this view, Sales proposes and signals urgency, AM decides or triggers escalation within thresholds, and both share accountability for data quality at handoff.

- Information processing.

Habel, Alavi, and Heinitz (2023) show that analytics change behavior only when insights are embedded in daily tools, reinforcing co-visibility as a boundary condition; Lang, Peltonen, and Sarlin (2018) demonstrate that early-warning performance depends on feedback loops that surface weak signals before booking, a cadence the AM must steward. In Islamic settings, Islamic Financial Services Board (2024) adds a design constraint-murabaha/ijara/musharaka-that requires early Shariah inputs, further clarifying that AM curates form-substance fit while Sales aligns client structure to those requirements.

2.2.2. Theoretical Foundations

International Monetary Fund (2023) reframes bank risk as execution under uncertainty, which shifts theory-building from generic “collaboration” to testable mechanisms at the AM-Sales seam. Bank for International Settlements (2013) embeds this shift in practice by pushing LCR and liquidity monitoring into pricing and tenor, so prudential aims must be internalized at origination. Financial Stability Board (2023) advances a seams-first view of resilience, emphasizing cadence, shared indicators, and time-bound handoffs. Islamic Financial Services Board (2024) adds a contract-form constraint in Islamic finance that requires early Shariah inputs. Together, these strands motivate four lenses-organizational integration, information processing, Three Lines, and governance-escalation-to ground the independent variable in measurable routines.

2.2.2.1. Organizational Integration

Financial Stability Board (2023) treats organizational integration as a designed seam where meeting rhythms, shared indicators, and time-boxed escalations convert policy into repeatable behavior, implying that the AM-Sales link is a governance mechanism rather than ad-hoc cooperation. McKinsey & Company (2020) argues that volume-biased incentives and siloed workflows routinely neutralize formal risk policies unless cross-functional routines are explicitly engineered, which positions integration in the operating system-artifacts, cadences, and decisions-rather than in culture slogans.

KPMG (2025) operationalizes integration through the Three Lines logic with RACI, approval thresholds, and service-level agreements, showing that decision ownership and escalation speed become measurable properties of the seam. International Monetary Fund (2023) adds that in volatile regimes, small misalignments at handoff amplify into pricing, tenor, collateral, and onboarding errors, raising the execution cost of weak integration. Bank for International Settlements (2013) makes the stakes concrete by embedding liquidity constraints that must be absorbed before approval, not repaired at a late gate.

Islamic Financial Services Board (2024) extends the integration lens to Islamic contracts-murabaha, ijara, and musharaka-arguing that form requirements (asset evidence, possession, profit recognition) are design inputs that necessitate earlier coupling among AM, Sales, Risk, and Shariah. For this study, organizational integration justifies measuring the functional relationship as structured front-to-back routines-communication cadence, data co-visibility, incentive alignment, and RACI-based escalation-and testing how these routines predict risk-management effectiveness at origination and early monitoring.

2.2.2.2. Information-Processing

International Monetary Fund (2023) frames bank risk as execution under uncertainty, arguing that front-line teams must economize attention by channeling information through predictable routines and shared displays; otherwise, noise and latency overwhelm origination decisions. Building on this macro view, Bank for International Settlements (2013) shows how the Liquidity Coverage Ratio relocates prudential constraints to the point of pricing and tenor, making information timing and visibility at the AM–Sales seam a first-order design choice rather than a clerical afterthought.

Habel, Alavi, and Heinitz (2023) demonstrate that predictive sales analytics do not change behavior unless insights are embedded in daily workflows-surfaced inside CRM as next-best actions and tied to incentives-so co-visibility and workflow integration become necessary conditions for improved screening. Lang, Peltonen, and Sarlin (2018) add that early-warning systems outperform when weak signals are escalated before booking via regular review cadences, clear thresholds, and feedback loops, linking communication rhythm to measurable reductions in false negatives at origination.

Oet, Bianco, Gramlich, and Ong (2013) further show that system-level early-warning architectures succeed only when signal aggregation reduces dimensionality and presents actionable cues to decision owners, implying that AM–Sales interfaces must standardize signal selection (what is reviewed), attention scheduling (when it is reviewed), and triggering rules (how escalation occurs). McKinsey & Company (2020) cautions that even robust analytics are neutralized by siloed routines and volume-biased incentives unless cross-functional review rituals and shared metrics are explicitly engineered.

Taken together, these strands justify modeling the functional relationship as an information processor: Communication Quality & Cadence reduces noise and delays; Information Sharing & Data Integration raises shared signal quality and traceability; and both mechanisms are expected-within this study-to predict Early Risk Identification & Onboarding Quality and Credit Discipline & Outcomes. In liquidity-sensitive contexts, the same processing discipline should also improve Liquidity & Market-Risk Fit at Origination, given the LCR-driven need to internalize funding realities at the moment of deal design (Bank for International Settlements, 2013).

2.2.2.3. Three Lines Model

Definition and placement. KPMG (2025) treats the Three Lines model as a work-design architecture in which the first line owns and manages risk in delivery, the second line sets policy and challenges decisions, and the third line provides independent assurance-an architecture that becomes operational only when translated into RACI charts, approval thresholds, and service-level agreements. In this framing, the AM–Sales interface sits squarely in the first line, where ownership for screening, pricing, tenor, collateral, and onboarding must be explicit rather than assumed (KPMG, 2025).

Frontline internalization of prudential aims. Bank for International Settlements (2013) makes the model tangible by embedding LCR constraints into pricing and tenor, which means first-line roles must internalize liquidity discipline at origination instead of treating it as a late gate. By extension, second-line risk functions calibrate limits, challenge borderline deals, and

define escalation thresholds, while third-line audit tests whether the routines actually produce the intended control effect in practice (Bank for International Settlements, 2013).

Seam performance and decision latency. Financial Stability Board (2023) argues that resilience is decided at the seams-the handoffs between first and second lines-so cadence, shared indicators, and time-bound escalation are not niceties but governance mechanisms that compress decision latency and reduce rework. Building on this view, KPMG (2025) shows that explicit ownership (“who decides”), evidence standards (“on what basis”), and SLAs (“by when”) convert the model from an org chart into a measurable flow of decisions and escalations at the AM–Sales boundary.

Islamic-bank adaptation. Islamic Financial Services Board (2024) extends the model by treating murabaha, ijara, and musharaka as contract-form constraints that require early Shariah inputs; practically, this locates parts of Shariah review upstream in the first line, while the Shariah governance function provides second-line challenge and ongoing oversight. In this configuration, AM–Sales must coordinate with risk and Shariah before booking, aligning commercial structure with form–substance requirements to avoid late rework and control failures (Islamic Financial Services Board, 2024).

Implication for this study. KPMG (2025) motivates measuring Decision Rights & Escalation Clarity (RACI) as a core dimension of the independent variable, while Bank for International Settlements (2013) links strong first-line ownership to better Liquidity & Market-Risk Fit at Origination. Financial Stability Board (2023) justifies testing whether time-bound escalation improves Operational Resilience & Third-Party Control, and Islamic Financial Services Board (2024) explains why early Shariah involvement should enhance Early Risk Identification & Onboarding. Building on these foundations, the next subsection specifies the governance and escalation logic that operationalizes these roles into concrete thresholds, paths, and timers.

2.2.2.4. Governance & Escalation Logic

Concept and purpose. Financial Stability Board (2023) frames governance as a seams-first architecture in which who decides, on what evidence, and by when is specified in advance; the aim is to prevent policy–execution gaps by enforcing time-bound escalations when risk signals breach thresholds. KPMG (2025) translates this into operating tools-RACI charts, approval thresholds, and SLAs-so decision ownership and escalation speed become measurable attributes of the AM–Sales interface rather than informal expectations.

Latency, thresholds, and prudential fit. Bank for International Settlements (2013) embeds prudential discipline through the LCR, which forces liquidity and tenor constraints to be internalized before approval; when a deal breaches pre-set liquidity or credit parameters, escalation must trigger upstream to second-line risk with documented turn-around times. International Monetary Fund (2023) adds that in volatile regimes, slow or ambiguous escalation amplifies loss given error, so governance should compress decision latency and require evidence-based overrides instead of discretionary exceptions.

Islamic-bank adaptation. Islamic Financial Services Board (2024) treats murabaha, ijara, and musharaka as contract-form constraints that demand early Shariah inputs; practically, this means routing uncertainties about asset evidence, ownership transfer, or profit recognition through pre-deal Shariah consultation on a defined clock. State Bank of Pakistan (2024)

reinforces this logic by prescribing RACI-style role clarity for Shariah review, including who verifies evidence, who may grant conditional approvals, and when matters are escalated to the Shariah board—thereby tying AM–Sales coordination to risk quality by design. World Bank (van Greuning & Iqbal, 2008) cautions that weak form–substance alignment frequently materializes as credit and operational losses, not merely compliance findings, which justifies locating Shariah escalation before booking.

Implications for this study. KPMG (2025) motivates the IV dimension Decision Rights & Escalation Clarity (RACI), while Financial Stability Board (2023) suggests testing its link to Operational Resilience & Third-Party Control through time-bound handoffs and evidence standards. Bank for International Settlements (2013) supports an expected association with Liquidity & Market-Risk Fit at Origination, since clearer thresholds and override rules reduce tenor–funding mismatches. Islamic Financial Services Board (2024) and State Bank of Pakistan (2024) further imply improvements in Early Risk Identification & Onboarding when Shariah pathways are defined ex-ante. Building on these governance mechanics, the next subsection examines Communication Quality and Cadence, showing how routines and feedback loops create the signal flow that escalation pathways are designed to act upon.

2.2.3. Communication Quality and Cadence

International Monetary Fund (2023) argues that in volatility-prone conditions, risk quality hinges on how information flows at the frontline, not only on written policy, making communication cadence a first-order control rather than a soft skill. Financial Stability Board (2023) adds that resilience is decided at seams; irregular meetings, unclear agendas, and undocumented handoffs widen interpretation gaps and delay escalation. Habel, Alavi, and Heinitz (2023) show that analytics influence behavior only when insights are surfaced inside routines, so cadence must bind messages to actions. Lang, Peltonen, and Sarlin (2018) further demonstrate that feedback loops pre-booking reduce false negatives, linking clarity, rhythm, and rapid response—thereby preparing the ground to specify failure modes and design corrective loops.

A. Role of Communication Cadence and Quality in Narrowing Understanding Gaps

International Monetary Fund (2023) argues that under uncertainty, when and how teams talk becomes a control in its own right: predictable cadences concentrate attention, reduce noise, and prevent selective exposure to “good news,” thereby shrinking interpretation gaps at origination. Financial Stability Board (2023) extends this seam-first view, suggesting that fixed rhythms—weekly pipeline reviews, pre-deal huddles, and time-boxed escalations—only work if paired with clarity artifacts (agendas, decision logs, and shared dashboards) so that AM and Sales consume the same signals in the same window.

Habel, Alavi, and Heinitz (2023) show that analytics affect behavior only when insights are embedded inside routines; a CRM alert discussed in a recurring stand-up drives screening quality, while the same alert in a standalone dashboard often goes unseen. Lang, Peltonen, and Sarlin (2018) add that feedback loops matter as much as frequency: cadenced reviews that capture outcomes (e.g., post-approval slippages, early delinquencies) refine upstream judgment, turning cadence into a learning mechanism rather than a calendar ritual. McKinsey & Company (2020) cautions that high-frequency communication without message quality

(clear owners, evidence standards, and next actions) amplifies confusion, so cadence must be tied to decision rights and thresholds to avoid “meeting inflation”.

KPMG (2025) ties these elements to role clarity: cadence aligned with RACI compresses decision latency and reduces rework, particularly when liquidity constraints must be internalized before approval. Building on this mechanism, the next subsection examines handoff failure modes, showing where cadence and clarity typically break-and how to design loops that catch those breaks early.

B. Handoff Failure Modes at the AM–Sales Seam

International Monetary Fund (2023) notes that under uncertainty, small timing errors at handoff amplify into pricing, tenor, and onboarding mistakes; in practice, cadence drift (missed pre-deal huddles, irregular pipeline reviews) creates stale assumptions that survive to approval. Financial Stability Board (2023) adds that asymmetric visibility-when Sales sees pipeline signals that the Account Manager (AM) does not) or(العكس)-produces conflicting interpretations; without shared dashboards and time-boxed agendas, teams debate narratives rather than evidence. McKinsey & Company (2020) observes that tooling silos and volume-biased incentives worsen the gap: analysts push dashboards, but frontline choices remain path-dependent when insights are not embedded in the routine that triggers action.

KPMG (2025) identifies ownership ambiguity as a core failure mode: if RACI is vague, no one “owns” the credit memo quality, KYC depth, or escalation trigger, so issues stall between first and second lines. Bank for International Settlements (2013) ties ambiguity to liquidity misfit: when tenor/pricing decisions ignore LCR constraints at origination, the liquidity breach appears after booking, forcing rework or capital buffers ex post. Lang, Peltonen, and Sarlin (2018) show that weak feedback loops sustain high false-negative rates-signals of deterioration exist but are neither reviewed on schedule nor escalated-while Oet, Bianco, Gramlich, and Ong (2013) warn that signal overload without aggregation buries early warnings, letting borderline deals pass as noise.

Habel, Alavi, and Heinitz (2023) document a behavioral variant: insight–action gaps occur when predictive flags live outside the CRM workflow; without co-visibility and next-best-action prompts, alerts are observed yet not converted into screening changes. In Islamic settings, Islamic Financial Services Board (2024) highlights form–substance mismatches-missing asset evidence, unclear ownership transfer, or profit recognition errors-when Shariah inputs are late-gated rather than integrated upstream with AM–Sales, producing documentation defects that materialize as credit and operational losses (van Greuning & Iqbal, 2008). Collectively, these modes-cadence drift, asymmetric visibility, ownership ambiguity, threshold vagueness, tool silos, weak feedback, and late Shariah gating-map directly to poorer Early Risk Identification & Onboarding, weaker Credit Discipline & Outcomes, and inferior Liquidity & Market-Risk Fit, setting the stage for the next subsection on feedback loops and clarity as design remedies.

C. Role of Clarity and Feedback Loops in the Functional Relationship

Clarity as a control. Financial Stability Board (2023) treats clarity-who decides, on what evidence, and by when-as a governance control rather than a communication nicety, arguing that explicit agendas, decision logs, and pre-agreed thresholds compress ambiguity at the AM–Sales seam. KPMG (2025) translates this into RACI charts, approval thresholds, and

SLAs, turning role clarity into measurable properties (ownership, turnaround times, evidence standards) that reduce rework and disagreements at credit committees.

Feedback loops as an execution mechanism. Lang, Peltonen, and Sarlin (2018) show that early-warning systems outperform when weak signals are reviewed on a fixed cadence, captured in a learning loop, and escalated before booking-a design that links clarity (who reviews) with timing (when) and actionability (what triggers change). Oet, Bianco, Gramlich, and Ong (2013) add that signal aggregation and structured feedback reduce false negatives by converting scattered alerts into prioritized cues directed at named decision owners, reinforcing why clarity and loops must be co-designed.

Embedding clarity inside daily tools. Habel, Alavi, and Heinitz (2023) find that analytics change frontline behavior only when insights are embedded in routine workflows (e.g., CRM next-best actions), making co-visibility and explicit next steps part of the loop. McKinsey & Company (2020) cautions that frequent meetings without clear owners and follow-ups create “meeting inflation”; loops must end with assigned actions, deadlines, and traceable outcomes to avoid insight–action gaps.

Prudential fit and timeliness. Bank for International Settlements (2013) embeds LCR into pricing and tenor, implying that feedback on liquidity fit must return to AM–Sales before approval, not as a late check. International Monetary Fund (2023) agrees that in volatile regimes, latency is costly; fast, evidence-based feedback loops reduce loss-given-error by correcting assumptions at origination rather than after exposure is taken.

Islamic-bank adaptation. Islamic Financial Services Board (2024) treats murabaha, ijara, and musharaka as contract-form constraints; effective loops therefore include pre-deal Shariah consultations, standardized evidence checklists, and time-boxed escalation when asset proof, ownership transfer, or profit recognition is uncertain. State Bank of Pakistan (2024) reinforces this with RACI-style Shariah pathways, while World Bank (van Greuning & Iqbal, 2008) links weak form–substance alignment to downstream credit and operational losses-evidence that clarity plus loops are not merely compliance rituals but risk levers.

Implication and bridge. Taken together, Financial Stability Board (2023), KPMG (2025), and Lang, Peltonen, and Sarlin (2018) justify modeling Communication Quality & Cadence as inseparable from clarity and feedback loops: clarity defines who/what/when, while loops ensure learn-and-act. This logic sets up the next subsection on Information Sharing and Data Integration, where co-visibility, data lineage, and early-warning integration provide the informational substrate that makes clarity and feedback loops actually work at the AM–Sales interface.

2.2.4. Information Sharing and Data Integration

International Monetary Fund (2023) argues that under volatility, risk quality depends on what information is seen, by whom, and when, making co-visibility a frontline control rather than a convenience. Bank for International Settlements (2013) reinforces this by pushing liquidity discipline (LCR) into pricing and tenor, so AM–Sales must internalize funding signals inside daily tools. Habel, Alavi, and Heinitz (2023) show that analytics change behavior only when insights are embedded in CRM workflows, not parked in stand-alone dashboards. Lang, Peltonen, and Sarlin (2018) demonstrate that early-warning loops outperform when weak

signals surface pre-booking. Oet, Bianco, Gramlich, and Ong (2013) add that signal aggregation and lineage reduce false negatives. Building on these strands, the next pages specify co-visibility, data lineage, and early-warning integration as the information substrate for AM–Sales execution.

A. Co-visibility in CRM and Risk Systems

International Monetary Fund (2023) argues that, under uncertainty, who sees what and when is a frontline control: co-visibility forces account managers and sales to interrogate the same signals in the same time window, shrinking interpretation gaps at origination. Building on this, Bank for International Settlements (2013) embeds liquidity discipline via the LCR into pricing and tenor, which means funding and market-risk constraints must appear inside the tools where AM–Sales actually work-CRM and deal screens-rather than as late checks; when the same limits and alerts are co-visible, prudential aims are internalized before approval instead of corrected afterward.

Habel, Alavi, and Heinitz (2023) show that predictive analytics change behavior only when insights are embedded in daily workflows; surfacing risk flags as next-best actions within CRM yields screening effects that “external dashboards” rarely achieve. McKinsey & Company (2020) cautions that siloed tooling and volume-biased KPIs neutralize policies unless teams share a single version of truth (pipelines, EWS flags, exception queues) with named owners and timestamps, converting visibility into action. Financial Stability Board (2023) adds a seam-first lens: co-visible dashboards paired with time-boxed agendas and decision logs compress decision latency, making it auditable who reviewed which signals and what was escalated.

Lang, Peltonen, and Sarlin (2018) connect co-visibility to early-warning performance, showing that weak signals reduce false negatives only when reviewed on a fixed cadence by joint decision-makers; shared views enable simultaneous recognition and faster escalation. In Islamic settings, Islamic Financial Services Board (2024) emphasizes that murabaha/ijara/musharaka require early confirmation of asset evidence and contract form; co-visible checklists and status fields align Sales advocacy with AM governance at the point of design, reducing late Shariah rework. Building on this informational substrate, the next subsection turns to data lineage, showing how traceability underpins trust in shared dashboards and sustains the co-visibility effects described above.

B. Data Lineage

Bank for International Settlements (2013) elevates risk-data aggregation and reporting from an IT concern to a prudential requirement, arguing that teams must trace each metric “from source to screen” so decision owners can verify provenance, transformation rules, and timeliness before acting at origination. Financial Stability Board (2023) extends the seam-first view to third-party and cloud dependencies, noting that effective lineage maps systems, vendors, and handoffs to prevent opaque pipelines from corrupting screening and approval evidence. KPMG (2025) turns lineage into accountability by assigning RACI ownership for data elements (who captures, who validates, who approves), making auditability a property of the AM–Sales interface rather than a back-office afterthought.

Oet, Bianco, Gramlich, and Ong (2013) show that signal aggregation only improves early warning when inputs are traceable and comparable, implying that lineage reduces false signals by filtering out mis-mapped fields and stale refresh cycles. Habel, Alavi, and Heinitz (2023) add that embedded analytics shift behavior only when users trust the field definitions they see in CRM; lineage therefore becomes a behavioral lever, not just a documentation asset. McKinsey & Company (2020) cautions that fragmented pipelines and volume-biased KPIs create “multiple versions of truth,” so codified lineage and single-source dashboards are preconditions for translating alerts into pricing, tenor, and onboarding decisions.

Islamic Financial Services Board (2024) highlights a contract-form twist: in murabaha, ijara, and musharaka, lineage must link asset evidence, ownership transfer, and profit recognition to the data that feed approval screens; otherwise, form–substance gaps surface as late rework or losses. Building on these foundations, the next subsection moves from traceability to actionability, detailing how lineage enables early-warning integration that surfaces weak client signals before booking and routes them through time-bound escalation to improve risk outcomes.

C. Early-Warning Integration

From traceability to actionability. Building directly on data lineage, International Monetary Fund (2023) argues that volatile regimes penalize latency and selective exposure, so early-warning (EW) must be integrated where AM–Sales work, not appended later. Lang, Peltonen, and Sarlin (2018) show that EW systems outperform when weak signals surface before booking through scheduled reviews, explicit thresholds, and named owners-turning raw indicators into time-bound actions. Oet, Bianco, Gramlich, and Ong (2013) add that signal aggregation matters only if inputs are comparable and prioritized, which makes lineage the prerequisite and integration the payoff.

Design levers and routines. Bank for International Settlements (2013) brings a prudential lens: LCR and liquidity monitoring require EW cues to feed pricing, tenor, and structure at origination, not as late checks. Financial Stability Board (2023) translates this into seam design-cadenced joint reviews, shared dashboards, decision logs, and escalation clocks-so that deteriorating obligor, sector, or funding signals produce evidence-based overrides rather than discretionary exceptions. Habel, Alavi, and Heinitz (2023) emphasize embedding: EW flags must appear as next-best actions inside CRM/risk screens tied to ownership and incentives; otherwise, alerts remain observational and behavior does not change. McKinsey & Company (2020) cautions that high alert volumes without taxonomy and triage create “alarm fatigue,” so tiers (informational, advisory, mandatory) and SLA-backed escalation paths are essential to preserve attention.

Islamic-bank specificity and study link. Islamic Financial Services Board (2024) shows that in murabaha, ijara, and musharaka, EW must include form–substance checks (asset evidence, possession/transfer, profit recognition) alongside credit and liquidity cues, which requires early Shariah consultation on a defined timer. In this thesis, early-warning integration is thus operationalized as: (1) scheduled joint reviews (cadence), (2) co-visible client and funding signals in CRM/risk systems, (3) lineage-backed definitions and thresholds, and (4) RACI-anchored escalation SLAs. Consistent with International Monetary Fund (2023), Lang, Peltonen, and Sarlin (2018), and Bank for International Settlements (2013), we expect this

integration to improve Early Risk Identification & Onboarding and Credit Discipline & Outcomes, and-via funding cues-to enhance Liquidity & Market-Risk Fit at Origination, while governance features (Financial Stability Board, 2023) support Operational Resilience & Third-Party Control.

2.2.5. Goal / KPI and Incentive Alignment

Building on the information-flow mechanisms above, McKinsey & Company (2020) argues that incentives decide behavior even when policies and analytics are sound, so AM–Sales alignment must translate prudential aims into risk-adjusted targets rather than volume alone. International Monetary Fund (2023) adds that in volatile regimes, volume-biased KPIs amplify selection and pricing errors, undermining early-warning gains. Financial Stability Board (2023) recommends shared indicators and evidence-based overrides to prevent policy–execution gaps, while Bank for International Settlements (2013) implies that LCR-consistent pricing and tenor require KPIs that internalize funding realities. Habel, Alavi, and Heinitz (2023) show analytics shift choices only when tied to accountable metrics, setting the stage to specify RAROC goals, override governance, and delinquency-based feedback in what follows.

A. Goal/KPI Alignment across AM–Sales (RAROC, Overrides, Delinquency Metrics)

McKinsey & Company (2020) argues that incentives and targets are the behavioral compiler of any operating model; if AM–Sales pursue volume while risk aims for prudence, the seam fails even when communication and data are strong. To reconcile intent with execution, RAROC-linked goals align commercial effort with risk-adjusted value: account managers and sales are jointly measured on risk-adjusted margin after funding and expected loss, not raw origination. Bank for International Settlements (2013) reinforces this logic by embedding LCR and funding costs in pricing/tenor, so a RAROC goal that internalizes liquidity translates prudential aims into frontline math rather than after-the-fact vetoes.

Financial Stability Board (2023) cautions that alignment also depends on override governance: when deals require exceptions (pricing, collateral, tenor), evidence-based overrides with time-bound escalation deter “exception drift.” In practice, this means AM–Sales share a cap or cost on overrides, so the short-term pipeline gain is weighed against the capital and liquidity impact the exception imposes (FSB, 2023). International Monetary Fund (2023) adds that in volatile regimes, weak override discipline amplifies selection and pricing errors, eroding early-warning benefits; linking override frequency and outcome quality to KPIs curbs this bias.

Habel, Alavi, and Heinitz (2023) show that analytics influence behavior only when tied to accountable metrics inside the workflow. Accordingly, delinquency-based feedback-roll rates, early arrears, covenant breaches-should feed back into AM–Sales scorecards, closing the loop between origination choices and downstream performance. When recent delinquencies rise in a given segment, RAROC hurdles and approval standards ratchet up automatically for that segment, making the KPI system an adaptive control rather than a static scoreboard (Habel, Alavi, & Heinitz, 2023). By binding RAROC, override discipline, and delinquency feedback into shared targets, alignment converts prior mechanisms-cadence and co-visibility-into consistent screening and pricing behavior, setting up the next subsection on the tension between volume-based and risk-adjusted incentives.

B. Volume-Based vs. Risk-Adjusted Incentives

McKinsey & Company (2020) observes that volume-based quotas push frontline behavior toward speed and breadth-maximizing pipeline velocity and booked balances-even when marginal deals degrade portfolio quality; the result is classic Goodhart effects: teams optimize the metric, not the mission. International Monetary Fund (2023) adds that in volatile regimes these incentives magnify selection and pricing errors, because short-term revenue credit (commissions on disbursements or booked fees) dominates risk signals whose costs arrive later. Financial Stability Board (2023) therefore argues for risk-adjusted incentive systems that pay for value after expected loss, funding cost, and capital consumption, so that commercial effort internalizes prudential aims rather than clashes with them.

Bank for International Settlements (2013) makes the adjustment concrete: incorporating LCR/Funding costs into deal economics implies that sales credit should be RAROC-linked or at least liquidity-shadow-priced at origination; paying the same commission for a liquidity-intensive tenor as for a funding-friendly structure creates a built-in mispricing bias. Habel, Alavi, and Heinitz (2023) find that analytics only shift choices when coupled to accountable metrics-for example, tying next-best-action prompts in CRM to delinquency-adjusted commissions, override chargebacks, or post-booking clawbacks; otherwise insight-action gaps persist even with excellent data.

FSB (2023) further recommends shared targets across AM-Sales-RAROC hurdles, caps on exception frequency, and time-bound escalation for overrides-so neither side arbitrages the other's KPI. IMF (2023) concurs that without such coupling, volume incentives create adverse selection (easy approvals where risk is opaque) and moral hazard (pushing tenor/collateral leniency to hit quotas). BIS (2013) implies that aligning variable pay with liquidity-consistent pricing/tenor reduces ex-post remediation and capital drag. Taken together, these findings explain why misalignment erodes the functional relationship-even when cadence and co-visibility are strong-and lead directly to the next subsection on the consequences of misaligned KPIs for collaboration quality and risk outcomes.

C. Consequences of Misalignment for Functional Relationship Quality

McKinsey & Company (2020) argues that when AM-Sales incentives diverge-volume quotas versus risk-adjusted value-the interface devolves into goal conflict: Sales optimizes pipeline velocity while Account Managers police downside, producing adversarial reviews and rework. International Monetary Fund (2023) adds that in volatile regimes such conflict amplifies selection and pricing errors, because short-term commission credit dominates risk signals whose costs arrive later, eroding trust and making information sharing perfunctory rather than candid.

Financial Stability Board (2023) shows that misalignment surfaces as override inflation and exception drift: deals are pushed through with discretionary leniency, then disputed at committees, lengthening cycle time and degrading screening quality. Bank for International Settlements (2013) connects this drift to liquidity misfit-when tenor and pricing ignore LCR/funding realities at origination, breaches appear post-booking, forcing costly remediation and capital drag. Habel, Alavi, and Heinitz (2023) observe that even strong analytics fail to bite if KPIs reward volume; insights are acknowledged but not converted into action, widening the insight-action gap.

Lang, Peltonen, and Sarlin (2018) add that misaligned scorecards blunt feedback loops: rising early arrears or covenant breaches do not tighten upstream standards because the loop is decoupled from what teams are paid to achieve. KPMG (2025) notes that KPI conflict also undermines RACI discipline—ownership blurs, escalations stall, and disputes migrate off-process into shadow negotiations—raising operational friction at handoffs. In Islamic settings, Islamic Financial Services Board (2024) warns that volume-led pressure encourages late Shariah gating, creating form–substance mismatches (asset evidence, transfer, profit recognition) that materialize as credit and operational losses (van Greuning & Iqbal, 2008).

Taken together, McKinsey & Company (2020), FSB (2023), and BIS (2013) imply that misalignment degrades every prior mechanism—cadence, co-visibility, and lineage—by incentivizing workarounds and after-the-fact fixes. Building on this diagnosis, the next subsection specifies Decision Rights & Escalation Clarity (RACI) as the governance lever that restores ownership, imposes evidence-based overrides, and compresses decision latency to realign AM–Sales behavior with prudential aims.

2.2.6. Decision Rights and Escalation Clarity (RACI Framework)

A. Approval Ownership

KPMG (2025) treats approval ownership as the anchor of the RACI logic: a named first-line owner must decide at origination on what evidence and within what time box, or trigger escalation with a documented rationale. In this framing, the Account Manager owns the credit memo quality, liquidity-consistent structure (pricing, tenor, collateral), and onboarding completeness, while Sales owns commercial intent and client commitments; splitting these without a single accountable owner yield orphaned decisions and rework (KPMG, 2025). Financial Stability Board (2023) reinforces that ownership is a governance control, not a courtesy—decision logs, shared agendas, and auditable sign-offs are required so that seams do not collapse under pressure.

Bank for International Settlements (2013) makes ownership economically testable: because LCR and funding costs must be internalized before approval, the first-line owner is responsible for rejecting or restructuring deals that breach liquidity or market-risk fit, rather than relying on late vetoes. When ownership is ambiguous, these breaches surface post-booking, producing capital drag and remediation (Bank for International Settlements, 2013). International Monetary Fund (2023) adds that under volatility, slow or unclear ownership amplifies loss-given-error; named owners with timers cut decision latency and reduce exception drift.

Habel, Alavi, and Heinitz (2023) show that ownership sticks when insights are embedded in the owner’s workflow (CRM next-best actions tied to that person’s scorecard), converting visibility into action. Lang, Peltonen, and Sarlin (2018) further argue that owners must close feedback loops—linking early arrears and covenant breaches back to origination choices—so that approval quality improves over time. In Islamic settings, Islamic Financial Services Board (2024) requires first-line ownership for form–substance fit (asset evidence, transfer, profit recognition) with pre-deal Shariah consultation routed by the owner, not passed downstream.

Taken together, KPMG (2025), FSB (2023), and BIS (2013) imply that explicit approval ownership at the AM–Sales seam is the practical antidote to KPI conflict and tool silos—setting

the stage for thresholds (who can approve what, up to which limits) in the next subsection, where ownership is bounded by quantified risk and liquidity gates.

B. Thresholds

KPMG (2025) treats thresholds as the quantitative guardrails that bound approval ownership-explicit limits on exposure, tenor, pricing floors, collateral haircuts, and override caps that determine what the first line may decide before escalation is mandatory. Bank for International Settlements (2013) ties these guards to prudential math: LCR/funding costs and market-risk fit should parameterize tenor and pricing thresholds so liquidity-intensive structures cannot be approved at the AM–Sales seam without an evidence-based override. Financial Stability Board (2023) extends the logic to third-party/operational risk by recommending pre-set triggers (e.g., vendor criticality, concentration, data-sharing scope) that force time-bound escalation, reducing discretion when exposures compound silently.

International Monetary Fund (2023) argues that in volatile regimes, vague limits behave like soft advice-latency and ambiguity invite exception drift-so thresholds must be machine-readable in CRM/risk systems and co-visible to AM–Sales to prevent “shadow approvals.” Islamic Financial Services Board (2024) adds contract-form specificity: murabaha/ijara/musharaka require form thresholds (asset evidence completeness, ownership transfer conditions, profit recognition rules) that block booking until satisfied, placing Shariah criteria alongside credit and liquidity gates. Lang, Peltonen, and Sarlin (2018) show that when thresholds are linked to feedback loops (e.g., delinquency spikes auto-tighten segment limits), false negatives fall and upstream selection improves.

McKinsey & Company (2020) cautions that thresholds without incentive coupling are gamed; tying overrides to KPI costs (caps, chargebacks) aligns behavior with the gates. Practically, this study models thresholds as the measurable edge of Decision Rights & Escalation Clarity (RACI) at the AM–Sales interface-bridging from ownership (who decides) to SLAs and dispute-resolution speed (by when decisions and escalations must occur), which the next subsection specifies.

C. SLAs and Dispute-Resolution Speed

Why timers matter. KPMG (2025) treats service-level agreements (SLAs) as the temporal spine of RACI: they specify *who must respond, by when, and with what evidence*, converting ownership and thresholds into measurable decision latency. International Monetary Fund (2023) adds that in volatile regimes, slow or looping decisions increase loss-given-error; thus, time-boxing pre-deal consultations and escalations is not bureaucracy but a risk control that prevents stale assumptions from reaching approval.

From thresholds to clocks. Bank for International Settlements (2013) embeds LCR/funding constraints in pricing and tenor, implying that when a proposal breaches liquidity or market-risk limits, escalation to second line must run on a clock, not discretion. Financial Stability Board (2023) extends this seam-first logic: SLAs tied to pre-defined evidence packs (credit memo fields, asset-evidence checklists, data-lineage tags) reduce relitigation and compress committee cycle time, turning exceptions into evidence-based overrides rather than negotiations.

Designing fast, fair resolution. Lang, Peltonen, and Sarlin (2018) show that feedback loops outperform when reviews and escalations follow fixed cadences with named owners; routing outcomes back into checklists lowers false negatives at origination. Habel, Alavi, and Heinitz (2023) add that timers only bite if actions are embedded in frontline tools-e.g., CRM tasks with deadlines and accountability-otherwise alerts become observational. McKinsey & Company (2020) cautions that high meeting frequency without SLA discipline creates “meeting inflation”; pairing timers with clear acceptance criteria (what constitutes a complete file) and auto-escalation rules (who decides next if the clock expires) preserves speed and quality.

Islamic-bank adaptation. Islamic Financial Services Board (2024) requires pre-deal Shariah consultations on a defined timer for murabaha/ijara/musharaka; State Bank of Pakistan (2024) operationalizes this with RACI-style Shariah pathways (who verifies asset evidence, who approves profit recognition, when to escalate to the Shariah board). World Bank (van Greuning & Iqbal, 2008) underscores the economic stakes: slow or late Shariah resolution often surfaces as credit/operational losses, not just compliance findings-justifying SLA clocks upstream.

Bridge to the next lever. With ownership, thresholds, and SLAs in place, KPMG (2025) predicts lower decision latency and fewer off-process disputes; the remaining task is to ensure that AM and Sales experience less friction at the seam. Accordingly, the next subsection analyzes how decision-rights clarity-who is accountable, who is consulted, and who must merely be informed-reduces handoff friction and stabilizes collaboration quality even under KPI tension.

D. Decision-Rights Clarity and Friction Reduction at the AM–Sales Seam

KPMG (2025) shows that clear decision rights-codified through RACI, approval mandates, and named owners-convert the AM–Sales interface from ad-hoc bargaining to a repeatable flow of decisions. When it is explicit who decides, who must be consulted, and who is merely informed, the seam stops hosting jurisdictional arguments and starts producing time-bound outcomes. Financial Stability Board (2023) reaches the same conclusion from a seams-first lens: clarity, paired with decision logs and pre-agreed evidence packets, eliminates relitigation and lowers the interpersonal friction that typically appears as email loops and meeting reruns.

Bank for International Settlements (2013) links decision clarity to prudential fit: if the first-line owner is accountable for internalizing LCR and funding costs in pricing/tenor, there is no room for shadow approvals that later collide with liquidity constraints. International Monetary Fund (2023) adds that in volatile regimes ambiguity raises loss-given-error by slowing or splitting ownership; clarity compresses latency and reduces exception drift. Lang, Peltonen, and Sarlin (2018) show that named owners also strengthen feedback loops-post-booking signals return to the same accountable role-turning frictional blame games into learning cycles. Habel, Alavi, and Heinitz (2023) emphasize that clarity must live inside the workflow: CRM tasks, next-best actions, and dashboards should tag the decision owner, or else visibility fails to translate into action. McKinsey & Company (2020) cautions that, without such embedding, KPI tensions resurface as off-process negotiations; clarity works when coupled to SLAs and override rules that bind incentives to evidence.

Islamic Financial Services Board (2024) extends the argument to Shariah pathways: when responsibility for asset evidence, ownership transfer, and profit recognition is explicitly assigned-and when escalation to the Shariah function runs on a clock-AM–Sales friction over

contract form disappears upstream rather than exploding at committees. In sum, KPMG (2025), FSB (2023), and BIS (2013) imply that decision-rights clarity is the practical antidote to handoff friction, transforming prior mechanisms-cadence, co-visibility, and KPI alignment-into consistent behavior. Building on this seam discipline, the next subsection examines cross-functional governance in Islamic banks, where the same clarity must integrate Shariah review as a design input rather than a late gate.

2.2.7. Cross-Functional Governance in Islamic Banks

A. Relationship with the Shariah Board

Islamic Financial Services Board (2024) positions the Shariah governance function as a design partner and challenger rather than a late “stamp,” emphasizing ex-ante engagement at product structuring and case-by-case origination. In this architecture, the Shariah Board provides principled rulings and oversight, while an internal Shariah compliance unit translates rulings into operating rules, checklists, and evidence standards that first-line teams must satisfy before approval. State Bank of Pakistan (2024) advances this into an operating model by prescribing RACI-style pathways: Sales is consulted on client intent and delivery logistics; the Account Manager is accountable for form–substance fit (asset evidence, ownership transfer, profit calculation); the Shariah function is the approver for contract-form ambiguities and the informed party for routine, pre-specified cases.

Van Greuning and Iqbal (2008) underline the economic stakes: weak alignment between Shariah form and operational substance often materializes as credit and operational losses, not merely compliance findings, when documentation, possession, or delivery are unclear. Al Hammadi (2025) adds a contemporary lens by showing how fintech enablement and third-party rails expand both capability and exposure; unless Shariah requirements are embedded in workflows and vendor contracts, AM–Sales may inadvertently book structures with form defects that surface downstream. Building on these views, the relationship with the Shariah Board in this study is operationalized through early consultation cadences, evidence packs, and time-boxed escalations owned by the AM; this converts Shariah review into a front-to-back control that stabilizes the AM–Sales seam and prepares the ground for the next subsection on contract-form constraints (murabaha/ijara/musharaka) as early-stage coordination drivers.

B. Contract-Form Constraints (Murabaha, Ijara, Musharaka) as Early-Stage Coordination Drivers

Islamic Financial Services Board (2024) explains that murabaha, ijara, and musharaka embed form conditions-proof of asset existence, lawful ownership/possession, and profit recognition rules-that must be satisfied before pricing and approval, turning contract choice into an early design constraint rather than a late compliance check. By requiring documented evidence (e.g., purchase invoices, delivery/possession records, usufruct specifications), Islamic Financial Services Board (2024) effectively pushes Account Managers and Sales to co-design the structure at origination so that commercial intent fits Shariah form without backtracking.

Van Greuning and Iqbal (2008) show that when these form conditions are treated superficially, gaps appear as credit and operational losses-for instance, receivables booked without clean title transfer in murabaha, or ijara schedules misaligned with usufruct delivery-demonstrating that “form–substance” is a risk parameter, not merely a legal ritual. Al Hammadi

(2025) adds that fintech rails and third-party platforms amplify both capability and exposure: faster onboarding and digital documentation increase reach, yet they heighten documentation and sequencing risk unless Shariah and risk checkpoints are embedded upstream in the workflow. State Bank of Pakistan (2024) operationalizes this upstream stance with RACI-style Shariah pathways, assigning who verifies asset evidence, who clears profit computation, and when unresolved questions must escalate on a timer to the Shariah function.

Taken together, Islamic Financial Services Board (2024), Van Greuning and Iqbal (2008), and Al Hammadi (2025) imply that contract-form constraints are coordination levers: they force early AM–Sales alignment on evidence, timelines, and counterparties, which reduces rework and exception drift. This upstream discipline naturally leads to the next subsection—the effect of Shariah governance on AM–Sales relationship quality—where the same constraints translate into clearer roles, faster escalations, and more reliable origination outcomes.

C. Effect of Shariah Governance on AM–Sales Relationship Quality

Islamic Financial Services Board (2024) argues that Shariah governance improves relationship quality by converting potential late-stage disputes into ex-ante design routines—early consultations, evidence checklists, and time-boxed rulings—so Account Managers and Sales negotiate structures within clear form constraints rather than through ad-hoc compromises. By specifying who provides asset evidence, who validates ownership/possession, and when unresolved questions must escalate, Islamic Financial Services Board (2024) replaces personality-driven bargaining with predictable handoffs, which raises trust and lowers interpersonal friction at origination.

State Bank of Pakistan (2024) extends this operationally, showing that RACI-style Shariah pathways—with named owners, approvers, and clocks—compress decision latency and reduce rework, which are classic markers of high-quality cross-functional ties. Van Greuning and Iqbal (2008) add the economic mechanism: when form–substance alignment is weak, problems appear as credit and operational losses (e.g., murabaha without clean title transfer or ijara with ambiguous usufruct), so upstream Shariah gates directly improve mutual accountability between AM and Sales by tying origination quality to measurable loss outcomes.

Al Hammadi (2025) brings a digital lens, noting that fintech rails and third-party platforms amplify both capability and exposure; unless Shariah requirements are embedded in workflows and vendor contracts, AM–Sales coordination deteriorates into after-the-fact fixes. By contrast, when Shariah criteria are co-visible in CRM/risk systems and bound to escalation timers, Al Hammadi (2025) observes fewer documentation defects and faster case closure—behaviors consistent with stronger, more cooperative AM–Sales relationships.

Financial Stability Board (2023) converges from a seams-first perspective: governance that clarifies who decides, on what evidence, and by when reduces relitigation and email loops, which are practical symptoms of poor relationship quality. Building on that, KPMG (2025) shows that integrating Shariah checkpoints into RACI, thresholds, and SLAs turns Shariah from a late “stamp” into a shared operating discipline, aligning incentives and reducing override drift. In turn, Bank for International Settlements (2013) and International Monetary Fund (2023) imply that such clarity improves liquidity/market-risk fit and speed under volatility, reinforcing the partnership logic between AM and Sales. Having established the governance pathway that stabilizes collaboration, the next subsection examines Digital and Third-Party

Interdependencies, where cloud/fintech vendors and operational-resilience requirements stress-test this relationship and make upstream Shariah integration even more consequential.

2.2.8. Digital and Third-Party Interdependencies

A. Role of Fintech and Cloud Vendors

Financial Stability Board (2023) treats third-party technology as a governance surface rather than a procurement choice, arguing that fintech and cloud providers reshape who controls data, who detects incidents, and who can restore service, which directly affects AM–Sales execution at origination and onboarding. Building on that seam-first view, International Monetary Fund (2023) warns that tighter global financial conditions amplify operational and liquidity transmission through vendor outages and API dependencies, so frontline decisions that rely on external KYC, scoring, or pricing feeds must embed time-bound fallbacks and evidence standards to avoid latent risk migrating into approvals.

Board of Governors of the Federal Reserve, FDIC, and OCC (2024) sharpen the operational mechanics by insisting that banks retain accountability for third-party performance, specifying roles, monitoring rights, data-access, and escalation clocks in contracts; this turns SLAs, audit rights, and exit strategies into risk controls that AMs must internalize when structuring deals on vendor rails. Organization for Economic Cooperation and Development (2022) adds that cloud platforms concentrate data processing and analytics; without co-visibility in CRM/risk systems and traceable lineage, AM–Sales can neither verify model inputs nor defend overrides, weakening screening quality. In Islamic contexts, Islamic Financial Services Board (2024) shows that fintech enablement intersects Shariah form-asset evidence, ownership transfer, and profit recognition—so vendor workflows and APIs must carry Shariah-relevant fields upstream, or else contract defects surface post-booking.

Taken together, Financial Stability Board (2023), IMF (2023), and U.S. supervisors (2024) imply that fintech/cloud choices are design constraints on the AM–Sales seam: they determine what signals are seen, how quickly exceptions escalate, and whether documentation satisfies prudential and Shariah requirements. This vendor logic naturally leads to the next subsection on cloud and digital transformation effects on coordination, where shared tooling, API latency, and multi-tenant architectures either reinforce or erode the cadence, co-visibility, and RACI discipline established earlier—and sets up the discussion of operational-resilience interdependencies that bind technology choices to risk outcomes.

B. Impact of Cloud Systems and Digital Transformation on AM–Sales Coordination

Building on the vendor surface just outlined, Organization for Economic Cooperation and Development (2022) argues that cloud adoption centralizes data processing and analytics, which can either tighten or fracture coordination: when CRM and risk tools sit on a shared cloud stack with standardized APIs, AM and Sales gain co-visibility and consistent definitions; when migrations are partial, teams inherit multiple versions of truth and latency pockets that widen interpretation gaps. International Monetary Fund (2023) adds that in higher-for-longer rate regimes, such information latency directly monetizes into mispricing at origination, so digital transformation is a risk lever rather than a back-office upgrade.

Extending this execution lens, Habel, Alavi, and Heinitz (2023) show that analytics shift frontline behavior only when embedded in daily workflows; cloud-native CRM that surfaces

next-best-actions inside the AM–Sales cadence converts insight to action, while standalone dashboards on separate stacks rarely do. Lang, Peltonen, and Sarlin (2018) demonstrate that early-warning performance improves when weak signals are routed through fixed review rhythms and shared displays—an effect amplified on cloud platforms that standardize access, timing, and alerting across roles. In practice, cloud integration becomes the plumbing that makes cadence, feedback loops, and escalation clocks actually work.

From a governance angle, Financial Stability Board (2023) cautions that cloud concentration introduces third-party and data-path dependencies; unless roles, monitoring rights, and time-bound escalations are encoded in service design, AM–Sales coordination collapses into ticket chasing. Bank for International Settlements (2013) links the same mechanics to liquidity fit: if cloud pipelines delay LCR-relevant data (funding costs, tenor ladders), origination decisions internalize the wrong constraints. The U.S. supervisors’ joint statement (2024) similarly insists that banks retain accountability for vendor performance, which means AMs must internalize SLA clocks, audit trails, and exit paths when structuring deals on cloud-enabled rails.

In Islamic contexts, Islamic Financial Services Board (2024) notes that digital channels intersect Shariah form: cloud workflows must carry fields for asset evidence, possession/transfer, and profit recognition, or AM–Sales will discover form–substance defects downstream. Taken together, OECD (2022), IMF (2023), and FSB (2023) imply that cloud and digital transformation are coordination architectures: they determine what signals are seen, how fast they circulate, and whether governance is executable. This dependence sets up the next subsection on operational-resilience interdependencies, where the same cloud choices dictate failure modes (outages, degraded APIs) and the seam discipline-cadence, RACI, and SLAs—becomes the bank’s first line of defense.

C. Operational Resilience Interdependencies

- From cloud coordination to resilience.

Having shown that cloud and digital stacks rewire what AM–Sales see and when, the remaining question is how those same stacks fail—and how the seam absorbs shocks. Financial Stability Board (2023) frames resilience as a seams-first discipline: third-party outages, API degradation, and data-path breaks only become losses when handoffs lack timers, fallbacks, and decision ownership. International Monetary Fund (2023) adds the macro lens: in higher-for-longer regimes, operational delays monetize into mispricing and liquidity misfit, so execution speed and recovery paths are risk levers, not IT hygiene.

- Failure modes that hit origination.

McKinsey & Company (2020) notes that vendor-centric workflows create single points of attention: if external KYC, scoring, or pricing feeds fail, AM–Sales default to volume pressure and informal heuristics unless pre-agreed fallbacks exist. Oet, Bianco, Gramlich, and Ong (2013) show that fragmented signal pipelines raise false negatives when aggregation or lineage breaks; an EWS flag that does not render in CRM on time might as well not exist. Bank for International Settlements (2013) ties this directly to prudential fit: when LCR-relevant data (funding costs, tenor ladders) are stale, deals embed the wrong liquidity assumptions at origination.

- Controls that travel with the seam.

FSB (2023) and KPMG (2025) converge on three portable controls: (1) RACI-anchored ownership for “degradation mode” (who approves under reduced data), (2) SLA clocks and evidence packs for time-bound escalation to second line, and (3) playbooked fallbacks (manual price curves, conservative caps, or pause rules) that are pre-authorized for short windows. Habel, Alavi, and Heinitz (2023) emphasize embedding: these controls must live in CRM tasks and next-best-actions, or frontline behavior reverts to workarounds. Lang, Peltonen, and Sarlin (2018) add that resilience is a learning loop: post-incident outcomes should tighten upstream thresholds where false negatives or delays occurred.

- Third-party accountability and concentration.

The U.S. supervisors’ joint statement (2024) insists banks retain accountability for third-party delivery, requiring rights to monitor, audit, and exit-translated for AM–Sales as pre-deal checks that confirm vendor SLAs, data access, and failover adequacy when a structure depends on external rails. OECD (2022) warns that cloud concentration creates correlated outages; therefore, pipeline and approval policies should include rate-limit rules or auto-throttles during platform incidents to prevent queueing risk from mutating into poor selection.

Islamic-bank specifics. Islamic Financial Services Board (2024) highlights that murabaha/ijara/musharaka add form-critical artifacts (asset evidence, possession/transfer, profit recognition). Resilience, here, means preserving form under stress: if an API fails, can AM–Sales capture and verify evidence manually within SLA? Van Greuning and Iqbal (2008) remind that weak form–substance controls often surface as credit/operational losses, not only compliance findings-hence Shariah pathways and backups must be time-boxed and owned.

- ▲ Implications for this study.

IMF (2023) and BIS (2013) justify modeling operational resilience at the seam as part of the IV’s Decision Rights & Escalation Clarity (RACI) and Information Sharing & Data Integration: degradation-mode ownership, lineage-aware fallbacks, and SLA clocks should predict Operational Resilience & Third-Party Risk Control and improve Liquidity & Market-Risk Fit at Origination. FSB (2023) and KPMG (2025) support measuring dispute-resolution speed and override governance during incidents as observable markers of relationship quality. Building on these resilience mechanics, the next subsection (2.2.9 Measurement Approaches in Prior Studies) distills how prior literature operationalized these constructs-items, scales, and validity checks-to inform the instrument we will deploy at Al Rajhi Bank.

2.2.9. Measurement Approaches in Prior Studies

A. Common Measures Used for the “Functional Relationship” Construct

Across adjacent literatures-sales–operations integration, inter-unit coordination, and governance at the first line-researchers typically model the AM–Sales link as a multi-dimensional reflective construct captured with Likert-type items around four recurrent themes:

1. Communication quality & cadence. Studies operationalize clarity, timeliness, and predictability of exchanges (e.g., “updates arrive on a fixed rhythm,” “messages are unambiguous and decision-ready”), with internal consistency checks at $\alpha/CR \geq .70$ (Habel, Alavi, & Heinitz, 2023; International Monetary Fund, 2023). Items often anchor to routine artifacts-agenda discipline, decision logs, pre-deal huddles-so the

scale reflects designed cadence rather than informal chatter (Financial Stability Board, 2023).

2. Information sharing & data integration. Scales emphasize co-visibility (“AM and Sales see the same dashboard at the same time”), data lineage (“sources/definitions are trusted”), and early-warning surfacing (“weak signals appear pre-booking with named owners”), aligning content with CRM-embedded analytics (Habel, Alavi, & Heinitz, 2023; Lang, Peltonen, & Sarlin, 2018; Oet, Bianco, Gramlich, & Ong, 2013).
3. Goal/KPI & incentive alignment. Measures capture RAROC-linked targets, override discipline, and delinquency feedback to scorecards (e.g., “sales credit reflects expected loss/funding costs,” “exceptions carry evidence-based costs”), distinguishing risk-adjusted goals from volume quotas (McKinsey & Company, 2020; Bank for International Settlements, 2013; Financial Stability Board, 2023).
4. Decision rights & escalation clarity (RACI). Items test ownership (“who decides is explicit”), thresholds (“pre-set limits trigger escalation”), SLA clocks, and auditability (“outcomes and evidence are logged”), reflecting a Three Lines translation into day-to-day tools (KPMG, 2025; Financial Stability Board, 2023). In Islamic settings, scales add Shariah pathways and contract-form checkpoints as part of first-line routines (Islamic Financial Services Board, 2024).

B. Construct validity & reliability - what to prove and how to prove it

- Content and construct boundaries.

Financial Stability Board (2023) defines resilience at the seams-cadence, shared indicators, and time-bound escalations-so items must span these mechanisms to ensure content validity (coverage of communication, data integration, KPI alignment, and RACI). KPMG (2025) treats role clarity as work design (RACI, thresholds, SLAs), which helps demarcate our construct from adjacent ones (e.g., culture or generic teamwork), supporting discriminant validity a priori. International Monetary Fund (2023) frames bank risk as execution under uncertainty, justifying a multidimensional reflective structure; each subscale should intercorrelate moderately yet remain distinct, paving the way for CFA tests of the four-factor model.

- Convergent/discriminant tests and model fit.

Habel, Alavi, and Heinitz (2023) show behavior shifts only when insights are embedded in routines, implying that items keyed to embeddedness should load strongly on their factors-convergent validity via loadings $\geq .60$ and AVE $\geq .50$, and composite reliability $\geq .70$. Lang, Peltonen, and Sarlin (2018) separate cadence/feedback from signal quality, motivating discriminant validity checks (e.g., HTMT $< .85$) between “Communication Quality & Cadence” and “Information Sharing & Data Integration.” Oet, Bianco, Gramlich, and Ong (2013) highlight aggregation/lineage as a distinct information property, further supporting factor separability. Model adequacy should meet CFA criteria (e.g., CFI/TLI $\geq .90$, RMSEA $\leq .08$, SRMR $\leq .08$), consistent with the multifactor logic argued by these studies.

- Reliability and bias controls.

McKinsey & Company (2020) warns that volume-biased KPIs distort self-reports, so we couple procedural remedies (anonymity, reverse-coded items, mixed anchors) with statistical checks (Cronbach’s α and CR $\geq .70$; item-total correlations $\geq .30$). KPMG (2025) and FSB (2023) emphasize auditability, which we leverage to reduce common-method bias by pairing

perceptions with trace data (meeting logs, SLA timers, override counts). A marker-variable or unmeasured latent method factor can be added if Harman's single-factor > 40% variance. Where feasible, test-retest over short windows aligns with Lang, Peltonen, and Sarlin's (2018) cadence logic, probing temporal stability without confounding by policy shifts.

- Criterion and external validity.

Bank for International Settlements (2013) makes LCR/funding constraints observable; therefore, higher scores on "Decision Rights & Escalation Clarity (RACI)" should predict better Liquidity & Market-Risk Fit at Origination-a predictive validity test using objective deal metrics. Habel, Alavi, and Heinitz (2023) and Lang, Peltonen, and Sarlin (2018) imply that strong "Co-visibility/Early-Warning" scores should correlate with fewer early delinquencies and lower false-negative rates, providing concurrent validity. In Islamic settings, Islamic Financial Services Board (2024) argues that form-substance checkpoints (asset evidence, possession/transfer, profit recognition) are integral; thus, subscales including Shariah pathways should show known-groups validity across murabaha/ijara/musharaka segments and support measurement invariance (configural/metric/scalar) across product types.

- Linking back to the model.

IMF (2023) justifies multidimensionality; FSB (2023) and KPMG (2025) supply observable behaviors for items; Oet et al. (2013), Habel et al. (2023), and Lang et al. (2018) guide factor separation and outcome linkage; BIS (2013) and Islamic Financial Services Board (2024) provide objective external anchors for criterion tests. Together, these choices make validity and reliability part of the design, not a post-hoc check-setting up the final subsection on lessons for instrument design that operationalize these standards in Al Rajhi Bank's context.

C. Lessons for Designing the Measurement Instrument for This Study

1) Anchor items in observable routines, not attitudes: Financial Stability Board (2023) emphasizes seams-cadence, shared indicators, and time-bound handoffs-so items should reference concrete artifacts (agenda discipline, decision logs, joint dashboards, escalation timers) rather than generic "collaboration" feelings. KPMG (2025) similarly treats role clarity as work design (RACI, thresholds, SLAs), which means questions must ask whether these tools exist and are used, not whether relations feel "good."

2) Embed information-processing logic in the wording: International Monetary Fund (2023) frames risk as execution under uncertainty, so items must test timing and visibility (who sees what, when) instead of mere availability. Habel, Alavi, and Heinitz (2023) suggest referencing CRM-embedded prompts ("next-best action appears in my workflow") to ensure we measure embeddedness rather than dashboard awareness.

3) Separate-but connect-signal quality and cadence: Lang, Peltonen, and Sarlin (2018) show early-warning gains come from feedback loops; therefore, create distinct subscales for (a) Communication Quality & Cadence (fixed reviews, clarity of minutes, action follow-ups) and (b) Information Sharing & Data Integration (co-visibility, lineage trust, pre-booking flags). Oet, Bianco, Gramlich, and Ong (2013) justify explicit lineage items (source, refresh time, transformation) to keep signal quality conceptually distinct.

4) Tie incentives to governance in the scale content: McKinsey & Company (2020) warns that volume KPIs neutralize analytics; include items on RAROC-linked targets, override

costs/caps, and delinquency feedback to scorecards so the Goal/KPI Alignment subscale reflects behavior-shaping mechanisms. Financial Stability Board (2023) recommends evidence-based overrides-make that an item family.

5) Make decision rights measurable: KPMG (2025) recommends RACI and SLAs; write items that ask who decides, within what thresholds, and on what evidence pack, plus whether auto-escalation clocks exist. Bank for International Settlements (2013) motivates items tying first-line decisions to LCR/funding constraints (e.g., “tenor/pricing reflect funding costs before approval”).

6) Localize for Islamic finance without collapsing constructs: Islamic Financial Services Board (2024) requires form–substance checkpoints; keep the four IV dimensions, but add indicator rows inside each: co-visibility of Shariah fields (asset evidence, possession/transfer, profit recognition), Shariah RACI ownership, and time-boxed Shariah consultation. Van Greuning and Iqbal (2008) justify linking these to loss outcomes; keep them as *items* under existing subscales rather than new factors to preserve comparability.

7) Design for validity from the start: IMF (2023) supports a four-factor reflective model; plan a CFA with loadings $\geq .60$ and AVE $\geq .50$ for convergent validity. Following Lang, Peltonen, and Sarlin (2018), target HTMT $< .85$ between “cadence” and “information” subscales for discriminant validity. KPMG (2025) and FSB (2023) enable criterion checks using trace data (escalation timestamps, override counts, LCR fit), while BIS (2013) provides objective anchors for predictive validity.

8) Control method bias and ensure reliability: McKinsey & Company (2020) motivates procedural remedies (anonymity, mixed anchors, some reverse-coded items). Aim for $\alpha/\text{CR} \geq .70$ and item–total $\geq .30$. Where feasible, add a short test–retest to probe stability of routines (Lang, Peltonen, & Sarlin, 2018). Pair survey items with system logs (FSB, 2023) to reduce common-method inflation.

9) Write items at the decision moment: BIS (2013) and IMF (2023) agree that origination is where prudential aims must be internalized; phrase items around pre-deal and at-approval moments (“before booking,” “at credit memo sign-off”), not generalities, to increase diagnostic power.

10) Keep the instrument auditable and brief: FSB (2023) favors auditability; map each item to its evidence source (minutes, dashboard ID, SLA log). To preserve response quality, cap each subscale to 4–6 items, totaling ~20–24 items for the IV; reserve outcome items for the DV and gather objective metrics (early arrears, override rate, liquidity-fit flags) for validation.

Bridge to implementation. These lessons translate directly into a draft questionnaire blueprint: four IV subscales (cadence, information integration, KPI alignment, RACI) with Islamic-specific indicators embedded; paired trace data for validity; and CFA-ready structure. In the next step, we can convert each lesson into item stems tailored to Al Rajhi Bank’s workflows while preserving comparability with prior studies.

2.3. Risk Management Effectiveness (DV)

From compliance to capability. International Monetary Fund (2023) reframes bank risk as *execution under uncertainty*, implying that “risk management effectiveness” is not a checklist

but an organizational capability that converts policy into timely, evidence-based decisions at the seam of origination and early monitoring. Financial Stability Board (2023) pushes this seam-first logic further: effectiveness is observed where cadence, shared indicators, and time-bound escalation prevent policy–execution gaps, so quality resides in routines-what AM and Sales *actually* do-rather than in formal manuals. In Islamic contexts, Islamic Financial Services Board (2024) adds that effectiveness also requires form–substance alignment (asset evidence, possession/transfer, profit recognition), moving Shariah from a late approval to an upstream design input.

A deal-life-cycle lens. Bank for International Settlements (2013) makes capability testable by embedding liquidity discipline (LCR/HQLA) into pricing and tenor at origination; if frontline teams internalize funding costs before booking, effectiveness rises, whereas late-gate fixes signal weakness. Building on this, KPMG (2025) translates capability into work design-RACI, thresholds, and SLAs-so “who decides, on what evidence, and by when” becomes measurable. This study therefore scopes effectiveness across the deal life cycle: (1) pre-deal screening and KYC/EDD depth, (2) at-approval discipline in pricing/tenor/collateral with documented overrides, (3) post-booking early-warning and covenant follow-through, and (4) operational resilience when third-party rails or cloud paths fail.

Integrating the four risk anchors. To maintain conceptual clarity, effectiveness is organized around credit, liquidity/market, and operational anchors with Islamic-form requirements woven through each (Islamic Financial Services Board, 2024). International Monetary Fund (2023) justifies the multi-anchor scope under volatility, while Bank for International Settlements (2013) supplies objective anchors for liquidity fit, and Financial Stability Board (2023) supplies seam metrics (escalation clocks, decision logs). This sets a direct bridge to Sections 2.3.3–2.3.6, where each anchor is operationalized into frontline routines and measurable outcomes that the empirical model will link to the AM–Sales functional relationship.

2.3.1. Conceptualization and Scope

A. From “Compliance” to an Organizational Capability

International Monetary Fund (2023) argues that in volatility-prone environments, risk is fundamentally execution under uncertainty, which means effectiveness cannot be reduced to policy checklists or post-hoc controls; it must be built into how frontline teams decide, escalate, and learn at the point of origination. Financial Stability Board (2023) reinforces this seams-first view, showing that resilience emerges when cadence, shared indicators, and time-bound escalations are designed into daily routines-turning risk from a supervisory obligation into a repeatable operating capability. Bank for International Settlements (2013) makes the shift measurable by embedding LCR/HQLA constraints directly in pricing and tenor, so prudential aims are internalized before approval rather than policed after booking.

KPMG (2025) translates the capability lens into work design-RACI ownership, thresholds, and SLAs-arguing that “who decides, on what evidence, and by when” converts policies into flow, auditability, and faster recovery when conditions change. Islamic Financial Services Board (2024) adds the Islamic-finance dimension: effectiveness requires form–substance alignment (asset evidence, possession/transfer, profit recognition) as upstream design inputs, not late stamps, thereby tying Shariah governance to the same operating disciplines of cadence, co-visibility, and escalation. Taken together, these strands justify modeling risk management as

an organizational capability distributed across the AM–Sales seam; this directly motivates the next element—a deal-life-cycle perspective—that traces how capability should appear from pre-deal screening and approval through post-booking early warning and operational resilience.

2.3.2. Framework Anchors

A. A Deal-Life-Cycle Lens: From Origination to Post-Booking Follow-Through

International Monetary Fund (2023) frames effectiveness as execution under uncertainty, which makes the deal life cycle the natural unit of analysis: capability must be visible at each stage—pre-deal screening, at-approval structuring, post-booking monitoring, and incident response—rather than as a single compliance event. Financial Stability Board (2023) extends this seams-first logic, arguing that cadence, shared indicators, and time-bound escalation must be designed into each handoff, or policy–execution gaps reappear as pricing errors and late overrides. Building on this, KPMG (2025) recasts routine controls (RACI, thresholds, SLAs) as work design for every stage, so “who decides, on what evidence, and by when” is measurable from first contact to early-warning review.

Bank for International Settlements (2013) makes the life-cycle testable at approval by embedding LCR/HQLA and funding costs into pricing and tenor; when these constraints are internalized before booking, origination quality improves, whereas after-the-fact vetoes signal weak capability. Habel, Alavi, and Heinitz (2023) add that analytics change behavior only when embedded in workflow, so pre-deal KYC/EDD and risk flags must surface as next-best-actions inside CRM, not as detached dashboards. Lang, Peltonen, and Sarlin (2018) show that post-booking early-warning works when weak signals are reviewed on a fixed rhythm with named owners, feeding learning loops that tighten upstream selection—thereby linking monitoring outcomes back to origination standards rather than treating them as separate worlds.

Islamic Financial Services Board (2024) integrates Shariah form–substance across the same stages: at pre-deal, evidence of asset existence/possession is assembled; at approval, profit recognition and ownership transfer are validated; at post-booking, documentation integrity remains auditable under change. Van Greuning and Iqbal (2008) warn that weak form–substance alignment migrates into credit and operational losses, justifying early Shariah consultation on a clock. Finally, IMF (2023) and FSB (2023) converge on operational resilience as the life-cycle’s shock absorber: vendor or cloud incidents must trigger RACI-owned fallbacks, SLA clocks, and evidence-based overrides, so AM–Sales continue making sound decisions under degraded conditions. In short, BIS (2013), FSB (2023), and KPMG (2025) collectively position effectiveness as a front-to-back operating capability—observable, auditable, and improvable—rather than a static compliance state.

B. 2.3.2 Framework Anchors - Liquidity, Market, Credit, and Operational Effectiveness

Liquidity effectiveness. Bank for International Settlements (2013) reframes liquidity control as a frontline discipline: when LCR/HQLA constraints and funding-cost ladders are internalized at structuring-pricing, tenor, and draw schedules—liquidity fit is engineered before approval, not repaired after. International Monetary Fund (2023) adds that in higher-for-longer regimes, any latency between funding signals and deal design monetizes into mispricing, so effective liquidity management is observed in pre-deal decisions (tenor caps, amortization shapes, and funding add-ons) and time-bound escalations when proposals breach limits. Financial Stability

Board (2023) makes the seam explicit: cadence, shared indicators, and escalation clocks ensure that liquidity guardrails are visible to AM–Sales in the same window, turning prudential aims into repeatable routines rather than committee surprises.

Market-risk effectiveness. BIS (2013) implies that market fit at origination is the twin of liquidity fit: rate, basis, and optionality exposures must be priced and, where possible, hedged or bounded within pre-set thresholds at approval. IMF (2023) argues that under volatility, slow feedback on curve shifts or basis stress creates loss-given-error, so effective practice couples pricing floors and tenor design with override governance that demands evidence for exceptions on a clock. FSB (2023) extends this to third-party data paths-if market inputs (e.g., funding curves) traverse vendor rails, effectiveness requires co-visibility and lineage so deviations trigger time-boxed escalation rather than informal fixes. In Islamic contexts, Islamic Financial Services Board (2024) reminds that contract form (murabaha/ijara/musharaka) constrains permissible hedging, which pushes effectiveness toward structure choices (e.g., amortizing cash flows, delivery timing) that reduce embedded market risk by design.

Credit-risk effectiveness. IMF (2023) defines risk as execution under uncertainty, which makes selection quality, pricing discipline, and collateral rigor the observable core of credit effectiveness at the seam. BIS (2013) supports this by tying credit choices to funding economics-RAROC must reflect expected loss and liquidity cost-so “cheap” deals do not externalize risk to capital buffers. McKinsey & Company (2020) cautions that volume-only incentives neutralize analytics, hence effectiveness depends on risk-adjusted KPIs, evidence-based overrides, and delinquency feedback into scorecards so origination learns from outcomes. Lang, Peltonen, and Sarlin (2018) show that early-warning review cadences reduce false negatives; embedding pre-booking signals and covenant previews into joint AM–Sales routines upgrades approval quality before exposure is taken. In Islamic settings, Islamic Financial Services Board (2024) links credit quality to form–substance checks (asset evidence, possession/transfer, profit recognition), making Shariah compliance a credit control as much as a legal requirement.

Operational-risk and resilience effectiveness. FSB (2023) treats third-party and cloud dependencies as governance surfaces: outages and API degradation become losses when handoffs lack RACI ownership, SLA clocks, and predefined fallbacks. IMF (2023) adds that operational delays in tight monetary cycles propagate into mis-pricing and onboarding errors, so effectiveness is visible in degradation-mode playbooks (who decides under reduced data, what conservative defaults apply, when to pause). The U.S. supervisors’ joint statement (2024) converts this into accountability: banks must retain monitoring rights, audit trails, and exit paths in vendor contracts, which AMs must internalize when structures rely on external rails. Van Greuning and Iqbal (2008) show that weak form–substance control often materializes as credit/operational losses, reinforcing that operational effectiveness includes preserving documentation integrity (especially Shariah-relevant artifacts) under stress. KPMG (2025) closes the loop by translating resilience into work design-RACI, thresholds, SLAs-so recovery speed (MTTR) and control remediation quality are measurable at the AM–Sales seam.

Bridge to frontline routines. Taken together, BIS (2013), FSB (2023), IMF (2023), and Islamic Financial Services Board (2024) position the four anchors as operating capabilities observable in daily choices: how tenor/pricing absorb funding signals (liquidity/market), how selection and overrides balance return and loss (credit), and how vendor-dependent workflows

sustain decisions under stress (operational). These anchors directly motivate the next subsections (2.3.3–2.3.6), where each domain is translated into frontline routines and outcome markers that will later serve as the dependent-variable dimensions in the empirical model.

2.3.3. Early Risk Identification and Onboarding Quality

A. ChatGPT said:Depth of KYC / EDD

International Monetary Fund (2023) reframes KYC/EDD as a frontline execution capability under uncertainty: depth is not more documents per se, but whether identity, beneficial ownership, income/flows, counterparties, and funding sources are verified early enough to change origination decisions. Financial Stability Board (2023) carries this seams-first logic into practice by tying depth to designed routines-fixed pre-deal reviews, named owners, evidence packs, and escalation clocks-so gaps surface before approval rather than as late-file remediation. Bank for International Settlements (2013) links KYC/EDD depth to liquidity/market fit at origination: when client cash-flow evidence and counterparty exposures are thin, pricing and tenor embed wrong funding assumptions, turning “shallow” due diligence into liquidity risk.

KPMG (2025) translates depth into work design-RACI for who collects and validates which proofs, thresholds for when senior sign-off is required, and SLAs for turnaround-making completeness auditable instead of discretionary. Habel, Alavi, and Heinitz (2023) show that analytics only change behavior when embedded in workflow; thus EDD red flags (e.g., adverse media, network risk, segment outliers) must appear as next-best actions inside CRM, not as detached dashboards. Lang, Peltonen, and Sarlin (2018) add that pre-booking early-warning cadences reduce false negatives when weak signals (unusual payments, covenant strain) are reviewed on schedule with named owners. In Islamic settings, Islamic Financial Services Board (2024) requires KYC/EDD to include form–substance artifacts-asset evidence, possession/transfer, and profit recognition-so origination satisfies Shariah by design rather than post-hoc. Al Hammadi (2025) warns that fintech rails expand reach and documentation risk; without lineage and vendor SLAs, third-party KYC feeds create blind spots the AM–Sales seam cannot see. Collectively, these views position KYC/EDD depth as a measurable driver of early risk identification and onboarding quality, directly linking to the study’s dependent-variable dimension.

B. Scope of Pre-Booking Early-Warning Signals (EWS)

Building directly on KYC/EDD depth, International Monetary Fund (2023) argues that pre-booking EWS must translate uncertainty into actionable, time-bounded cues before exposure is taken-signals about obligor cash-flows, sector stress, counterparty concentration, and funding conditions that can still reshape pricing, tenor, or a go/no-go. Lang, Peltonen, and Sarlin (2018) show that weak signals only improve outcomes when they surface on a fixed review cadence with named owners and thresholds, turning “interesting patterns” into scheduled decisions rather than post-hoc insights. Oet, Bianco, Gramlich, and Ong (2013) add that aggregation and lineage matter: early warnings built from inconsistent or stale inputs inflate false negatives and overwhelm reviewers, so sources, refresh cycles, and transformations must be traceable to earn attention.

Bank for International Settlements (2013) gives the prudential mechanism: EWS that include funding-cost and LCR/HQLA cues allow AM–Sales to internalize liquidity constraints at

origination, avoiding late liquidity misfit. Financial Stability Board (2023) extends this to seam design-co-visible dashboards, decision logs, and escalation clocks-so alerts trigger evidence-based overrides rather than informal bargaining. Habel, Alavi, and Heinitz (2023) emphasize embedding: EWS must live in CRM/risk workflows as next-best actions tied to accountable metrics, or behavior will not change. In Islamic settings, Islamic Financial Services Board (2024) notes that form–substance indicators-asset evidence, possession/transfer, profit recognition-are part of EWS, not an afterthought, ensuring that murabaha/ijara/musharaka structures are feasible before approval. This EWS design naturally bridges to pre-deal sign-offs, where the same signals are adjudicated under RACI, thresholds, and SLA timers to lock decisions and document accountability.

C. Quality of Pre-Deal Sign-Offs

KPMG (2025) frames pre-deal sign-offs as the conversion point where information and incentives become an auditable decision: quality exists when a named owner approves on defined evidence, within a timer, and against explicit thresholds. Financial Stability Board (2023) adds that strong sign-offs are seam designs-agendas, decision logs, and required evidence packs-so AM and Sales adjudicate the same facts, not negotiate impressions. International Monetary Fund (2023) links quality to macro uncertainty: when volatility is high, latency and ambiguity at sign-off inflate loss-given-error, so timers and complete files are risk controls, not red tape.

Bank for International Settlements (2013) makes the prudential core testable: high-quality sign-offs internalize LCR/HQLA and funding costs before approval, forcing tenor, pricing, and structure to reflect liquidity and market-risk realities at origination. McKinsey & Company (2020) warns that if KPIs reward volume, committees drift toward exception inflation; thus quality requires evidence-based overrides with caps or costs so short-term pipeline credit does not bypass prudential aims. Financial Stability Board (2023) converges by requiring that any override cite the breached threshold, attach supporting analysis, and escalate on a clock-turning discretion into accountable governance.

Lang, Peltonen, and Sarlin (2018) show that sign-offs outperform when pre-booking early-warning signals feed the packet on a fixed cadence with named reviewers, reducing false negatives and re-litigation. Habel, Alavi, and Heinitz (2023) add that analytics change behavior only when embedded in workflow; therefore, the sign-off packet should pull co-visible CRM/risk fields (lineage-tagged inputs, next-best actions completed, and covenant previews), or else decisions rest on screenshots and anecdotes. Oet, Bianco, Gramlich, and Ong (2013) reinforce that signal aggregation with traceable lineage curbs noise, so committees focus on prioritized, comparable cues rather than fragmented alerts.

Islamic Financial Services Board (2024) extends quality to form–substance alignment: for murabaha, ijara, and musharaka, pre-deal sign-off must verify asset evidence, possession/transfer mechanics, and profit recognition ex-ante; when ambiguity persists, Shariah consultation runs on an SLA owned by the AM. Van Greuning and Iqbal (2008) document that weak form–substance controls surface later as credit and operational losses, so upstream sign-offs are economic levers, not only compliance checks. U.S. supervisors (2024) further insist that where third-party rails (KYC, scoring, cloud) are integral, the packet include vendor SLA

status, data-access rights, and failover plans, keeping accountability with the bank at the moment of approval.

Taken together, KPMG (2025), BIS (2013), and FSB (2023) imply that high-quality pre-deal sign-offs have five traits:

1. named ownership and timers.
2. threshold-based decisions with evidence-backed overrides.
3. co-visible, lineage-tagged data embedded in the packet.
4. integration of pre-booking EWS and covenant previews.
5. Islamic-form verification and vendor accountability where applicable (Islamic Financial Services Board, 2024; U.S. supervisors, 2024).

Designed this way, the sign-off is the hinge that turns earlier routines-KYC/EDD depth and EWS scope-into risk-fit origination, and it sets the stage for Section 2.3.4 on Credit Discipline and Outcomes, where the consequences of sign-off quality become empirically observable.

2.3.4. Credit Discipline and Outcomes

A. Pricing, Tenor, and Collateral Discipline

Bank for International Settlements (2013) makes discipline at origination measurable by requiring pricing and tenor to internalize expected loss, funding costs, and LCR/HQLA constraints before approval; when deals clear a RAROC hurdle that reflects these inputs, mispricing and liquidity misfit fall at the source. International Monetary Fund (2023) adds that in volatile regimes, latency between funding signals and structuring converts directly into loss-given-error, so disciplined pricing is not a spreadsheet virtue but a timing control-the numbers must be current at the decision moment. Financial Stability Board (2023) ties this to seam design: time-boxed sign-offs and evidence-based overrides prevent “exception drift,” keeping tenor within preset ladders and forcing justification when structures deviate.

McKinsey & Company (2020) cautions that volume-only incentives routinely neutralize this discipline-frontlines chase nominal margin while externalizing liquidity and credit costs-hence pricing and tenor rules must be KPI-coupled (RAROC-linked credit, caps on override frequency, delinquency feedback). Habel, Alavi, and Heinritz (2023) show that analytics change behavior only when embedded in workflow; pricing floors, funding add-ons, and tenor caps must appear as blocking conditions or next-best actions inside CRM/risk tools, not as after-the-fact dashboards. Lang, Peltonen, and Sarlin (2018) further demonstrate that cadenced reviews and covenant previews reduce false negatives, aligning deal design with early-warning realities.

On collateral, BIS (2013) motivates haircut discipline, eligibility, and concentration limits as part of first-line structuring, so collateral doesn’t masquerade as risk-free capacity. Islamic Financial Services Board (2024) adds form–substance requirements-clean title, possession/transfer, and profit recognition-making collateral and security packages Shariah-sound by design rather than corrected later. Taken together, BIS (2013), IMF (2023), and FSB (2023) imply that disciplined pricing, tenor, and collateral are not isolated checks: they are the economic expression of earlier mechanisms-co-visibility, KPI alignment, and RACI-converting governance into risk-fit origination that will be reflected in lower overrides, stronger covenant performance, and ultimately a more stable NPL trajectory.

B. Override Rates

Financial Stability Board (2023) treats overrides as a necessary *safety valve* that should be evidence-based, time-boxed, and scarce; when frequency climbs or documentation thins, it signals a seam failure-either thresholds are mis-specified or AM–Sales incentives are pulling against prudential aims. International Monetary Fund (2023) adds that in volatile regimes, lenient overrides monetize into selection and pricing errors, so governance must require that each exception cites the breached metric, supporting analysis, and an escalation clock, converting discretion into accountable decisions. Bank for International Settlements (2013) makes the prudential core explicit: overrides that ignore LCR/HQLA and funding-cost constraints embed liquidity misfit at origination; therefore, exception approval must show how pricing/tenor or collateral re-internalize those costs ex-ante.

McKinsey & Company (2020) argues that volume-biased KPIs inflate override rates by rewarding speed and booked balances; coupling overrides to RAROC-linked costs/caps and post-booking feedback reduces exception drift, aligning behavior with risk-adjusted value. Lang, Peltonen, and Sarlin (2018) show that when early-warning reviews feed committees on a fixed cadence, the *need* for last-minute overrides falls because weak signals are addressed upstream. Oet, Bianco, Gramlich, and Ong (2013) caution that poor data lineage creates fake scarcity or noise-if inputs are stale or incomparable, both approvals and overrides degrade-so lineage tags and shared dashboards are prerequisites for credible exception adjudication.

In Islamic settings, Islamic Financial Services Board (2024) notes that Shariah-form exceptions (e.g., asset-evidence gaps, possession/transfer timing, profit recognition) are not mere legalities; late fixes become credit/operational losses if form–substance alignment is broken, so Shariah-related overrides must run on RACI-owned timers with explicit evidence packs. The U.S. supervisors’ joint statement (2024) adds third-party accountability: where KYC/scoring/cloud rails are integral, exception files should document vendor SLA status and failover adequacy at the decision moment.

How to measure in this study. Following FSB (2023) and BIS (2013), the instrument will track

1. override frequency per 100 proposals and by severity (pricing / tenor / collateral / Shariah),
2. direction (leniency vs tightening),
3. cycle time from request to decision (SLA adherence),
4. evidence completeness (presence of lineage-tagged inputs and breached-metric citation).
5. post-override outcomes (RAROC slippage, early arrears, covenant breaches).

IMF (2023) motivates segment-level stress splits, while McKinsey & Company (2020) justifies linking override incidence to KPI design (caps/chargebacks). Designed this way, override rates become a diagnostic bridge to the next subsection on Covenant Performance, where exception quality (not just count) is revealed in downstream behavior of the same deals.

C. Covenant Performance

Bank for International Settlements (2013) treats covenants as the ex-ante translation of prudential aims into borrower behavior, so performance is strong when covenant sets are material, monitorable, and time-bounded-for example, liquidity buffers, leverage caps,

borrowing-base tests, and information undertakings that align tenor and pricing with the bank's LCR and funding realities at origination. International Monetary Fund (2023) adds that in volatile regimes, covenants are a timing control: they must refresh on a fixed rhythm so deteriorating cash-flows or basis shocks convert into automatic actions-step-ups, collateral top-ups, or pause rights-before losses compound.

Financial Stability Board (2023) argues that covenant effectiveness lives at the seam design: named owners, decision logs, and escalation clocks are required so exceptions do not drift into tacit waivers. KPMG (2025) translates this into work design-who tests which covenant, with what evidence, and by when-so results trigger pre-agreed pathways rather than ad-hoc renegotiation. Lang, Peltonen, and Sarlin (2018) show that cadenced early-warning reviews lower false negatives when covenant breaches are routed to fixed committees with pre-set actions, while Oet, Bianco, Gramlich, and Ong (2013) caution that weak data lineage yields noisy ratios and inconsistent trend calls; lineage-tagged inputs are therefore part of covenant quality, not back-office detail.

McKinsey & Company (2020) warns that volume-biased KPIs blunt covenant discipline: if relationship teams are paid on outstanding balances, breaches become bargaining chips rather than triggers. The remedy, McKinsey & Company (2020) suggests, is to couple RAROC-linked targets with override costs and breach-to-action SLAs, so acting on a breach is rewarded and delaying it is not. Habel, Alavi, and Heinitz (2023) add that analytics change behavior only when embedded; covenant status and "next-best action" must live inside CRM workflows with accountable owners and deadlines, or monitoring devolves into email threads.

In Islamic settings, Islamic Financial Services Board (2024) notes that covenant design must respect form–substance: for murabaha, ijara, and musharaka, undertakings about asset evidence, possession/transfer, and profit recognition are core covenants whose breach can create credit and operational losses if treated as mere documentation gaps. Van Greuning and Iqbal (2008) underline that weak alignment on these points often surfaces as payment frictions and enforcement challenges, making upstream clarity a financial control rather than a legal nicety.

What this implies for measurement. Following BIS (2013) and FSB (2023), this study will observe covenant performance through:

1. breach incidence by type (financial ratio, information, collateral, Shariah-form).
2. breach-to-action latency against SLA clocks.
3. action quality (step-ups, collateral cures, restructures) relative to policy playbooks.
4. override share in covenant management.
5. downstream outcomes (early arrears, roll rates, NPL migration).

IMF (2023) motivates stress-regime splits, while KPMG (2025) justifies attributing outcomes to named owners. By tying covenant behavior to timers, evidence, and incentives, the section links directly to the final piece-NPL dynamics-where sustained discipline at pricing, overrides, and covenants should manifest as a flatter loss curve over the portfolio's life.

D. Non-Performing Loan (NPL) Dynamics

International Monetary Fund (2023) frames NPLs as the cumulative expression of upstream execution quality, noting that default is rarely a shock; it is the end-state of small mis-

specifications at origination-pricing delays, weak KYC/EDD, thin covenants-that compound under volatility. Bank for International Settlements (2013) makes the liquidity channel explicit: when LCR/HQLA and funding costs are not internalized at approval, deals embed fragile cash-flow assumptions; as funding conditions tighten, marginal borrowers migrate faster toward delinquency, steepening vintage curves. Financial Stability Board (2023) adds a seam-first mechanism: high override frequency, slow escalation clocks, and poor decision logs correlate with longer breach-to-action latency, which raises transition rates from early arrears to NPL rather than to cure.

Lang, Peltonen, and Sarlin (2018) show that fixed early-warning cadences with named owners flatten roll rates by converting weak signals into scheduled actions; in cohorts where EWS reviews are irregular, the same signals arrive too late, and roll-forward to 90-days-past-due accelerates. Habel, Alavi, and Heinitz (2023) emphasize embeddedness: analytics reduce NPLs only when next-best-actions live in frontline workflows; when alerts remain on dashboards, insight-action gaps persist and defaults rise. McKinsey & Company (2020) warns that volume-biased KPIs dilute remedial action-teams defer restructures to protect balances-so portfolios show fatter right tails in loss distributions even when average PDs look stable.

KPMG (2025) offers the governance remedy: RACI ownership, thresholds, and SLAs shorten the time from breach to decision, raising cure rates and lowering loss-given-error. Oet, Bianco, Gramlich, and Ong (2013) add that lineage-verified aggregation prevents both false negatives and false positives in watch-list construction; when sources and refresh cycles are opaque, remediation chases noise while real risk ages into default. In Islamic contexts, Islamic Financial Services Board (2024) and van Greuning and Iqbal (2008) show how form-substance defects-unclear asset evidence, possession/transfer gaps, or profit-recognition errors-translate into operational frictions that hinder enforcement and increase default persistence, making upstream Shariah checkpoints economically material, not merely legal.

What this implies for measurement. BIS (2013) and IMF (2023) motivate a vintage/hazard view: track 12–24-month cohort curves from booking, with roll rates (30→60→90 DPD), cure fractions, and time-to-default by:

- override status.
- EWS cadence adherence.
- SLA compliance at pre-deal sign-off.

liquidity-fit flags at origination. FSB (2023) supports adding breach-to-action latency as a leading indicator; cohorts with slower clocks should exhibit higher NPL migration and lower cure. KPMG (2025) suggests attributing outcomes to named owners to test whether RACI clarity shortens remediation. Islamic Financial Services Board (2024) justifies known-groups tests across murabaha/ijara/musharaka vintages-portfolios with stronger form evidence and timely Shariah escalations should display flatter NPL trajectories and lower LGD. Collectively, these links make NPL dynamics the downstream litmus test of the study's mechanisms-cadence, information integration, KPI alignment, and RACI-closing the causal loop from origination design to loss outcomes.

2.3.5. Liquidity and Market-Risk Fit at Origination

1. LCR and HQLA Constraints at Origination

Bank for International Settlements (2013) recasts LCR and HQLA from balance-sheet afterthoughts into origination constraints: deal tenor, amortization, and pricing should be designed to preserve the bank's 30-day liquidity buffer, which means first-line proposals must internalize funding ladders and HQLA availability before approval. International Monetary Fund (2023) strengthens the execution logic: in higher-for-longer regimes, any delay in transmitting funding signals into structuring monetizes into mispricing, so LCR/HQLA are not reporting ratios but timing controls-the right inputs must be co-visible at the decision moment. Financial Stability Board (2023) adds the seam discipline: time-boxed sign-offs, decision logs, and evidence packs keep AM-Sales aligned on the same liquidity facts, converting prudential aims into routine behavior rather than late-gate vetoes.

In Islamic settings, Islamic Financial Services Board (2024) notes that contract forms (murabaha/ijara/musharaka) shape cash-flow patterns and asset evidence, so liquidity fitness requires form-substance checks alongside LCR math at origination; weak form (e.g., unclear possession/transfer) becomes operational friction that undermines liquidity plans downstream. Practically, BIS (2013) implies three frontline tests:

- tenor ladders that cap short-term refinancing risk.
- pricing floors that embed funding and optionality costs.
- pre-deal flags when HQLA draw or runoff assumptions are breached-each on a clock per FSB (2023).

This sets a direct bridge to the next sub-sections on Funding-Cost integration and Tenor-mismatch controls, where the same LCR/HQLA logic is translated into concrete pricing add-ons and structural guards at the AM-Sales seam.

2. Integrating Funding Costs into Pricing

Bank for International Settlements (2013) treats funding costs as a frontline input-not a treasury afterthought-arguing that the price a client sees must already internalize term funding spreads, optionality premia, and HQLA consumption, so RAROC reflects expected loss plus funding economics at the decision moment. International Monetary Fund (2023) strengthens the timing logic by showing that in higher-for-longer regimes, latency between market signals and origination monetizes into mispricing, which means AM-Sales must price with live curves and liquidity ladders rather than monthly transfer-price tables refreshed ex post.

Financial Stability Board (2023) converts this principle into seam discipline: funding inputs should be co-visible in the approval packet, tied to a named owner and a time-boxed SLA, so that any deviation (e.g., sub-floor pricing or tenor beyond the ladder) is an evidence-based override instead of informal bargaining. McKinsey & Company (2020) cautions that volume-biased incentives routinely neutralize such economics; integrating funding costs must therefore be KPI-coupled-credit attribution and sales pay should reflect RAROC after funding, with chargebacks when exceptions erode the hurdle, or else the bank books revenue that the balance sheet cannot carry.

Islamic Financial Services Board (2024) adds a form–substance lens: in murabaha, ijara, and musharaka, pricing must reconcile profit recognition rules, asset evidence, and possession/transfer mechanics with the same funding curves; where hedging is constrained by Shariah, the structure choice (e.g., amortization shape, delivery timing) becomes the funding-cost control by design. International Monetary Fund (2023) and Bank for International Settlements (2013) converge in practice on three frontline tests: pricing floors linked to transfer-pricing curves, tenor-linked add-ons for liquidity and optionality, and auto-flags when proposed structures breach LCR/HQLA assumptions—each routed on a clock with a documented owner per Financial Stability Board (2023). This integration sets up the next subsection on tenor-mismatch controls, where the same funding logic is translated into structural guards that cap refinancing risk at origination.

3. Tenor-Mismatch Controls

Bank for International Settlements (2013) defines tenor mismatch as the structural gap between the deal’s cash-flow horizon and the bank’s funding ladder, and insists that controls must operate at origination: preset tenor ladders, maximum weighted-average life, and amortization requirements that limit refinancing risk before approval. International Monetary Fund (2023) links the same idea to execution speed: under higher-for-longer rates, slow transmission of funding signals into structure design turns gaps into priced-too-thin exposures, so tenor choices must reflect live transfer-pricing curves at the decision moment. Financial Stability Board (2023) translates this into seam discipline—time-boxed sign-offs, decision logs, and evidence packs—so AM and Sales approve on the same liquidity facts, and any deviation travels as an evidence-based override on a clock rather than as informal bargaining.

KPMG (2025) makes controls auditable by embedding them in RACI and SLAs: the Account Manager owns tenor compliance (caps by segment, amortization shape, balloon limits), Risk approves exception thresholds, and Treasury is consulted for funding availability, with auto-flags when structures breach LCR/HQLA assumptions. McKinsey & Company (2020) warns that volume-only incentives erode these guards; coupling overrides to RAROC after funding and applying chargebacks for tenor breaches aligns frontline behavior with balance-sheet capacity.

In Islamic finance, Islamic Financial Services Board (2024) notes that limited hedging pushes tenor control into contract form and cash-flow design: murabaha should favor amortizing schedules, ijara must align lease terms to funding ladders, and musharaka requires profit-distribution mechanics that avoid short-funding long assets. Practically, BIS (2013) and IMF (2023) imply three frontline tests:

- enforce tenor caps and WAL limits by product/segment.
- price tenor add-ons tied to funding curves and optionality,
- require escalation when proposals increase short-term runoff or draw disproportionately on HQLA.

With FSB’s (2023) seam tools and KPMG’s (2025) ownership timers, tenor-mismatch controls become a repeatable origination routine, not a late-gate veto—directly supporting liquidity/market-risk fit in this study’s dependent-variable model.

2.3.6. Operational Resilience and Third-Party Risk Control

A. Vendor/Cloud Incidents

Financial Stability Board (2023) reframes third-party technology failures as governance surfaces rather than procurement mishaps: outages and API degradations only become losses when handoffs lack named ownership, escalation clocks, and predefined fallbacks, so AM–Sales continue booking on stale or missing inputs. International Monetary Fund (2023) adds the macro channel: under higher-for-longer rates, operational delays monetize into mispricing and liquidity misfit at origination, turning an incident on a KYC, scoring, or pricing feed into a risk transmission mechanism rather than an IT inconvenience. The U.S. supervisors’ joint statement (2024) converts this into accountability by insisting banks retain responsibility for third-party delivery-contracts must specify monitoring rights, data access, auditability, and exit paths, which first-line teams must internalize when structuring deals on vendor rails. Organization for Economic Cooperation and Development (2022) highlights cloud concentration risk: multi-tenant platforms create correlated failure modes; without co-visibility and lineage, AM–Sales cannot verify which numbers are frozen, delayed, or silently wrong.

Operationally, KPMG (2025) translates resilience into work design: RACI for “degradation mode” (who decides under reduced data), SLA timers for escalation to the second line, and playbooked fallbacks (conservative price curves, temporary caps, or pause rules) that are pre-authorized for short windows. Lang, Peltonen, and Sarlin (2018) show that fixed feedback cadences turn incident signals into scheduled actions, while Habel, Alavi, and Heinitz (2023) warn that alerts shift behavior only if embedded in CRM-otherwise teams revert to volume pressure and ad-hoc heuristics. Islamic Financial Services Board (2024) adds that incidents must not break form–substance: if APIs fail, the workflow still needs to capture asset evidence, possession/transfer, and profit recognition on a clock, or Shariah defects will surface downstream as credit/operational losses (van Greuning & Iqbal, 2008). Designed this way, vendor/cloud incidents become contained variances rather than pipeline shocks, setting up the next subsections on testing coverage, MTTR, and remediation quality as measurable markers of resilience at the AM–Sales seam.

B. Testing Coverage - breadth, depth, and what it proves

Financial Stability Board (2023) argues that operational-resilience tests must cover end-to-end service chains, not isolated apps-critical client journeys, data paths, vendor/cloud links, and the AM–Sales approval seam-so scenarios are “severe but plausible” and instrumented with timers and decision ownership. International Monetary Fund (2023) ties breadth to macro volatility: tests should probe rate-shock windows and funding stress while workflows run in “degradation mode,” proving that pricing/KYC/EWS still reach time-bound approvals. U.S. supervisors (2024) require coverage to extend through third parties-with monitoring rights and failover evidence-so tabletop exercises pair with live failovers and access/audit drills that banks can independently verify.

KPMG (2025) translates depth into work design: each scenario specifies RACI owners, SLA clocks, and pre-authorized fallbacks (e.g., conservative curves, pause rules), so tests measure whether governance executes, not whether documents exist. OECD (2022) adds cloud concentration to the scope-multi-tenant outages and API throttling-while Oet, Bianco, Gramlich, and Ong (2013) insist on data-lineage checkpoints to ensure early-warning and

pricing inputs are traceable under stress. Lang, Peltonen, and Sarlin (2018) show that fixed feedback cadences must persist during incidents; thus coverage includes whether review rhythms and named owners survive failover. Habel, Alavi, and Heinitz (2023) further require embedded prompts (next-best actions in CRM), so tests score behavior change, not dashboard visibility.

In Islamic settings, Islamic Financial Services Board (2024) expands coverage to form–substance artifacts-asset evidence, possession/transfer, profit recognition-verifying that Shariah checkpoints are captured on a clock even when APIs degrade. Bank for International Settlements (2013) anchors outcomes: coverage is credible when scenarios validate LCR/HQLA-aware pricing/tenor at approval. Practically, this study will view testing coverage via a scenario library size/mix, dependency map completeness, lineage assertions, pass/fail against SLA timers, and evidence pack quality-direct markers that the AM–Sales seam can operate under stress rather than merely document intent.

C. Mean Time to Recovery (MTTR)

Financial Stability Board (2023) treats MTTR as the *seams-first* indicator of whether governance is executable: recovery time only improves when incident roles, escalation clocks, and pre-authorized fallbacks are designed into AM–Sales workflows, so degraded KYC, pricing, or EWS feeds are handled within timers rather than through ad-hoc workarounds. International Monetary Fund (2023) adds the macro mechanism: in higher-for-longer regimes, every hour of degraded data monetizes into mispricing or liquidity misfit at origination, making MTTR a risk lever, not an IT vanity metric.

KPMG (2025) translates MTTR into work design by specifying RACI ownership for “degradation mode,” SLA thresholds for each dependency, and evidence packs that must be completed before service is declared restored; this ensures that “recovery” means decision-grade service (accurate, timely inputs into approval) rather than mere server uptime. OECD (2022) widens the lens to cloud concentration, noting that multi-tenant throttling and regional outages require tested failovers and rate-limit policies, or else MTTR becomes a queue-driven artifact unrelated to decision recovery. U.S. supervisors (2024) reinforce accountability by requiring contracts to embed monitoring rights, auditability, and exit paths-conditions that shorten MTTR because the bank can compel vendor diagnostics and switch to fallbacks on a clock.

From an information perspective, Oet, Bianco, Gramlich, and Ong (2013) show that recovery is hollow if lineage is broken: a fast restart that serves stale or untraceable inputs raises false negatives and erodes approval quality, so MTTR must include lineage restoration (source, refresh time, transformations) as a completion criterion. Lang, Peltonen, and Sarlin (2018) and Habel, Alavi, and Heinitz (2023) converge that behavior normalizes only when feedback cadences and embedded prompts resume-therefore, MTTR should end when cadence resumes in CRM (next-best actions reappear, owners re-engage), not when a dashboard turns green.

In Islamic contexts, Islamic Financial Services Board (2024) and van Greuning and Iqbal (2008) imply that MTTR also covers form–substance continuity: during incidents, the bank must still capture asset evidence, possession/transfer, and profit-recognition proofs; recovery is incomplete if these artifacts lag, because enforcement and credit outcomes will suffer later. Bank for International Settlements (2013) links MTTR to prudential fit: delayed restoration of

funding curves or HQLA signals distorts pricing/tenor at approval, so recovery definitions must include LCR/HQLA data freshness.

Implications for this study. Guided by FSB (2023) and KPMG (2025), MTTR will be measured as decision-grade recovery time: minutes from incident detection to:

- lineage-verified data available in CRM/risk tools
- cadence resumption with named owners.
- re-activation of pre-authorized fallbacks or closure thereof.
- availability of LCR/funding inputs for approval (BIS, 2013).

IMF (2023) motivates reporting MTTR under stress windows; OECD (2022) and U.S. supervisors (2024) justify splits by vendor/cloud domain. This operational definition ties MTTR directly to the dependent variable's Operational Resilience & Third-Party Risk Control dimension and bridges to the next subsection on control remediation quality, where post-incident fixes determine whether future MTTR actually falls.

D. Control Remediation Quality

Picking up from MTTR, Financial Stability Board (2023) argues that remediation quality is what prevents the *same* outage or control break from reappearing: fixes must be root-cause based, owned by named roles, and time-boxed with objective exit criteria, not simply ticket closures. International Monetary Fund (2023) adds that in higher-for-longer regimes, weak remediation monetizes into *recurring mispricing and liquidity misfit*, so post-incident work is a risk lever, not housekeeping.

- KPMG (2025) translates this into work design: remediation charters should specify:
- RACI ownership for the broken seam (e.g., pricing feed, KYC pipeline).
- thresholds and SLA clocks for interim controls.
- the evidence pack required to declare success (test cases, decision logs, before/after metrics).

U.S. supervisors (2024) reinforce accountability where third parties are involved: banks must secure monitoring rights, audit trails, and exit paths so vendor fixes can be verified and, if needed, replaced—a precondition for credible closure.

From a data perspective, Oet, Bianco, Gramlich, and Ong (2013) warn that remediation fails if lineage is not restored; serving fast but untraceable inputs recreates false negatives in early warning and credit screening. Lang, Peltonen, and Sarlin (2018) show closure is credible only when feedback cadences resume (alerts reviewed on schedule by named owners), while Habel, Alavi, and Heinitz (2023) emphasize embedding: controls must live in CRM/risk workflows as next-best-actions, or behavior reverts to workarounds. OECD (2022) adds a cloud lens: for concentration risks, remediation should include tested failovers and rate-limit policies, not just vendor promises.

Prudentially, Bank for International Settlements (2013) provides external anchors: closures are stronger when fixes demonstrably re-internalize LCR/HQLA and funding costs into *pricing/tenor at approval* (e.g., restored transfer-pricing feeds, refreshed liquidity ladders). In Islamic settings, Islamic Financial Services Board (2024) and van Greuning and Iqbal (2008) insist that remediation also protect form—substance: playbooks must ensure the bank can still

capture asset evidence, possession/transfer, and profit recognition on a clock during degraded modes; otherwise, control “fixes” migrate into credit/operational losses later.

What this means for measurement. Guided by FSB (2023) and KPMG (2025), this study will treat remediation quality as a scored bundle:

- presence of a root-cause analysis tied to the broken seam.
- RACI-named owners and SLA dates.
- lineage-verified data restoration (Oet et al., 2013).
- resumption of cadenced reviews with evidence of actions (Lang et al., 2018).
- workflow embedding of the new controls (Habel et al., 2023).
- prudential re-fit to LCR/HQLA/funding signals (BIS, 2013).
- Shariah-form continuity proofs (Islamic Financial Services Board, 2024).

High scores should coincide with falling override rates, faster breach-to-action times, and flatter NPL vintages, linking remediation to the dependent variable’s Operational Resilience & Third-Party Risk Control dimension and closing the loop with the AM–Sales seam established earlier.

2.3.7. Measurement in Prior Studies

A. Objective vs. Perceptual Measures - why a hybrid is superior

What each lens captures. Bank for International Settlements (2013) anchors the objective side in observable prudential outcomes-LCR/HQLA fit at approval, tenor-mismatch breaches, pricing-floor adherence, override frequency/severity, breach-to-action latency, covenant breach rates, vintage roll-rates/NPL migration, MTTR, and SLA compliance-arguing that effectiveness is ultimately evidenced in cash-flow and control timing. International Monetary Fund (2023) complements this by treating risk as execution under uncertainty, which elevates perceptual indicators for routines that are hard to see in ledgers-cadence quality, co-visibility, lineage trust, KPI alignment, and RACI clarity-because these proximal processes shape the very outcomes the objective metrics record.

Bias, feasibility, and triangulation. Financial Stability Board (2023) warns that single-source perceptions inflate findings unless paired with trace data (decision logs, escalation clocks, override registers), while KPMG (2025) shows how work-design artifacts-RACI charts, thresholds, and SLAs-can be harvested to validate survey claims, reducing common-method bias. Habel, Alavi, and Heinitz (2023) find that analytics change behavior only when embedded in workflow, so perceptual items should ask about embedded prompts/next-best-actions, then be checked against system timestamps for co-movement. Lang, Peltonen, and Sarlin (2018) add that fixed feedback cadences are the mechanism linking routines to outcomes; accordingly, perceived cadence should correlate with lower false-negative rates and faster breach-to-action in logs.

Design choice for this study. BIS (2013) provides external anchors for criterion validity (e.g., liquidity/market fit, tenor controls), while IMF (2023) justifies keeping perceptual subscales to capture how AM–Sales execute under volatility. FSB (2023) and KPMG (2025) therefore support a hybrid design: use perceptual Likert scales for the four IV dimensions (cadence, information integration, KPI alignment, RACI) and objective DV markers (pre-deal completeness, override/latency metrics, covenant performance, liquidity-fit flags,

MTTR/SLA). In Islamic contexts, Islamic Financial Services Board (2024) recommends adding form–substance completeness rates (asset evidence, possession/transfer, profit recognition) as objective checks against perceived Shariah workflow quality-ensuring that what teams say they do is reflected in auditable artifacts and downstream loss behavior.

B. Composite Indices - building credible multi-signal scores

Why compose? International Monetary Fund (2023) argues that risk effectiveness is multi-mechanism-cadence, information integration, incentives, and RACI jointly shape outcomes-so a single indicator under-represents execution quality. Financial Stability Board (2023) reaches the same conclusion from governance: *seams* work when several controls align, which motivates composite indices that pool proximal process signals and distal results into an interpretable score.

Item normalization and weighting. Bank for International Settlements (2013) supports z-score normalization (or min–max on policy targets) so heterogeneous inputs-e.g., pricing-floor adherence, breach-to-action latency, covenant breach rates-are comparable before aggregation. KPMG (2025) recommends starting with equal weights for transparency, then testing factor-score weights from CFA to reflect empirical salience. Lang, Peltonen, and Sarlin (2018) justify separating leading cadence signals (review frequency, ownership clarity) from result signals (false-negative rates, cures), allowing a two-tier index where process and outcome subscores roll up to a headline measure.

Additive vs. geometric aggregation. Oet, Bianco, Gramlich, and Ong (2013) warn that linear sums can mask weak links (a very poor lineage score “averaged away” by strong cadence). To enforce “no single point of failure,” a geometric mean (or capped additive index with penalty terms for very low components) better reflects the series-system nature of controls. Habel, Alavi, and Heinitz (2023) add that embeddedness items (next-best actions in CRM) should carry non-compensatory penalties-if embedding is absent, analytics won’t bite regardless of other strengths.

Reliability and validity baked in. IMF (2023) motivates a multidimensional reflective structure; thus, each subindex (e.g., Communication/Cadence; Information/Data Integration; KPI Alignment; RACI) should clear $\alpha/CR \geq .70$ and $AVE \geq .50$, with $HTMT < .85$ between subindices (Lang, Peltonen, & Sarlin, 2018). FSB (2023) and KPMG (2025) advise pairing perceptual items with trace metrics (SLA clocks, override registers, sign-off evidence packs) to reduce common-method bias; convergent validity is shown when high cadence perceptions co-move with shorter breach-to-action times.

Objective–perceptual fusion. BIS (2013) provides prudential anchors-LCR/HQLA fit, tenor-mismatch flags, pricing-floor adherence-suitable for an objective subindex, while the perceptual subindex captures seam quality (cadence, co-visibility, incentive alignment, decision ownership). A hybrid composite (e.g., 50/50, then sensitivity 40/60 and 60/40) tests robustness; if rankings swing widely with weights, the index lacks stability and needs re-specification (KPMG, 2025).

Islamic-finance specificity. Islamic Financial Services Board (2024) supports a Shariah Form–Substance Subindex embedded across factors: completeness of asset evidence, possession/transfer proofs, and profit-recognition logic at *pre-deal* and *post-booking*. Van

Greuning and Iqbal (2008) justify linking this subindex to outcomes (arrears, enforcement frictions); known-groups validity should show higher scores in portfolios with cleaner murabaha/ijara/musharaka documentation.

Sensitivity, thresholds, and use. FSB (2023) recommends traffic-light bands (e.g., green ≥ 0 , amber -0.5 to 0 , red < -0.5 after z-scaling) tied to pre-authorized actions (extra approval tier, tighter tenor caps). OECD (2022) suggests scenario splits (cloud incident days vs. normal days) to confirm index responsiveness to stress. U.S. supervisors (2024) argue that third-party accountability should appear as vendor-path components (SLA adherence, failover success), preventing a high composite when vendor risks dominate.

What this means for your study. Guided by IMF (2023), BIS (2013), and FSB (2023), the thesis can report:

1. Four IV subindices (Cadence, Information Integration, KPI Alignment, RACI) built from Likert items + matched traces.
2. Four DV subindices (Early-Risk/Onboarding, Credit Discipline/Outcomes, Liquidity/Market Fit, Operational Resilience/Third-Party Control) built primarily from objective markers.
3. A headline effectiveness index using a geometric mean with non-compensatory floors for embedding, lineage, and Shariah-form checks (Habel, Alavi, & Heinitz, 2023; Oet et al., 2013; Islamic Financial Services Board, 2024).

This design yields an interpretable, auditable score that aligns with prudential constraints, captures seam quality, and remains robust under stress-exactly the measurement stance your model requires.

C. Audit/Findings Metrics - turning governance evidence into measurable risk effectiveness

Financial Stability Board (2023) treats audit/exam findings as the most objective mirror of seam quality: when handoffs lack cadence, shared indicators, or escalation clocks, issues surface as repeat findings, overdue actions, and weak evidence packs. KPMG (2025) translates this into work-design diagnostics-auditors should distinguish control design gaps (no RACI/threshold/SLA) from operating-effectiveness gaps (tools exist but are not used on time), because the remedy and risk reduction differ. International Monetary Fund (2023) adds the macro channel: under higher-for-longer rates, aging issues monetize into mispricing and liquidity misfit, so timeliness of closure is economically material, not procedural.

Bank for International Settlements (2013) provides prudential anchors for *what to measure*: findings tied to LCR/HQLA fit, tenor-mismatch, pricing-floor adherence, and override discipline connect directly to loss pathways. U.S. supervisors (2024) specify third-party accountability; MRAs/MRIAs that cite missing monitoring rights, audit trails, or exit paths indicate first-line exposure when AM-Sales rely on vendor rails. OECD (2022) widens the lens to cloud concentration; audits that test failover proofs and rate-limit policies verify whether resilience is executable, not just documented.

From an information perspective, Oet, Bianco, Gramlich, and Ong (2013) argue that data-lineage defects (unknown source/refresh/transform) inflate false negatives in EWS; audits should therefore score lineage as a control attribute, not a back-office nicety. Lang, Peltonen,

and Sarlin (2018) show that feedback cadence is the mechanism linking monitoring to outcomes; auditors can test cadence by sampling breach-to-action latency against SLA clocks. Habel, Alavi, and Heinitz (2023) warn that analytics shift behavior only when embedded; a common finding is “dashboard seen, action not taken,” which should be coded as an embedding failure at the AM–Sales seam.

In Islamic contexts, Islamic Financial Services Board (2024) and van Greuning & Iqbal (2008) highlight form–substance checks-asset evidence, possession/transfer, profit recognition-as auditable controls whose failure later appears as credit/operational losses; exam results that flag Shariah defects belong in the same findings universe as liquidity or credit lapses.

A practical findings scorecard for this study. Guided by FSB (2023) and KPMG (2025), the thesis can track:

- Findings incidence and severity mix (high/medium/low) mapped to the four DV anchors (credit, liquidity/market, operational, early-risk/onboarding).
- Repeat-finding rate and re-open rate (signal of superficial fixes).
- Time-to-remediate (TTR) and on-time remediation % against SLA clocks, plus aging buckets (>30/60/90 days).
- Closure quality score (root cause present, RACI owner named, evidence of control redesign, lineage restored, test cases passed).
- Outcome linkage (post-closure move in overrides, breach-to-action latency, covenant breaches, early arrears/NPL roll-rates).
- Third-party strands (share of issues citing vendor/cloud controls; presence of monitoring rights/failover proofs).
- Shariah form–substance strand (rate of documentation/evidence defects and cure timeliness).

By embedding prudential anchors (BIS, 2013), seam mechanics (FSB, 2023), and work-design verifiers (KPMG, 2025), audit/ findings metrics become decision-grade indicators rather than paperwork counts-closing the loop from AM–Sales routines to measurable improvements in the dependent variable’s Operational Resilience & Third-Party Risk Control and reinforcing earlier links to liquidity/market fit, credit discipline, and early-risk/onboarding.

2.4. Context: GCC/Saudi & Islamic-Banking Evidence

The AM–Sales seam does not operate in a vacuum; it is shaped by a GCC market structure where large, deposit-rich banks compete in concentrated arenas and must price, tenor, and escalate under tighter liquidity and funding disciplines (Bank for International Settlements, 2013; International Monetary Fund, 2023). In Saudi Arabia, this macro logic becomes operational: sector concentration and balance-sheet depth amplify the payoff to cadence, co-visibility, and RACI clarity at origination, because small timing errors quickly scale across big books (Saudi Central Bank, 2023; Financial Stability Board, 2023). That same seam is further conditioned by Islamic-finance forms-murabaha, ijara, musharaka-where form–substance alignment (asset evidence, possession/transfer, profit recognition) must be validated upstream, so Shariah checkpoints are inseparable from pricing and liquidity fit (Islamic Financial Services Board, 2024).

Digital rails intensify both risk and remedy: cloud/KYC/CRM vendors accelerate execution yet introduce lineage and resilience exposures that only time-boxed escalations, tested failovers, and evidence-based overrides can neutralize (U.S. Supervisors, 2024; OECD, 2022). This context clarifies why our IV (communication cadence, information integration, KPI alignment, RACI) should map predictably into the DV anchors (early-risk/onboarding, credit discipline, liquidity/market fit, and operational resilience). It also exposes a research gap: abundant sector-level guidance, but scarce bank-level, seam-level evidence linking AM–Sales routines to overrides, breach-to-action latency, covenant behavior, and NPL migration (IMF, 2023; FSB, 2023). Consequently, Al Rajhi Bank—given its scale, Islamic leadership, and digital investments—offers a high-information setting to test these mechanisms with a hybrid design (perceptual IV + objective DV), setting up the next subsections on structure, product forms, third-party rails, Shariah touchpoints, and the specific evidence gaps they imply (Al Rajhi Bank, 2023; SAMA, 2023).

2.4.1. Purpose and Link to Model

Saudi/GCC banking is a high-concentration, deposit-rich system that scales small frontline frictions into portfolio outcomes; in such settings, the AM–Sales seam becomes the hinge through which liquidity, market, credit, and operational constraints are internalized at origination. International Monetary Fund (2023) shows that “higher-for-longer” cycles convert timing delays into mispricing, while Bank for International Settlements (2013) embeds LCR/HQLA and funding ladders as ex-ante constraints that must be reflected in pricing and tenor before approval. Financial Stability Board (2023) adds that governance works only when cadence, co-visibility, and escalation clocks are designed into handoffs. Islamic Financial Services Board (2024) then tightens the seam further: form–substance checks in murabaha/ijara/musharaka belong upstream, not as post-hoc reviews.

Why the GCC/Saudi context matters for the IV→DV pathways. Saudi Central Bank (2023) documents a concentrated sector with sizable Islamic shares and strong liquidity buffers; in this topology, International Monetary Fund (2023) argues that execution under uncertainty magnifies the value of communication cadence and information integration because funding and market signals must reach pricing/tenor on time. Bank for International Settlements (2013) makes the DV link explicit: when LCR/HQLA and funding costs are internalized at approval, Liquidity & Market-Risk Fit improves downstream. Financial Stability Board (2023) connects the same seam to Credit Discipline and Operational Resilience: evidence-based overrides, decision logs, and escalation SLAs reduce breach-to-action latency and exception drift. Islamic Financial Services Board (2024) shows that in Islamic portfolios, upstream verification of asset evidence, possession/transfer, and profit recognition ties directly to Early-Risk/Onboarding quality and enforcement later on. Put together, Saudi concentration and Islamic product dominance make our IV dimensions—cadence, data integration, KPI alignment, and RACI—decisive levers for the DV dimensions specified in the model.

How regional evidence informs instrument items and expected signs. Al Rajhi Bank (2023) reports scale, product breadth, and digital investment that create observable variation in AM–Sales routines; this supports items on co-visibility (shared CRM/risk fields), pricing floors tied to funding curves, and tenor ladders—all expected to correlate positively with Liquidity/Market fit (Bank for International Settlements, 2013). McKinsey & Company (2020) cautions that

volume-only incentives neutralize analytics, motivating KPI-alignment items (RAROC after funding, caps/chargebacks for overrides) with positive expected effects on Credit Discipline. Financial Stability Board (2023) and KPMG (2025) justify RACI/escation-clarity items (named owners, SLA timers, evidence packs) with negative expected associations to override frequency and breach-to-action latency (thus positive for Operational Resilience). OECD (2022) and U.S. supervisors (2024) highlight vendor/cloud concentration and third-party accountability, guiding resilience items on MTTR, failover proof, and monitoring rights with positive links to the DV's resilience strand. Finally, Islamic Financial Services Board (2024) motivates Shariah form–substance items (asset-evidence completeness, possession/transfer timing, profit-recognition checks) embedded across IV subscales, with positive expected relations to Early-Risk/Onboarding and lower downstream covenant/NPL stress. In short, sector facts define the pressure points; the cited toolkits translate them into measurable routines; and our model expects those routines to transmit the Saudi/GCC and Islamic constraints into risk-effective outcomes.

2.4.2. Sector Structure in Saudi/GCC

A. Market topology-concentration and Islamic share.

International Monetary Fund (2023) characterizes GCC banking systems as *concentrated and bank-centric*, where a handful of large institutions intermediate most funding and transmit macro–financial conditions quickly to balance sheets. Saudi Central Bank (2023) situates Saudi Arabia within this pattern, noting the system's sizable Islamic-banking share and the dominance of a few universal banks across retail and corporate lines-features that magnify the effect of frontline execution on portfolio outcomes. Islamic Financial Services Board (2024) adds that Islamic assets' weight changes *how* risk materializes: because contract forms embed cash-flow mechanics and documentation requirements, governance quality at origination is unusually consequential. Together, these strands imply that in a concentrated, Islamic-heavy market, AM–Sales routines-communication cadence, data co-visibility, incentive alignment, and RACI clarity-scale quickly into system-relevant outcomes.

B. Corporate vs. retail weight and product breadth.

Al Rajhi Bank (2023) illustrates the Saudi mix: large retail franchises coexist with meaningful corporate/SME books and diversified fee income, with product sets spanning murabaha, ijara, and trade/cash solutions. Bank for International Settlements (2013) argues that such breadth raises the premium on tenor and pricing discipline at origination, because short-dated retail liabilities fund assets with heterogeneous duration and optionality. IMF (2023) connects this to execution timing: when rates are volatile, delays in transmitting funding signals into structure and price monetize into mispricing, making frontline cadence-not just policy-determinative. Hence, in a system where retail deposits backstop diversified books, seam quality between AM and Sales becomes a primary control for liquidity/market fit.

C. Balance-sheet features that shape origination-deposits, capital, and liquidity buffers.

Saudi Central Bank (2023) documents strong capitalization and liquidity metrics, but BIS (2013) cautions that prudential strength is preserved only if LCR/HQLA constraints are internalized *before approval*, not repaired post-booking. In practice, this means deal proposals must reflect funding ladders, HQLA availability, and tenor caps at the decision moment.

Financial Stability Board (2023) translates that requirement into seam design: time-boxed sign-offs, shared dashboards, and escalation clocks ensure AM–Sales approve against the *same* liquidity facts, converting prudential aims into routine behavior. Islamic Financial Services Board (2024) extends the balance-sheet lens to form–substance: where profit recognition and asset-evidence rules define cash-flow reality, Shariah checkpoints upstream protect both liquidity planning and enforceability, linking documentation quality directly to pricing and tenor choices.

D. Digital rails and deposit stability-an interaction that raises the value of co-visibility.

OECD (2022) notes rapid cloud/fintech adoption across GCC financial services, which boosts origination speed but introduces data-lineage and third-party dependencies. U.S. supervisors (2024) emphasize that banks remain accountable for vendor performance, so monitoring rights, failovers, and SLA timers must be visible to first-line approvers. In a deposit-rich system, this interaction matters: fast pipelines backed by stable funding can still misallocate liquidity if co-visible funding curves, EWS feeds, and vendor status are not embedded in the approval packet (FSB, 2023). Thus, deposit stability is not a cushion for weak routines; it is a reason to tighten co-visibility so scale does not amplify small errors.

E. Bridge-why concentration and the deposit profile amplify cadence and co-visibility for pricing & tenor fit.

IMF (2023) shows that execution under uncertainty penalizes latency and ambiguity; BIS (2013) requires that LCR/HQLA and funding costs be priced into deals ex-ante; and FSB (2023) proves this only happens reliably when handoffs are *designed*-named owners, timers, evidence packs. In Saudi/GCC conditions-high concentration, large Islamic share, and deposit-anchored funding-any delay or opacity at the AM–Sales seam scales across big books, shifting the entire vintage curve for liquidity and credit risk. Islamic Financial Services Board (2024) closes the loop: upstream Shariah form–substance verification is not orthogonal to liquidity/market fit; it is the mechanism that prevents structural and documentation frictions from becoming pricing and tenor misfits. Consequently, this sector structure predicts strong positive links from communication cadence and data co-visibility (IV) to liquidity/market-risk fit and credit discipline (DV), and it justifies the study’s insistence on measuring override frequency, breach-to-action latency, and pricing-floor/tenor adherence as objective anchors alongside perceptual assessments of seam quality.

Table 1: Saudi/GCC Banking Structure Snapshot (Islamic Share, HQLA, and Credit Growth Bands)

Jurisdiction	Islamic banking share (latest available)	HQLA composition (indicative, per Basel III LCR)	Credit growth band (2023–2024)	Notes (structure & prudential context)
Saudi Arabia	High (majority share of banking assets)	Level 1 dominant (cash & central-bank reserves; sovereign/sukuk); Level 2 within caps	Moderate; decelerating vs. 2022	Concentrated, deposit-rich system with strong capital/liquidity buffers; Islamic product depth shapes origination routines
United Arab Emirates	Significant Islamic segment alongside conventional	Level 1 dominant; supplemented by Level 2A/2B within regulatory limits	Resilient/steady	High digital adoption and vendor/cloud reliance; active cross-border rails; robust prudential metrics

Qatar	High (~70% of financing/assets)	Level 1 dominant (gov't bills and sovereign sukuk)	Moderate	Large Islamic share and deep sovereign/sukuk markets; concentrated system dynamics
GCC aggregate (context)	Significant; highest penetration in KSA/Qatar	Level 1 is the core HQLA class across GCC; Level 2 used within Basel caps	Cooling but positive vs. 2022	Concentrated, bank-centric, deposit-anchored systems; prudential anchors bind at origination (pricing/tenor/override discipline)

Reference: BIS 2013, FSB 2023, IMF 2023, IFSB 2024, OECD 2022, SAMA 2023, CBUAE 2023.

Across the GCC-and especially in Saudi Arabia-the combination of sector concentration, deposit-anchored funding, and high Islamic-banking penetration means small execution frictions at the AM–Sales seam scale rapidly into portfolio outcomes. When HQLA/LCR constraints and funding-cost signals are co-visible at approval, origination aligns with liquidity/market-risk fit (BIS, 2013). Conversely, in a higher-for-longer environment, delays in transmitting those signals monetize into mispricing and tenor misfit, even when headline buffers are strong (IMF, 2023). Islamic-finance form–substance requirements (asset evidence, possession/transfer, profit recognition) tighten this link further by moving Shariah checkpoints upstream, making cadence, data integration, KPI alignment, and RACI clarity decisive for downstream credit discipline and operational resilience (IFSB, 2024; SAMA, 2023). Digital rails and third-party dependencies (cloud/KYC/CRM) raise the premium on lineage, failovers, and SLA-timed escalations, so concentration and deposit stability are not cushions for weak routines but reasons to tighten co-visibility and decision ownership (FSB, 2023; OECD, 2022).

2.4.3. Product Mix and Contract Forms.

A. Dominant Islamic products and cash-flow/hedging implications.

Islamic Financial Services Board (2024) shows that Saudi/GCC balance sheets are anchored in murabaha (cost-plus sale), ijara (lease), and musharaka (profit-and-loss sharing), each encoding cash-flow mechanics that shape market, liquidity, and credit exposures from the outset. Van Greuning and Iqbal (2008) explain that murabaha typically produces amortizing, inventory-linked receivables with limited optionality, which reduces some market-risk volatility but raises operational exposure around asset evidence and delivery timing. In contrast, ijara generates lease cash flows sensitive to residual value and maintenance assumptions; if tenor and renewal options are mis-specified, liquidity and market fit drift over time, especially when funding curves shift, as International Monetary Fund (2023) warns in “higher-for-longer” regimes. For musharaka, Van Greuning and Iqbal (2008) emphasize that variable profit allocation creates earnings dispersion and downside sharing, intensifying the need for clear governance and measurement to avoid disputes that later manifest as credit non-performance. Bank for International Settlements (2013) adds that because Shariah constraints limit conventional hedging, structure choice at origination becomes the primary risk tool; therefore, price floors, tenor ladders, and amortization patterns must internalize LCR/HQLA and funding costs ex-ante.

B. Where Shariah touchpoints sit in the deal life-cycle.

Islamic Financial Services Board (2024) argues that form–substance compliance is a front-loaded process, not a back-office check, locating three decisive touchpoints: (1) asset evidence (proof of existence, ownership, and suitability), (2) possession/transfer mechanics (actual or constructive qabd aligned with contract form and timing), and (3) profit recognition logic (cost disclosure in murabaha, rental basis in ijara, and profit-sharing ratios in musharaka). KPMG (2025) translates these into work-design artifacts-named owners, timers, and evidence packs-so first-line proposals embed Shariah proofs in the same packet as pricing curves and tenor ladders. Financial Stability Board (2023) links those artifacts to seam discipline: when AM and Sales share co-visible Shariah documents inside CRM/risk tools, downstream overrides and breach-to-action delays fall because exceptions cannot hide in email threads. Al Rajhi Bank (2023) illustrates the operational reality by describing product factories and digital channels where front-to-back evidence capture is essential to scale; in this setting, missing possession or delayed profit-recognition approvals convert quickly into credit and operational frictions as Van Greuning and Iqbal (2008) caution.

C. Why form–substance checkpoints must move upstream to shape DV outcomes.

International Monetary Fund (2023) frames risk as execution under uncertainty, implying that timing determines whether controls change outcomes or merely document failure. Bank for International Settlements (2013) reaches the same conclusion from prudential math: unless LCR/HQLA signals and funding ladders are internalized at approval, liquidity/market-risk fit at origination cannot be recovered later without value loss. Islamic Financial Services Board (2024) extends this timing logic to Shariah: if asset evidence, possession/transfer, and profit logic are verified after booking, the portfolio inherits enforceability and recognition defects that raise NPL migration and loss-given-error. Financial Stability Board (2023) therefore recommends time-boxed sign-offs and escalation clocks so Shariah artifacts travel with the same SLA discipline as credit and liquidity inputs-turning compliance into organizational capability rather than a late gate.

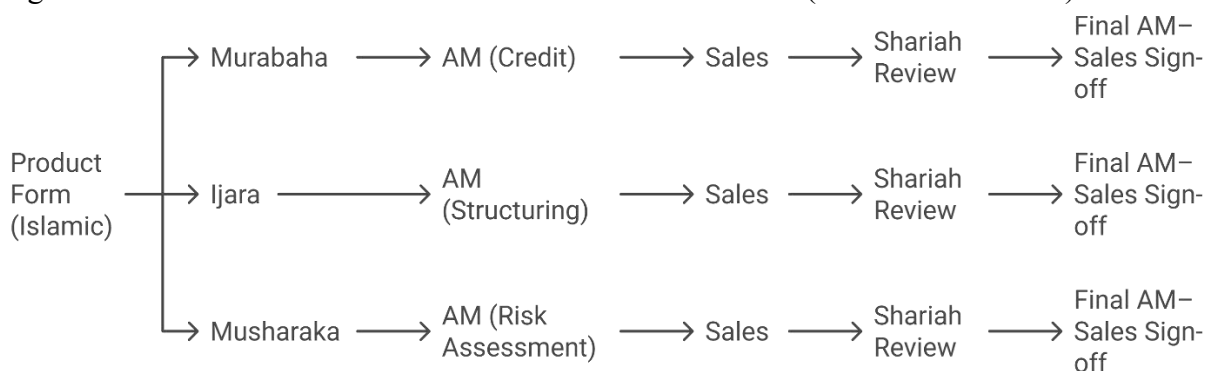
D. Implications for the IV dimensions (AM–Sales seam) and DV anchors.

KPMG (2025) argues that communication cadence and RACI clarity are the levers that convert contract-form constraints into predictable routines: who requests asset evidence, who confirms qabd, and who validates profit-calculation rules-each on a clock tied to approval. Habel, Alavi, and Heinitz (2023) add that analytics only change behavior when embedded; thus, co-visibility of Shariah proofs and pricing/tenor inputs inside CRM is a precondition for fewer overrides and faster breach-to-action cycles. Lang, Peltonen, and Sarlin (2018) show that fixed feedback rhythms lower false negatives, suggesting that pre-deal early-warning screens (e.g., adverse vendor/API signals or asset-valuation anomalies) must sit before sign-off to influence Early-Risk Identification & Onboarding Quality. When these routines are present, this section predicts measurable gains in Credit Discipline & Outcomes (cleaner pricing floors, lower override share), Liquidity & Market-Risk Fit (tenor within ladders, HQLA-aware structures), and Operational Resilience & Third-Party Control (tested failovers, auditable lineage)-precisely the DV dimensions defined earlier (BIS, 2013; FSB, 2023).

E. Bridge to the next subsections (exhibit and measurement).

Because product forms hard-wire cash-flow and documentation needs, the study will map murabaha/ijara/musharaka to specific AM–Sales–Shariah handoffs and instrument items: cadence (meeting frequency and evidence timeliness), information integration (shared fields for asset/possession/profit proofs), KPI alignment (RAROC after funding with penalties for late form defects), and RACI (named owners and escalation SLAs). Islamic Financial Services Board (2024) provides the form–substance taxonomy for checklist design, while Bank for International Settlements (2013) and International Monetary Fund (2023) supply prudential and timing anchors for expected signs. By placing these checkpoints upstream, the section closes the loop from contract form to origination design to risk-effectiveness outcomes, and it sets up the flow diagram and table that will summarize required handoffs and evidence artifacts at each stage of the deal life-cycle.

Figure 2: Islamic Contract Forms and Front-to-Back Handoffs (AM–Sales–Shariah)



Reference: Researcher

Islamic Financial Services Board (2024) emphasizes that form–substance checks-asset evidence, possession/transfer, and profit-recognition logic-belong upstream, not as post-hoc reviews, which is why the figure positions the Shariah gate within the same approval seam as AM and Sales. Bank for International Settlements (2013) argues that prudential constraints (LCR/HQLA and funding ladders) must be internalized at origination, so the AM–Sales handoffs carry pricing floors, tenor ladders, and amortization choices alongside Shariah artifacts. Financial Stability Board (2023) adds that seams only work when handoffs are time-boxed and owned by named roles, hence the need for SLA timers, decision logs, and escalation paths embedded in the process. Taken together, this front-to-back map explains why the study’s independent-variable dimensions-communication cadence, co-visibility of information, KPI/incentive alignment, and RACI clarity-should transmit directly into the dependent-variable outcomes: early-risk/onboarding quality, credit discipline, liquidity–market fit, and operational resilience within Al Rajhi Bank’s Islamic product mix.

2.4.4. Digital Transformation and Third-Party Rails

Cloud/KYC/scoring/CRM adoption and dependency patterns. OECD (2022) describes Gulf financial services as fast adopters of cloud platforms, e-KYC utilities, third-party scoring, and CRM orchestration, a stack that compresses cycle time but externalizes key steps in origination. Financial Stability Board (2023) reframes these links as governance seams: once pricing curves, risk scores, and KYC checks arrive via vendors, the bank’s first line must manage API availability, rate-limits, and change windows with the same rigor as internal controls. U.S. supervisors (2024) make accountability explicit by stating banks retain responsibility for third-

party delivery-contracts should embed monitoring rights, audit trails, performance SLAs, and exit paths-so AM-Sales cannot treat vendor outages as force majeure. In this environment, International Monetary Fund (2023) warns that “higher-for-longer” rate regimes monetize latency: each hour of stale or missing inputs leaks into mispricing and tenor misfit at approval.

Operational-resilience themes: failovers, SLA clocks, and lineage. KPMG (2025) turns resilience into work design: name RACI owners for “degradation mode,” set SLA timers for escalation, and pre-authorize fallback curves, temporary caps, or pause rules so booking decisions remain decision-grade during incidents. Oet, Bianco, Gramlich, and Ong (2013) add the data-lineage dimension-source, refresh time, and transformations must be provable-or else fast restarts simply serve untraceable inputs and raise false negatives in early warning. Lang, Peltonen, and Sarlin (2018) show that fixed feedback cadences convert incident signals into scheduled actions, while Habel, Alavi, and Heinitz (2023) find analytics only change behavior when embedded in CRM as next-best actions; otherwise AM-Sales revert to volume pressure and email heuristics. Islamic Financial Services Board (2024) extends resilience to form-substance continuity: even in degradation, workflows must still capture asset evidence, possession/transfer, and profit-recognition on a clock, or Shariah defects reappear later as credit/operational losses.

Bridge to measurement (Operational Resilience & Third-Party Risk Control). Bank for International Settlements (2013) anchors what “recovery” must restore-funding curves, HQLA cues, and pricing floors-so this thesis operationalizes resilience using MTTR as decision-grade recovery time (from detection to lineage-verified, CRM-embedded inputs and cadence resumption), tested failover success, SLA conformance for escalations, and closure quality for fixes (root-cause analysis, evidence packs, re-tests) in line with Financial Stability Board (2023) and KPMG (2025). U.S. supervisors (2024) motivate vendor-specific splits (cloud/KYC/scoring/CRM), and OECD (2022) justifies concentration scenarios (multi-tenant throttling, regional cloud outages). In short, the same digital rails that accelerate origination also define where the AM-Sales seam must prove it can think under stress; when cadence, co-visibility, incentives, and RACI are engineered into these dependencies, the model predicts stronger scores on the dependent variable’s Operational Resilience & Third-Party Risk Control dimension-and, via timely liquidity inputs, tighter Liquidity & Market-Risk Fit in the approvals pipeline.

2.4.5. Shariah Governance Touchpoints

Structures and where they meet AM-Sales. Islamic Financial Services Board (2024) describes Shariah governance as a multi-layer system-Shariah board, internal Shariah audit, and day-to-day compliance-that must be wired into front-to-back execution, not parked as an end-stage approval. In practical terms, Shariah board policies define what evidence must exist (asset existence, possession/transfer, profit-calculation logic), while internal Shariah audit tests how reliably those proofs appear inside the deal packet that Account Managers and Sales assemble. KPMG (2025) translates this architecture into operational tools-RACI matrices, approval thresholds, and SLA clocks-so named first-line owners request and time-stamp Shariah artifacts alongside pricing floors and tenor ladders. Financial Stability Board (2023) adds the seam logic: when governance is implemented as time-bound handoffs with shared indicators, AM-Sales can act on the same facts as Risk and Shariah functions, reducing rework and late overrides.

What goes wrong when touchpoints are late. Van Greuning and Iqbal (2008) show that deferring form–substance checks-particularly asset evidence in murabaha, possession/transfer (qabd) in ijara, and profit-recognition rules in musharaka-creates enforceability and recognition defects that later surface as credit exceptions and operational losses. International Monetary Fund (2023) frames the macro channel: in higher-for-longer rate regimes, any latency between funding signals and Shariah validation monetizes into mispricing and tenor misfit at approval. Al Rajhi Bank (2023) illustrates the scaling risk in digital product factories: if Shariah proofs travel by email outside the CRM/risk workflow, breach-to-action latency rises and exception cures drift. To prevent this, KPMG (2025) recommends embedding evidence packs (asset/possession/profit) as mandatory fields with system clocks; FSB (2023) then expects escalation timers and pause rules when proofs are missing. Where third-party rails supply KYC, pricing, or documentation capture, U.S. supervisors (2024) require monitoring rights and exit paths, so Shariah evidence remains auditable even when vendors degrade.

Bridge-why Shariah belongs inside each IV subscale, not as a separate factor. BIS (2013) argues that prudential constraints (LCR/HQLA, funding costs) must be internalized at origination; in Islamic settings, IFSB (2024) makes the same timing claim for form–substance. Consequently, Shariah touchpoints should be operationalized within the four independent-variable routines:

- Communication cadence: Are Shariah checkpoints on the same meeting rhythm as pricing/tenor reviews (KPMG, 2025)?
- Information co-visibility: Do CRM/risk screens show asset evidence, possession/transfer, and profit logic next to funding curves and EWS (FSB, 2023)?
- KPI & incentive alignment: Are AM/Sales measured or charged for late Shariah defects (overrides, re-work) so RAROC reflects form–substance timing (IMF, 2023)?
- RACI & escalation clarity: Who owns each proof, what thresholds/SLAs apply, and what pause rules trigger when proofs are missing (KPMG, 2025)?

By embedding Shariah inside cadence, co-visibility, KPI alignment, and RACI, the study treats compliance as an organizational capability that directly transmits to the dependent-variable anchors: Early-Risk/Onboarding quality (complete packets pre-deal), Credit discipline (fewer overrides, stronger covenants), Liquidity/Market-risk fit (tenor/pricing aligned with funding and form), and Operational resilience (auditable lineage, faster MTTR after outages).

2.4.6. Evidence Gaps in Bank-Level Quantitative Studies

What we have. International Monetary Fund (2023) maps liquidity and market-risk pressures at the sector level and explains how “higher-for-longer” cycles penalize execution delays. Saudi Central Bank (2023) complements this with a system view of capitalization, liquidity, and credit dynamics in Saudi Arabia. Islamic Financial Services Board (2024) codifies form–substance governance for murabaha, ijara, and musharaka, while Bank for International Settlements (2013) fixes prudential anchors-LCR, HQLA, and funding-ladder logic-that should bind at deal approval. Financial Stability Board (2023) adds a governance toolkit for third-party risk, and OECD (2022) documents digital/ cloud adoption that reshapes data lineage and vendor dependence. KPMG (2025) translates these expectations into work-design artifacts-RACI, thresholds, and SLAs-suggesting what good looks like inside the bank.

What is thin. Despite rich macro/toolkit guidance, there is little bank-level, seam-level quant evidence that ties *specific AM–Sales routines* to *measurable risk outcomes*. Habel, Alavi, and Heinitz (2023) show that analytics shift sales behavior only when embedded in daily workflow, but they do not quantify downstream effects such as override rates or breach-to-action latency in banking pipelines. Lang, Peltonen, and Sarlin (2018) demonstrate that feedback cadence improves early-warning accuracy, yet studies rarely link cadence metrics to covenant performance, tenor-mismatch breaches, or NPL migration in Islamic portfolios. U.S. supervisors (2024) place clear accountability on banks for third-party rails, but published datasets seldom connect vendor incidents, MTTR, and failover success to approval-stage decisions in AM–Sales seams. In short, the literature shows *what should matter* but seldom measures *how much it matters* where handoffs occur.

Bridge to this study’s design. Bank for International Settlements (2013) motivates objective DV markers-pricing-floor adherence, tenor within ladders, LCR/HQLA fit, covenant breach rates, NPL roll-rates, and MTTR for resilience-while International Monetary Fund (2023) justifies capturing execution timing as risk materiality. Financial Stability Board (2023) and KPMG (2025) support traceable governance-decision logs, escalation clocks, and evidence packs-allowing objective linkage to outcomes. Accordingly, this thesis adopts a hybrid strategy: *perceptual IV* subscales for communication cadence, information co-visibility, KPI/incentive alignment, and RACI clarity, paired with *objective DV* metrics drawn from approval systems, override registers, covenant monitors, liquidity flags, and resilience dashboards.

Why Al Rajhi Bank is a high-information setting. Al Rajhi Bank (2023) reports scale, digital investment, and broad Islamic product factories that generate observable variation in AM–Sales routines and sufficient depth in outcome data. Saudi Central Bank (2023) situates the bank within a concentrated, deposit-anchored system where small execution frictions scale quickly, and Islamic Financial Services Board (2024) underscores contract-form constraints that elevate the value of upstream coordination. Together, these features make the bank an apt laboratory to quantify how seam quality transmits into risk-management effectiveness across early-risk, credit discipline, liquidity/market fit, and operational resilience.

Table 2: Gap Matrix - What the Literature Measures vs. What This Study Measures

Domain (seam or outcome)	Typical in prior literature & toolkits	This study’s measurement (bank-level, seam-level)	What the gap means for your model
Communication cadence (AM–Sales)	Qualitative governance guidance on meetings/committees; descriptive “good practices.”	Quantified cadence index (planned vs. held reviews; interval variance), breach-to-action latency tied to each review, and on-time sign-off % per deal stage.	Converts vague “meet regularly” into time-stamped behavior that should predict Early-Risk/Onboarding and fewer late overrides.
Information co-visibility & lineage	High-level calls for integrated CRM/risk data; generic “single source of truth.”	Co-visibility score (shared fields present/used), lineage completeness (source/refresh/ETL evidence), and data-staleness minutes at approval.	Links shared data to concrete outcomes: pricing-floor adherence, tenor within ladders, and false-negative EWS rates.
KPI & incentive alignment	Conceptual alignment (risk culture, tone at the top); limited quant on plan mechanics.	Risk-adjusted KPI index (RAROC post-funding in scorecards; override chargebacks; delinquency penalties), and plan-	Tests whether incentive design lowers override share and improves covenant performance and early cures.

		coverage % for AM vs. Sales.	
Decision rights & escalation (RACI)	Policies, org charts, committee charters; narrative accountability.	RACI clarity index (named owner per decision), SLA compliance for escalations, pause-rule activation rate, and dispute time-to-resolution.	Quantifies governance execution; predicts lower breach-to-action latency and higher remediation quality.
Shariah touchpoints (form–substance)	Frameworks on asset evidence, possession/transfer, profit recognition; few timing metrics.	Evidence-pack completeness % at <i>pre-deal</i> , Shariah defect rate (pre vs. post-booking), and time-to-Shariah sign-off.	Brings Shariah upstream; should lift Onboarding Quality and reduce downstream NPL migration and exceptions.
Liquidity/market fit at origination	Macro ratios (LCR/HQLA) and policy statements; scarce approval-stage linkage.	Deal-level liquidity fit (HQLA tag present, tenor within ladder), funding-curve imprint in price, and tenor-mismatch flags at approval.	Makes prudential anchors bind ex-ante; predicts tighter Liquidity & Market-Risk Fit scores.
Credit discipline & outcomes	Portfolio NPLs, provisioning; limited seam attribution.	Pricing-floor adherence %, override frequency/severity, covenant breach rate, vintage roll-rate to early arrears/NPL.	Attributes outcome variation to seam routines; connects IV to DV with objective traces.
Operational resilience & third-party control	Vendor risk frameworks; qualitative incident narratives.	MTTR (decision-grade recovery), tested failover success %, SLA conformance for escalations, closure-quality score (root cause, re-test).	Shows whether digital dependencies are governed as part of the seam; predicts DV resilience.
Early-warning integration (pre-deal)	EWS models discussed abstractly; seldom tied to approval packet timing.	Pre-deal EWS hit-rate, false-negative rate, and integration timing (EWS present before sign-off).	Establishes the mechanism from cadence/data to Early-Risk Identification effectiveness.

Reference: BIS 2013, FSB 2023, IMF 2023, IFSB 2024, OECD 2022, SAMA 2023, CBUAE 2023.

The left column summarizes what sector reports and governance toolkits typically provide—useful principles but rarely time-stamped, seam-level measurements. The middle column shows how the thesis will operationalize each concept with traceable, deal-level indicators (logs, clocks, evidence packs). The right column states the expected pathway from the independent variable (AM–Sales functional routines) to each dependent-variable anchor (early-risk/onboarding, credit discipline, liquidity/market fit, and operational resilience). This matrix ensures your measurement system closes the gap between policy intent and observable execution at Al Rajhi Bank.

2.4.7. Contextualization to Al Rajhi Bank

Al Rajhi Bank’s scale, Islamic leadership, and digital build-out create a high-information setting in which small execution choices at the AM–Sales seam can be traced into measurable risk outcomes. Al Rajhi Bank (2023) reports a large retail deposit base, broad corporate and SME exposure, and a product factory that spans murabaha, ijara, and partnership-based

structures-conditions that, as Bank for International Settlements (2013) reminds, require LCR/HQLA and funding-ladder signals to be internalized at origination rather than repaired downstream. In a higher-for-longer rate regime, International Monetary Fund (2023) cautions that delays in transmitting funding curves and liquidity cues monetize into mispricing and tenor misfit, which is exactly where a bank of Al Rajhi’s scale will show portfolio-level consequences if cadence and co-visibility falter.

On product breadth and Islamic leadership, Islamic Financial Services Board (2024) emphasizes that form–substance checks-asset evidence, possession/transfer, and profit-recognition logic-must sit upstream in the approval seam. Al Rajhi Bank (2023) describes digital channels and product workflows where such proofs need to travel with pricing floors and tenor ladders; when that happens, Financial Stability Board (2023) expects fewer late overrides and tighter breach-to-action timing because handoffs are time-boxed and evidence-based. In this environment, the study’s independent-variable levers-communication cadence, information co-visibility, KPI/incentive alignment, and RACI/escalation clarity-are not abstract culture markers; they are the work design that determines whether risk inputs arrive in time to shape approvals, as KPMG (2025) argues.

Digital investment intensifies the test. OECD (2022) notes that cloud, e-KYC, scoring, and CRM orchestration compress cycle time but add vendor concentration and lineage risks; U.S. supervisors (2024) make clear the bank remains accountable for third-party delivery, which is why monitoring rights, failover evidence, and SLA clocks must be visible to first-line approvers. For Al Rajhi, that visibility enables the dependent-variable strand of Operational Resilience & Third-Party Risk Control to be measured with MTTR, tested failovers, and closure quality-and linked back to AM–Sales routines through decision logs and escalation timers (FSB, 2023).

These contextual features also explain why the bank is suitable for observing variation in both IV and DV. Scale and product diversity create natural differences across segments and periods in cadence, co-visibility, KPI mechanics (e.g., RAROC post-funding, override chargebacks), and RACI enforcement; those differences, in turn, manifest in objective outcomes-pricing-floor adherence, tenor-ladder fit, override frequency, covenant behavior, and resilience MTTR (BIS, 2013; IMF, 2023; FSB, 2023). Finally, this context calibrates expectations for Section 2.5 and the empirical chapter: effects should be stronger in murabaha/ijara sub-portfolios where documentation and tenor choices are tightly coupled to funding cues and Shariah artifacts (IFSB, 2024; Al Rajhi Bank, 2023), while partnership structures may exhibit greater dispersion-inviting interaction tests and robustness checks in the measurement strategy.

Table 3:“Evidence-to-Instrument” - Context Fact → Item Family (IV) → DV Anchor

Context fact (Saudi/GCC/Al Rajhi)	Instrument item family (IV subscale)	Example survey/trace item (how you’ll measure it)	Expected link to DV anchor(s)
Concentrated, deposit-anchored system; fast scaling of small frictions	Communication cadence	Planned vs. held AM–Sales risk reviews; interval variance; breach-to-action latency (mins)	Early-Risk/Onboarding ↑, Credit Discipline ↑
Basel III LCR/HQLA binds at origination (prudential anchors)	Information co-visibility	Presence of shared HQLA/LCR flags in approval	Liquidity & Market-Risk Fit ↑

		packet; funding-curve freshness (mins)	
Higher-for-longer rates monetize delays into mispricing	Communication cadence + RACI	SLA timer on approvals; named owner for price/tenor sign-off; pause-rule activation	Liquidity & Market-Risk Fit ↑, Credit Discipline ↑
Islamic contract forms (murabaha/ijara/musharaka) require upstream form-substance checks	Co-visibility + RACI	Asset-evidence/possession/profit artifacts embedded in CRM; time-to-Shariah sign-off	Early-Risk/Onboarding ↑, Credit Discipline ↑
Digital rails (cloud, e-KYC, scoring, CRM) add vendor dependence & lineage risk	RACI + Cadence	Named “degradation-mode” owner; incident broadcast cadence; failover runbook acknowledgment	Operational Resilience & 3rd-Party Control ↑
Third-party accountability (monitoring rights, audit trails, exit paths)	KPI & incentives	Scorecard credit for tested failovers; penalty for missing vendor evidence packs	Operational Resilience ↑, Early-Risk/Onboarding ↑
Large retail base funding mixed-tenor assets	Co-visibility	Tenor-ladder display in approval UI; pricing-floor imprint from funding curve	Liquidity & Market-Risk Fit ↑
Evidence of override drift under volume pressure	KPI & incentives	Override chargebacks; delinquency penalties; RAROC post-funding in AM/Sales scorecards	Credit Discipline ↑
Need for fast dispute resolution at handoffs	RACI	Dispute time-to-resolution (hrs); escalation-SLA conformance %	Operational Resilience ↑, Credit Discipline ↑
Early-warning models underperform when late or invisible to frontline	Cadence + Co-visibility	Pre-deal EWS present? (Y/N); EWS hit-rate; false-negative rate; EWS freshness (mins)	Early-Risk/Onboarding ↑, NPL migration ↓

Reference: Researcher.

Each context fact pinpoints a pressure point in Saudi/GCC and Al Rajhi’s operating reality. The middle column specifies the instrument item family you will include under the four IV subscales (communication cadence, information co-visibility, KPI/incentive alignment, and RACI clarity). The third column turns that into auditable items (mix of perceptual survey statements and system traces: timers, logs, evidence-pack fields). The last column states the expected directional link to the DV anchors: Early-Risk/Onboarding Quality, Credit Discipline & Outcomes, Liquidity & Market-Risk Fit at Origination, and Operational Resilience & Third-Party Risk Control. This compact map lets you justify each questionnaire scale and dashboard extraction with a concrete contextual rationale-and makes hypothesis testing traceable from sector evidence to seam-level behavior.

2.5. Linking the IV and DV: Mechanisms and Propositions

This section translates the study’s independent-variable routines-communication cadence, information co-visibility, KPI/incentive alignment, and RACI/escalation clarity-into causal channels that produce the four risk-effectiveness outcomes: early identification/onboarding quality, credit discipline, liquidity–market fit at origination, and operational resilience. International Monetary Fund (2023) argues that risk materializes through execution under uncertainty, so timing and clarity at handoffs determine whether signals change decisions or merely document delay. Bank for International Settlements (2013) adds that prudential anchors (LCR/HQLA and funding ladders) only bind when priced and tenored ex-ante, while Financial Stability Board (2023) shows that seams deliver reliably only when owners, clocks, and escalation paths are designed-not assumed. Evidence on embedded analytics (Habel, Alavi, &

Heinitz, 2023) and fixed feedback rhythms (Lang, Peltonen, & Sarlin, 2018) suggests that communication pulls signals forward, but co-visibility/lineage makes them decision-grade. In Islamic settings, Islamic Financial Services Board (2024) requires form–substance checks upstream, which KPMG (2025) operationalizes via RACI, thresholds, and SLAs; in digital pipelines, OECD (2022) and U.S. supervisors (2024) highlight third-party rails that test resilience and accountability. Against this backdrop, subsections 2.5.1–2.5.4 state four testable propositions—one per channel—to explain how the AM–Sales seam transmits routines into measurable improvements across the dependent-variable dimensions.

2.5.1. Communication → Early Identification & Onboarding

Communication is the front-end governor of risk: when Account Managers and Sales operate on a fixed rhythm with clear agendas and artefacts, weak files surface before approval rather than after booking. International Monetary Fund (2023) argues that risk is execution under uncertainty; therefore timing—not just policy—determines whether signals avert loss or record it late. Building on that, Lang, Peltonen, and Sarlin (2018) show that fixed feedback cadences materially improve early-warning accuracy, implying that meeting frequency, interval variance, and breach-to-action latency are not “soft culture” but quantifiable controls that shape onboarding quality. Habel, Alavi, and Heinitz (2023) add that analytics change frontline behavior only when embedded in routine; a cadence that forces AM and Sales to review EWS hits, document gaps, and schedule cures converts models into earlier escalations and cleaner pre-deal packets.

Governance tools translate cadence into action. Financial Stability Board (2023) recommends time-boxed handoffs with named owners and escalation clocks so unresolved KYC/EDD items, missing documents, or noisy EWS hits cannot “age in inboxes.” KPMG (2025) operationalizes this via agenda templates (EWS/EDD first), minutes with owners and due dates, and pause rules that prevent approvals when evidence is stale or absent. In Islamic contexts, Islamic Financial Services Board (2024) stresses that form–substance proofs (asset evidence, possession/transfer, profit logic) must sit upstream; a standing cadence that couples these artefacts with KYC/EDD and pricing inputs upgrades onboarding quality by design. Al Rajhi Bank (2023) describes digital product factories and channels where such routines scale; here, cadence is the difference between early fixes and post-booking rework.

▲ Proposition P1 (expected positive sign).

Higher communication cadence and quality—measured by a cadence index (planned vs. held reviews, interval variance), breach-to-action latency (minutes), on-time sign-off %, and pre-deal EWS presence/hit-rate—is associated with better Early Risk Identification & Onboarding Quality (fewer onboarding defects, faster cures, and more complete pre-deal evidence).

2.5.2. Information Sharing → Credit Discipline & Outcomes

Credit discipline improves when approvers see the same facts at the same time. Bank for International Settlements (2013) argues that prudential anchors-HQLA/LCR signals, funding curves, tenor ladders—must be visible at approval to bind pricing and tenor choices ex-ante; when these inputs sit outside the approval console, discretion expands and overrides rise. Financial Stability Board (2023) extends the argument from policy to seam design, noting that credit outcomes depend on whether shared indicators, decision logs, and escalation clocks are

embedded in the workflow that Account Managers and Sales actually use. International Monetary Fund (2023) adds the macro lever: in higher-for-longer regimes, every hour of data staleness monetizes into mispricing and tenor misfit, so co-visibility and data freshness are not IT niceties but direct credit controls.

Embedded analytics convert co-visibility into disciplined action. Habel, Alavi, and Heinitz (2023) show that predictive insights alter sales behavior only when surfaced in the routine (e.g., CRM tiles and next-best actions), implying that pricing floors, covenant templates, and EWS hits must be co-located with the deal to narrow room for ad-hoc concessions. Lang, Peltonen, and Sarlin (2018) demonstrate that fixed feedback rhythms reduce false negatives in early warning; carried into approvals, those rhythms stabilize floor adherence and covenant selection. Islamic Financial Services Board (2024) makes the “same facts” point sharper for Islamic products: unless asset evidence, possession/transfer, and profit logic are co-visible with pricing and tenor inputs, later disputes surface as exceptions and covenant strain. Al Rajhi Bank (2023) describes digital product factories where this co-visibility can scale; KPMG (2025) translates it into lineage fields (source, refresh time, transformations) so approvers trust that funding curves and risk flags are decision-grade.

▲ Proposition P2 (expected positive sign).

Greater information sharing and data integration-captured through a co-visibility score (shared fields present and used), data freshness in minutes, and lineage completeness-is associated with stronger Credit Discipline & Outcomes, evidenced by higher pricing-floor adherence, lower override frequency/severity, and fewer covenant breaches.

2.5.3. KPI/Incentive Alignment → Liquidity & Market-Risk Fit

When scorecards reward risk-adjusted performance rather than sheer volume, funding and prudential signals get priced at origination instead of being repaired downstream. Bank for International Settlements (2013) makes the anchor explicit: LCR/HQLA requirements and funding-ladder constraints only shape behavior if they are internalized in pricing and tenor at approval. International Monetary Fund (2023) adds that in a higher-for-longer regime, any misalignment between incentives and funding realities monetizes into tenor stretch and price erosion-classic liquidity/market-fit slippage. Financial Stability Board (2023) argues that incentives are part of the governance seam: if AM and Sales are measured on volume alone, the seam will systematically bypass liquidity cues, raise override pressure, and defer risk costs to surveillance. KPMG (2025) translates this into work design-embed RAROC post-funding, override chargebacks, and delinquency penalties in the same scorecards that drive frontline decisions, with thresholds and SLAs tied to approval.

In Islamic product factories, alignment matters even more. Islamic Financial Services Board (2024) notes that form–substance constraints (asset evidence, possession/transfer, profit logic) narrow feasible tenor/pricing choices; when KPIs reward adherence to tenor ladders and pricing floors-and penalize late Shariah defects-the approval seam preserves HQLA composition and liquidity cushions rather than consuming them. Al Rajhi Bank (2023) describes digital workflows where these mechanics can be surfaced in CRM, allowing risk-adjusted targets to bind deal by deal.

- ▲ Proposition P3 (expected positive sign).

Stronger KPI/Incentive alignment-proxied by a risk-adjusted KPI index (RAROC after funding in scorecards, override chargebacks, delinquency penalties, plan-coverage %)-is associated with tighter Liquidity & Market-Risk Fit at Origination, evidenced by tenor-within-ladder, funding-curve imprint in price, and lower tenor-mismatch flags.

2.5.4. RACI/Escalation → Operational Resilience & Third-Party Control

RACI turns “who should act” into “who did act, by when, with what evidence.” Financial Stability Board (2023) treats incident handling and third-party oversight as seams, not silos-performance depends on whether named owners, escalation clocks, and decision logs are embedded in the workflow that Account Managers and Sales actually use. KPMG (2025) operationalizes this seam logic into runbooks (degradation modes), SLA timers (detection→notification→workaround→recovery), and pause rules that temporarily halt approvals when inputs fail lineage or freshness checks; by design, these tools convert ambiguity into measurable MTTR and closure-quality outcomes. In Islamic settings, Islamic Financial Services Board (2024) adds a form–substance continuity requirement: even in incidents, evidence of asset, possession/transfer, and profit logic must remain auditable on a clock, or operational defects later surface as credit exceptions-linking escalation design directly to risk effectiveness.

Vendor rails raise the stakes. OECD (2022) notes that cloud, e-KYC, scoring, and CRM orchestration compress cycle time but concentrate operational dependencies in a few providers; U.S. supervisors (2024) make accountability explicit-banks retain responsibility and must hard-wire monitoring rights, testing obligations, and exit paths into contracts and dashboards. International Monetary Fund (2023) warns that in higher-for-longer regimes, every hour of degraded pricing or KYC inputs monetizes into approval errors; thus, RACI ownership and escalation SLAs become economic controls, not mere compliance etiquette. Bank for International Settlements (2013) indirectly fixes what “recovery” must restore-decision-grade funding curves, HQLA cues, and tenor ladders-so lineage-verified restoration, not bare system uptime, is the resilience standard. In Al Rajhi Bank’s digital product factories, Al Rajhi Bank (2023) shows that these controls can be surfaced alongside approval consoles, allowing AM–Sales to apply pre-approved fallbacks and document tested failovers within SLA clocks-tightening third-party control at the exact handoff where risk is booked.

- ▲ Proposition P4 (expected positive sign).

Greater RACI clarity and escalation discipline-captured by a RACI clarity index, SLA conformance, dispute time-to-resolution, pause-rule activation, tested-failover %, decision-grade MTTR, and closure-quality scores-is associated with higher Operational Resilience & Third-Party Risk Control in the approvals pipeline.

2.5.4.1. Integrated narrative connecting the four mechanisms to the four outcomes

Taken together, the four AM–Sales mechanisms operate as a sequenced control loop that moves risk information from signal to decision to resilience. First, communication cadence pulls uncertainty *forward* by forcing early review of KYC/EDD gaps and EWS hits; when meetings are time-boxed and actioned, weak files surface *pre-deal* rather than *post-booking*, lifting Early Risk Identification & Onboarding Quality (International Monetary Fund, 2023;

Lang, Peltonen, & Sarlin, 2018). Yet cadence only translates into disciplined approvals when the same actors see the same facts at the same time: information co-visibility-funding curves, HQLA/LCR flags, covenant templates, and Shariah proofs in one console-shrinks discretion, reduces overrides, and stabilizes covenant choice, strengthening Credit Discipline & Outcomes (Bank for International Settlements, 2013; Islamic Financial Services Board, 2024; Habel, Alavi, & Heinitz, 2023).

Next, even perfect visibility will drift if frontline rewards fight prudential logic. KPI/Incentive alignment internalizes LCR/HQLA constraints and funding ladders into price/tenor choices *at origination* via RAROC post-funding, override chargebacks, and delinquency penalties; done well, approvals exhibit clear Liquidity & Market-Risk Fit (Bank for International Settlements, 2013; International Monetary Fund, 2023). Finally, pipelines are stress-tested by vendor/cloud incidents; here RACI & escalation clarity converts ambiguity into timers, pause rules, and tested failovers that restore decision-grade inputs-reducing MTTR and improving Third-Party Risk Control, not just IT uptime (Financial Stability Board, 2023; OECD, 2022; U.S. bank supervisors, 2024).

The mechanisms also reinforce each other. Cadence without co-visibility produces *discussion without decision*; co-visibility without incentives invites *visible non-compliance*; aligned incentives without RACI leaves *no one on the hook when rails degrade*. In Islamic product factories, upstream form–substance checkpoints-asset evidence, possession/transfer, profit logic-must travel through the same cadence, co-visibility, incentives, and RACI spine to prevent later enforceability and recognition defects, tightening all four DV dimensions simultaneously (Islamic Financial Services Board, 2024; KPMG, 2025). In Al Rajhi’s context of scale, digital channels, and deposit-anchored funding, these complementarities are economically material: small seam frictions scale rapidly into mispricing, tenor misfit, exception drift, and slow recoveries-precisely the outcomes the model is built to measure and, ultimately, to improve (Al Rajhi Bank, 2023; International Monetary Fund, 2023).

2.6. Conclusion

This review shows that the AM–Sales seam transmits risk quality through four operational channels: (1) communication cadence that pulls KYC/EDD and EWS signals upstream (International Monetary Fund, 2023; Lang, Peltonen, & Sarlin, 2018); (2) information co-visibility and lineage that make pricing floors, funding curves, HQLA/LCR flags, and Shariah proofs decision-grade at approval (Bank for International Settlements, 2013; Islamic Financial Services Board, 2024); (3) KPI/incentive alignment that internalizes prudential and funding constraints into price and tenor ex-ante (Bank for International Settlements, 2013; International Monetary Fund, 2023); and (4) RACI/escalation discipline that restores decision-quality inputs under vendor/cloud degradation (Financial Stability Board, 2023; KPMG, 2025). In Al Rajhi’s digital, Islamic product factories (Al Rajhi Bank, 2023), these channels are economically material and measurable. Accordingly, the chapter justifies four propositions: cadence → early identification/onboarding, co-visibility → credit discipline/outcomes, incentive alignment → liquidity/market-risk fit, and RACI/escalation → operational resilience/third-party control-each with clear, time-stamped indicators (e.g., breach-to-action minutes, pricing-floor adherence, tenor-ladder fit, decision-grade MTTR).

3. Chapter 3 : Research Methodology

3.1. Introduction

This section explains the methodology that was applied in the current project, in order to answer the study questions and test the study hypotheses. The following titles explain, the operational definitions for the research variables, and what has been applied, as follows:

3.2. Operational definitions for research variables

In research studies, operational definitions are key in clearly defining the variables being measured. An operational definition describes how a variable will be measured, observed, or manipulated. It helps researchers ensure that their studies are consistent, reliable, and valid.

3.2.1. Functional Relationship Between Account Managers and Sales Teams (Independent variable)

This construct captures how effectively Account Managers (AMs) and Sales Teams coordinate to win and service clients within Al Rajhi Bank. It reflects the quality, frequency, and structure of their interaction, the robustness of shared data flows, the alignment of performance targets and incentives, and the clarity of decision rights and escalation paths (e.g., RACI-style responsibility mapping). Strong AM–Sales “functional fit” should reduce ambiguity, speed risk-aware decisions, and improve end-to-end client handling.

3.2.2. Risk Management Effectiveness (Dependent variable)

Risk management effectiveness is the degree to which the bank’s practices consistently identify, assess, decide on, and control risks at origination and through the client life cycle—producing stable credit outcomes, adequate liquidity buffers, fit-for-purpose market-risk positioning, and resilient operations. The construct follows recognized risk-management guidance (ISO 31000) and banking principles (Basel Committee), adapted to origination and frontline collaboration contexts.

3.3. Research design

In this template, we’ll present a structure that covers five important methodological matters (as outlined above). This structure is loosely based on “research onion”.

3.3.1. Research Design:

Research Philosophy: Positivist

Research Approach: Deductive

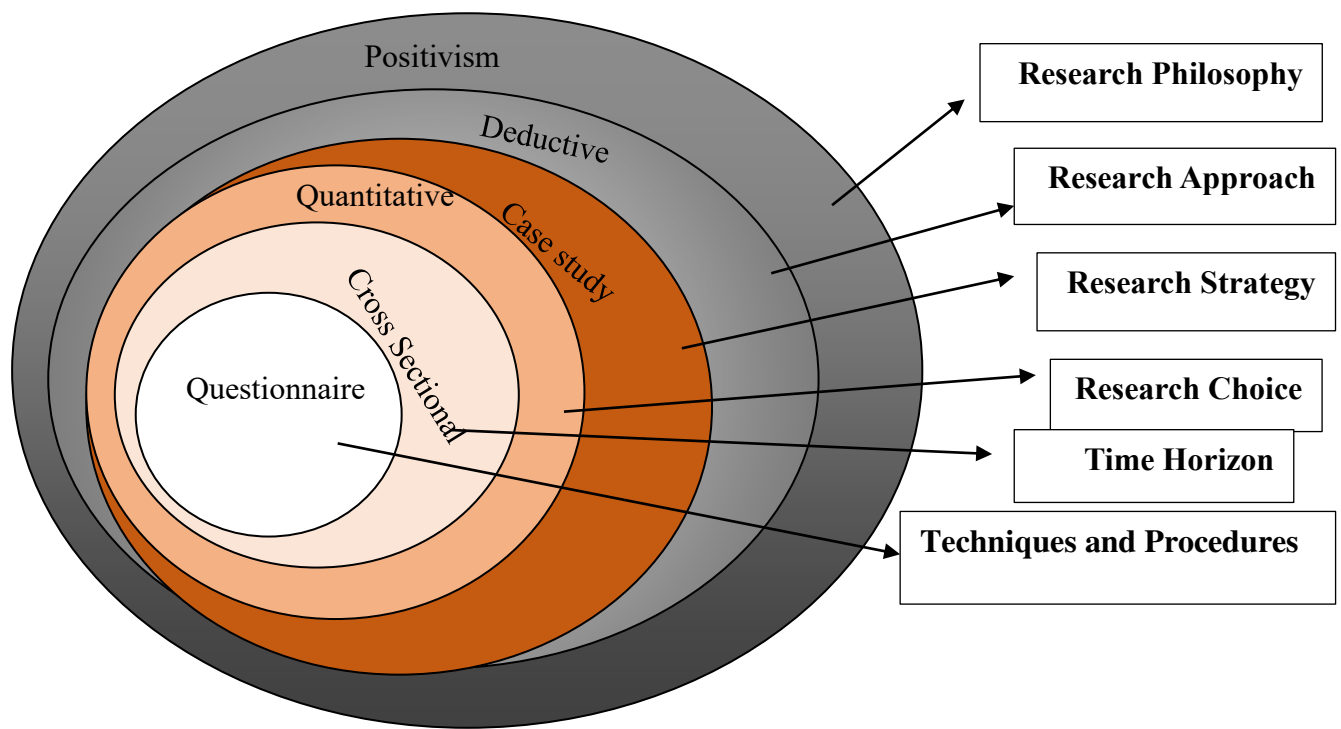
Research Strategy: Case study.

Research Choice: Quantitative

Time Horizon: Cross-sectional

Data Collection and Analysis Techniques : Questionnaire

Figure 3: Research Design



Source : Researcher

3.4. Research population & Sampling methods and technique

This section provides information about the study population & sample. Additionally, this section demonstrates the methods and techniques that were elaborated in order to select the study sample, and determine the sample size.

3.4.1. Research Population

The research population for this study consisted of employees working at Al Rajhi Bank in Riyadh, Saudi Arabia, specifically those involved in roles where functional interaction between Account Managers and Sales Teams is operationally relevant. The target population included employees across multiple business lines and support units connected to client origination and risk-related processes.

The research population was defined according to the following demographic and professional characteristics:

- Gender: The population included both male and female employees working in different units of the bank.
- Age Group: Employees ranged across several age brackets, beginning from 18 years and above, covering early-career to senior-level staff.
- Education Level: The population held diverse educational qualifications, including high school diplomas, bachelor's degrees, master's degrees, and doctoral degrees.
- Tenure at Al Rajhi Bank: Employees varied in their years of service, ranging from less than 1 year to more than 10 years, reflecting a mix of newly hired staff and experienced professionals.
- Job Level: The population included individuals in entry-level, mid-level, senior-level, management, and executive positions.

- Department: The study targeted employees working in departments directly or indirectly involved in client origination and risk-management-related actions, including:
 - ⇒ Account Management / Sales
 - ⇒ Risk Management / Compliance
 - ⇒ Operations
 - ⇒ IT / Technology
 - ⇒ Finance / Other supporting roles

For the purposes of this research, the total size of the research population (N) was determined to be 400 employees across relevant Al Rajhi Bank units within Riyadh. This population size reflects the estimated number of personnel working in functions where coordination between Account Managers and Sales Teams influences risk-related decisions.

The data for this study was collected using a structured questionnaire administered electronically through an online survey format. The instrument employed a five-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree, and included demographic questions alongside items measuring the dimensions of the independent and dependent variables. The survey link was distributed digitally to employees within the defined population scope, and responses were collected anonymously to ensure accuracy and confidentiality.

Table4 : The Research Population.

Characteristic	Percentage	Frequency
Role / Position		
• Entry-level	%30	120
• Mid-level	%35	140
• Senior-level	%15	60
• Management	%12.50	50
• Executive	%5	20
• Other	%2.50	10

Sources: Researcher

3.4.2. Research Sample

The research sample for this study consists of 196 employees, selected using stratified random sampling from the overall population of 400 employees at Al Rajhi Bank in Riyadh. This sample size corresponds directly with the Krejcie and Morgan (1970) table, ensuring that the study findings are statistically representative of the target population. The sample provides a 95% confidence level and a 5% margin of error, supporting the generalizability and reliability of the results.

Table 5: for Sample composition using stratified random sampling.

Management and employees	Population	Sample
	400	196

Source: Researcher

3.4.3. Sampling Method & Techniques

The probability sampling method used in this study was stratified random sampling. To ensure that the sample accurately represented the different demographic and organizational groups within the population, employees were first divided into distinct strata based on the following characteristics:

- Gender (Male, Female)
- Age Group (18–25 years, 26–35 years, 36–45 years, 46–55 years, 56 years or older)
- Education Level (High school, Bachelor’s degree, Master’s degree, Doctoral degree, Other)
- Length of Employment (Less than 1 year, 1–3 years, 4–6 years, 7–10 years, More than 10 years)
- Job Level (Entry-level, Mid-level, Senior-level, Management, Executive)
- Department (Account Management / Sales, Risk Management / Compliance, Operations, IT / Technology, Finance / Other)

After defining these strata, participants were randomly selected from each category in proportion to the size of the stratum within the overall population. This ensured that the final sample of 196 employees (as determined by the Krejcie and Morgan table) accurately reflected the structure of the research population. This sampling approach enhances the validity and generalizability of the study’s findings on the relationship between functional interaction between account managers and sales teams and its impact on risk-management effectiveness within Al Rajhi Bank.

Table :6 for Sample composition using stratified random sampling.

JOB LEVEL	No. in Research Population (N = 400)	No. in Final Sample (49%)
• Entry-level	120	59
• Mid-level	140	69
• Senior-level	60	29
• Management	50	24
• Executive	20	10
• Other	10	5
Total	400	196

Source : Researcher

3.5. Data collection method

This section describes the research instruments that were used to collect the required data in order to answer the research questions and test the research hypotheses. Accordingly, the researcher relied on survey method in collecting the quantitative data via questionnaires. The following sections present the instruments that were used to measure the research variables

3.5.1. The Independent Variable: Functional Relationship Between Account Managers and Sales Teams

The researcher relied on the questionnaire developed specifically for this study in order to measure the independent variable Functional Relationship Between Account Managers and Sales Teams, which is examined across four dimensions, namely: Communication Quality & Cadence, Information Sharing & Data Integration, Goal/KPI & Incentive Alignment, and Decision Rights & Escalation Clarity (RACI), with an overall 8 items representing the whole variable. Each dimension consists of 2 items: Communication Quality & Cadence (2 items), Information Sharing & Data Integration (2 items), Goal/KPI & Incentive Alignment (2 items), and Decision Rights & Escalation Clarity (2 items). The instrument is based on a 5-point Likert scale, where 1 = strongly disagree and 5 = strongly agree.

Table7 : Instrument of the Independent Variable (Functional Relationship Between Account Managers and Sales Teams)

Variable	Dimensions	Number of Items	Sources
Functional Relationship Between Account Managers and Sales Teams	Communication Quality & Cadence	2	• Imtiaz et al., 2023 • Narayanan et al., 2015
	Information Sharing & Data Integration	2	
	Goal/KPI & Incentive Alignment	2	
	Decision Rights & Escalation Clarity (RACI)	2	
	Over all	8	

Source: Researcher

3.5.2. The Dependent Variable: Risk Management Effectiveness

The researcher relied on the questionnaire developed for this study in order to measure the dependent variable Risk Management Effectiveness, which is assessed through four dimensions, namely: Early Risk Identification & Onboarding Quality, Credit Discipline & Outcomes, Liquidity & Market-Risk Fit at Origination, and Operational Resilience & Third-Party Risk Control, with an overall 8 items representing the entire variable. Each dimension consists of 2 items: Early Risk Identification & Onboarding Quality (2 items), Credit Discipline & Outcomes (2 items), Liquidity & Market-Risk Fit at Origination (2 items), and Operational Resilience & Third-Party Risk Control (2 items). The instrument uses a 5-point Likert scale, where 1 = strongly disagree and 5 = strongly agree.

Table8 : for the Instrument of the Dependent Variable

Variable	Dimensions	Number of Items	Sources
Risk Management Effectiveness	Early Risk Identification & Onboarding Quality	2	• Al Hammadi et al., 2024 • Abdulla & Elshandidy, 2023
	Credit Discipline & Outcomes	2	
	Liquidity & Market-Risk Fit at Origination	2	
	Operational Resilience & Third-Party Risk Control	2	
	Over all	8	

Source: Researcher

3.6. 3.6. Types of Data

3.6.1. Primary Data

Primary data refers to information collected directly from the original source specifically for the purposes of this research study. In this study, the primary data was obtained through the following method:

▲ Surveys:

A structured, self-administered questionnaire was distributed to a stratified random sample of 196 employees from various departments at Al Rajhi Bank in Riyadh. The survey items were designed to measure employees' perceptions regarding the functional relationship between account managers and sales teams, as well as their evaluation of the bank's risk management effectiveness across its key dimensions. All survey items were rated using a 5-point Likert scale, enabling the researcher to quantify responses and conduct statistical analyses.

3.6.2. Secondary Data

Secondary data refers to information previously collected, documented, and published by other authors or institutions, and used to support, validate, or contextualize the primary data. In this research, the secondary data included:

- **Academic Books and Journal Articles:**
Relevant literature on organizational collaboration, financial risk management, cross-functional coordination, and banking performance was reviewed. Concepts and models from these academic sources contributed to developing the study's theoretical foundation.
- **Previous Studies:**
Prior empirical studies examining teamwork, data integration, decision alignment, and risk-management practices in the banking and financial services sector were analyzed. Findings from these studies were used to enrich the research background and compare results.
- **Scientific Dissertations and Research Papers:**
Master's theses, doctoral dissertations, and peer-reviewed papers related to

collaboration between business units and risk-management frameworks were examined. These sources provided insight into methodological approaches and validated measurement instruments.

- **Institutional and Regulatory Documents:**
Reports and guidelines published by bodies such as the Basel Committee on Banking Supervision (BCBS) and the Financial Stability Board (FSB) were reviewed. These documents were essential for understanding global standards on credit risk, liquidity risk, market-risk alignment, and operational resilience.

3.7. Data Analysis Methods & Procedures

After collecting the data, it was essential to analyze the responses in order to generate meaningful conclusions related to the study objectives. The Statistical Package for the Social Sciences (SPSS), specifically version 28, was used to analyze the collected data.

- **Descriptive Analysis:**
A sample profile test was conducted using descriptive statistics to gain insights into the demographic characteristics of the respondents, including gender, age, education level, job level, years of experience, and department. This analysis helped the researcher understand the distribution and structure of the sample.
- **Validity and Reliability Tests:**
Validity tests-including Exploratory Factor Analysis (EFA)-were applied to determine whether the measurement items accurately reflected the dimensions of the independent and dependent variables. Reliability tests were conducted using Cronbach's Alpha, which assessed the internal consistency of the scales and ensured that the items produced stable results.
- **Descriptive Measures for Study Variables:**
Means and standard deviations were calculated to assess the respondents' perceptions regarding the Functional Relationship Between Account Managers and Sales Teams and Risk Management Effectiveness. This helped in identifying general trends in agreement or disagreement across the study dimensions.
- **Inferential Statistical Analysis:**
Correlation tests and regression analysis were applied to examine the relationships between the independent variable and the dependent variable. These statistical procedures helped determine the significance and strength of the impact of functional relationship dimensions on risk-management effectiveness within Al Rajhi Bank.

3.8. Conclusion

The methodological tools applied in this study provided a structured and reliable approach for examining the relationship between the functional interaction of account managers and sales teams and the effectiveness of risk management at Al Rajhi Bank. By clearly defining the theoretical model and operationalizing both variables into measurable dimensions, the study ensured that each construct was assessed accurately and consistently. The selection of a research population representing different departments, job levels, and experience groups enabled the analysis to reflect the bank's diverse operational environment, where coordination between relationship-focused and risk-focused functions is essential.

The adoption of stratified random sampling ensured that the final sample accurately mirrored the characteristics of the broader population, increasing the generalizability of the findings. The use of a structured questionnaire with a five-point Likert scale facilitated efficient data collection and supported the use of descriptive and inferential statistical techniques. The items in the survey captured key elements of functional collaboration-communication cadence, information sharing, KPI alignment, and decision-rights clarity-as well as core dimensions of risk management effectiveness.

Combining primary data from employees with secondary data from academic literature and regulatory sources enhanced the robustness of the analysis. Overall, the methodological approach used in this chapter ensured a rigorous foundation for the subsequent statistical examination presented in the next chapter.

4. Chapter 4: Statistical Analysis & Findings (discussion)

4.1. Introduction

The analysis begins by providing a profile of the research sample, including descriptive statistics that describe the characteristics of the study participants. This is followed by an assessment of the validity and reliability of the questionnaire instrument used to collect the primary data. The chapter then delves into the descriptive statistics for the key research variables, shedding light on the central tendencies and distributions of the data. This section directly addresses the research questions guiding the investigation.

Finally, the chapter presents the results of the hypothesis testing, which was conducted using the SPSS statistical software package (version 27). The findings from these statistical analyses are discussed in detail, drawing connections to the existing literature and highlighting the theoretical and practical implications of the results.

4.2. Sample Profile (Descriptive Statistics for Research Sample)

The items of the study sample were distributed according to a set of demographic characteristics designed to describe the profile of respondents at Al Rajhi Bank. Frequencies and percentages were calculated for each category to provide a clear overview of the composition of the research sample and to support the interpretation of subsequent analytical results.

The demographic information for the sample includes:

- Gender, which includes: (Male, Female).
- Age group, which includes: (18–25 years, 26–35 years, 36–45 years, 46–55 years, 56 years or older).
- Length of employment at Al Rajhi Bank, which includes: (Less than 1 year, 1–3 years, 4–6 years, 7–10 years, More than 10 years).
- Department, which includes: (Account Management / Sales, Risk Management / Compliance, Operations, IT / Technology, Finance / Other).
- Role / Position (Job level), which includes: (Entry-level, Mid-level, Senior-level, Management, Executive, Other).
- Educational level, which includes: (High school diploma or equivalent, Bachelor's degree, Master's degree, Doctoral degree, Other).

The following tables, figures, and descriptive paragraphs present the classification of the research sample according to these variables:

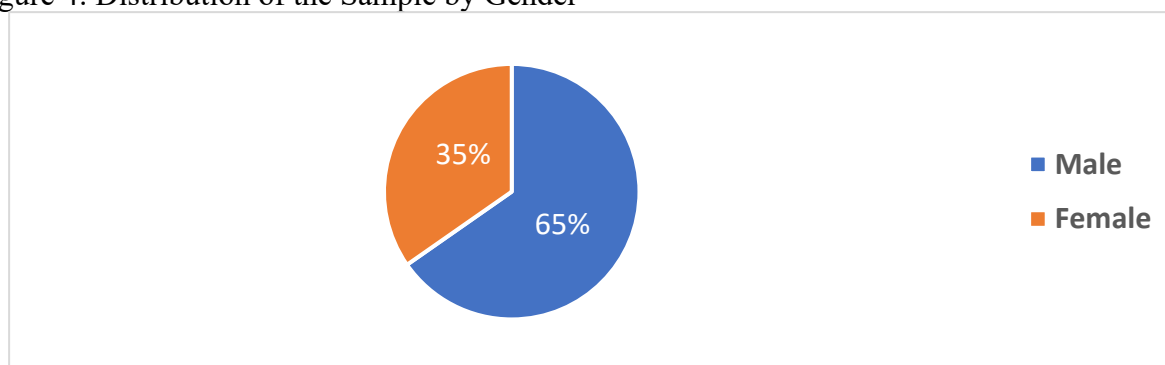
Table 9: Descriptive Statistics for the Research Sample

Variable	Variable Classes	Number	Percentage of Study Sample
Gender	Male	128	65.30%
	Female	68	34.70%
Total		196	100%
Age	18–25 years	39	19.90%
	26–35 years	78	39.80%
	36–45 years	59	30.10%
	46–55 years	18	9.20%
	56 years or older	2	1.00%
	Total	196	100%

Educational level	High school diploma or equivalent	20	10.20%
	Bachelor's degree	108	55.10%
	Master's degree	49	25.00%
	Doctoral degree	10	5.10%
	Other	9	4.60%
Total		196	100%
Length of employment	Less than 1 year	29	14.80%
	1–3 years	59	30.10%
	4–6 years	49	25.00%
	7–10 years	35	17.90%
	More than 10 years	24	12.20%
Total		196	100%
Role / Position	Entry-level	59	30.10%
	Mid-level	69	35.20%
	Senior-level	29	14.80%
	Management	24	12.20%
	Executive	10	5.10%
	Other	5	2.60%
Total		196	100%
Department	Account Management / Sales	69	35.20%
	Risk Management / Compliance	39	19.90%
	Operations	39	19.90%
	IT / Technology	29	14.80%
	Finance / Other	20	10.20%
Total		196	100%

Resource: Researcher.

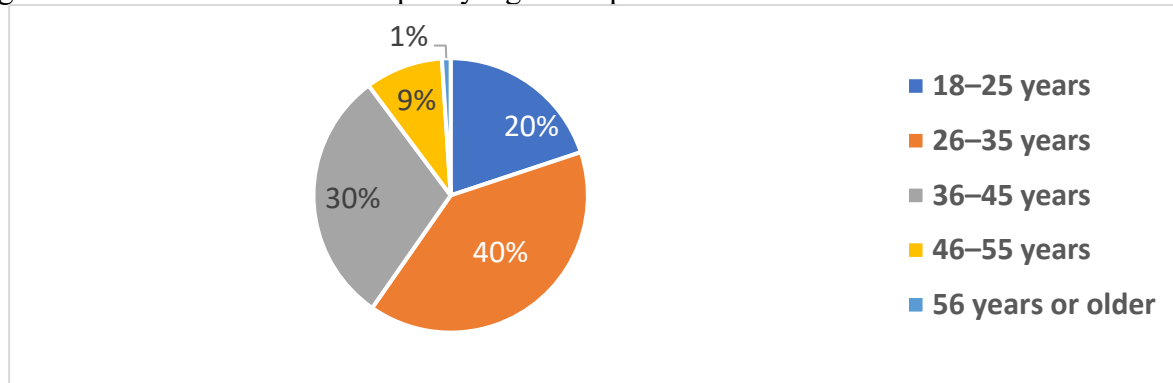
Figure 4: Distribution of the Sample by Gender



Resource: Researcher.

The statistical results indicate that the number of males in the study sample is higher than the number of females. Male participants constituted **65%** of the total sample, while female participants represented **35%**. This distribution suggests that the study population is predominantly male, which reflects the general employment structure in many banking institutions in Saudi Arabia, where male employees often form a larger proportion of the workforce.

Figure 5: Distribution of the Sample by Age Group

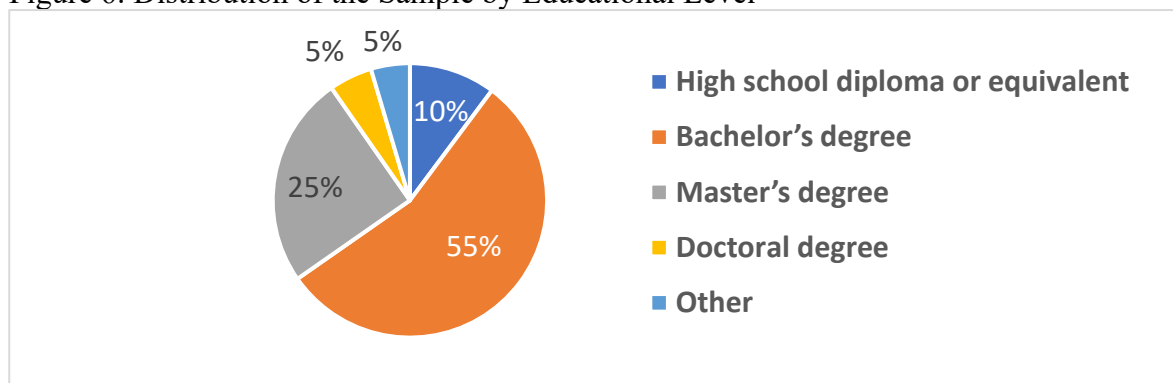


Resource: Researcher.

The statistical results show that the largest age group within the study sample falls between 26–35 years, representing 40% of all participants. This is followed by the 36–45 years group, which constitutes 30% of the sample. Meanwhile, 18–25 years accounted for 20% of respondents, indicating a notable presence of early-career employees. The 46–55 years category represented 9%, while the 56 years or older group had the smallest proportion at only 1%.

This age distribution reflects a workforce that is predominantly young to mid-career, which is common in large financial institutions where operational and sales-related roles are typically occupied by employees in these age ranges.

Figure 6: Distribution of the Sample by Educational Level

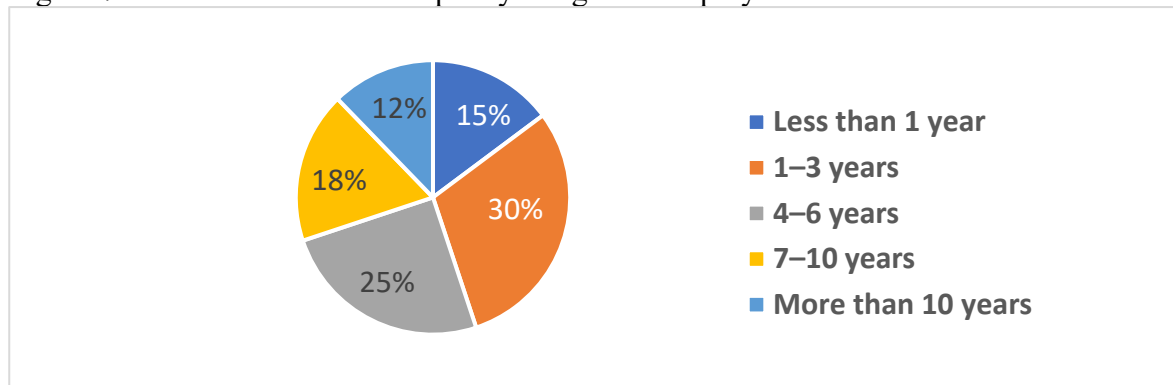


Resource: Researcher.

The statistical results reveal that the majority of participants in the study sample hold a Bachelor's degree, representing 55% of the total respondents. This is followed by employees with a Master's degree, who make up 25% of the sample. Additionally, 10% of the participants reported having a high school diploma or equivalent, while 5% hold a Doctoral degree. Another 5% of the respondents indicated having other types of educational qualifications.

This distribution highlights that the workforce at Al Rajhi Bank is predominantly composed of individuals with higher education degrees, particularly at the bachelor's and master's levels, reflecting the bank's emphasis on academic and professional qualifications in its recruitment and development practices.

Figure 7: Distribution of the Sample by Length of Employment

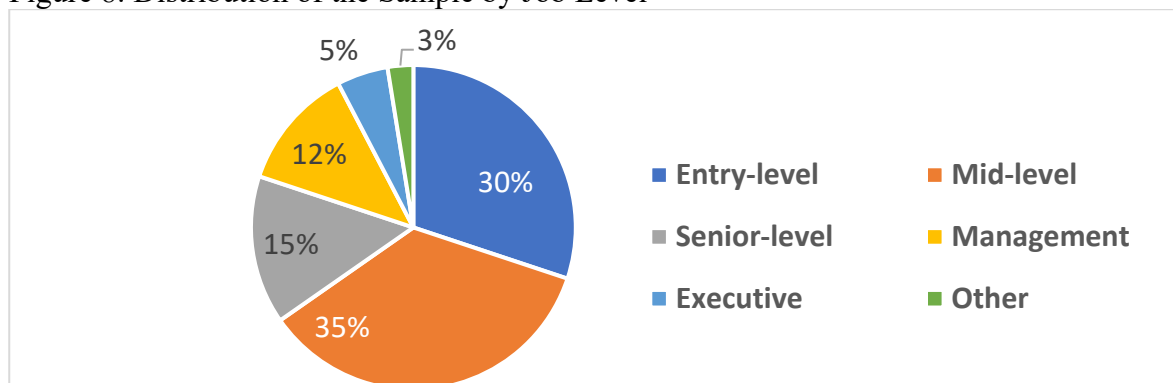


Resource: Researcher.

The statistical results show that the largest proportion of participants have been employed at Al Rajhi Bank for **1–3 years**, representing **30%** of the total sample. This is followed by employees with **4–6 years** of experience, who constitute **25%**, indicating a strong presence of mid-tenure staff within the organization. Additionally, **7–10 years** of experience accounted for **18%**, while **15%** of respondents had been employed for **less than 1 year**, reflecting ongoing recruitment and workforce expansion. The smallest group consisted of employees with **more than 10 years** of employment, representing **12%** of the sample.

This distribution demonstrates that the sample includes a balanced mix of early-career, mid-career, and long-tenured employees, providing a comprehensive representation of different experience levels across the bank’s operational and risk-related functions.

Figure 8: Distribution of the Sample by Job Level

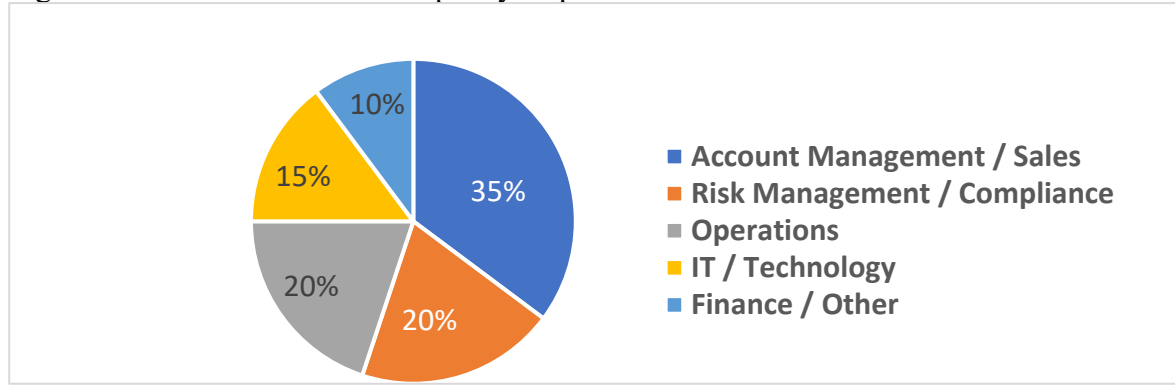


Resource: Researcher.

The statistical results indicate that the largest proportion of respondents occupy mid-level positions, representing 35% of the total sample. This is followed by entry-level employees, who constitute 30%, reflecting a substantial segment of early-career staff within Al Rajhi Bank. Employees in senior-level positions account for 15% of the sample, while those in management roles represent 12%, indicating a noticeable presence of supervisory and managerial responsibilities in the surveyed group. In addition, 5% of the respondents hold executive positions, and 3% fall under the “other” category, which may include specialized or non-standard roles.

Overall, this distribution demonstrates that the sample covers a wide range of organizational levels, ensuring that perceptions of the functional relationship between account managers and sales teams, as well as risk-management effectiveness, are captured from different hierarchical perspectives within the bank.

Figure 9: Distribution of the Sample by Department



Resource: Researcher.

The statistical results show that the highest proportion of respondents work in Account Management / Sales, representing 35% of the total sample. Employees in Risk Management / Compliance and Operations each account for 20%, indicating a strong representation of both risk-focused and process-focused functions. In addition, 15% of participants belong to IT / Technology, reflecting the growing importance of digital infrastructure and systems in supporting frontline and risk activities. Finally, 10% of the respondents are employed in Finance / Other departments. This distribution demonstrates that the sample covers all key functional areas involved in client origination, monitoring, and risk control at Al Rajhi Bank, which strengthens the relevance of the findings to cross-functional collaboration and risk-management effectiveness.

4.3. Validity & reliability tests for the questionnaires

Table 10 :Measurement model for the study variables

Variable	Dimensions	Items	Std. Deviation	Factor Loading	Mean	AVE	Cronbach's Alpha	
Functional Relationship Between Account Managers and Sales Teams	Communication Quality & Cadence	FCQ1	1.072	0.830	3.34	0.694	0.922	
		FCQ2	0.913	0.717	3.54			
	Information Sharing & Data Integration	FID1	0.973	0.444	3.46			
		FID2	0.950	0.874	3.42			
	Goal/KPI & Incentive Alignment	FGI1	0.877	0.405	3.37			
		FGI 2	0.942	0.717	3.48			
	Decision Rights & Escalation Clarity (RACI)	FDE1	0.949		3.41			
		FDE2	0.992	0.873	3.19			
Risk Management Effectiveness	Early Risk Identification & Onboarding Quality	REO1	0.949		3.24	0.837	0.900	
		REO 2	1.026	0.965	3.59			
	Credit Discipline & Outcomes	RCO1	1.061	0.944	3.31			
		RCO 2	0.949	0.507	3.41			
	Liquidity & Market-Risk Fit at Origination	RLM1	0.992	0.849	3.19			
		RLM2	0.949	0.921	3.24			
	Operational Resilience & Third-Party Risk Control	ROT1	1.026		3.59			
		ROT2	1.061		3.31			

4.3.1. The First Variable Functional relationship between Account Managers and Sales Teams:

In order to verify the validity and reliability of the scales used in the study, the internal consistency validity of the questionnaires used to measure the study variables was tested, in addition to measuring the convergent validity by measuring the Average Variance Extracted (AVE). Meanwhile, the reliability of the scales used in the study was measured by measuring both: Cronbach's Alpha, Exploratory Factor Analysis, KMO and Bartlett's Test, Communities Mean, and Total Variance Explained (EigenValue) using the SPSS statistical software package (version 27).

The following paragraphs and tables illustrate this.

4.3.1.1. Validity of the scales used in the study:

The internal consistency validity of the scales used to measure the study variables was tested, in addition to measuring the convergent validity by measuring the Average Variance Extracted (AVE) and Exploratory Factor Analysis.

- Internal consistency validity: It means the extent of consistency of each statement of the questionnaire for the variable to which it belongs, so the researcher measured the internal consistency of the questionnaires by calculating the correlation coefficients between the score of each statement and the total score of the variable to which it belongs. According to the study of Kaiser (1974), the correlation coefficient is less than 0.5 and is removed from the questionnaire.
- Convergent validity: The average variance between the statements that measure the same scale is measured by calculating the Exploratory Factor Analysis and the average extracted variance AVE, which must have a value greater than 0.5 according to (Hair et al. 2006)

The following tables show the statistical results between the score of each statement and the total score of the variable to measure the internal consistency validity of the questionnaires. Also, the value of the average extracted variance AVE is calculated to measure the convergent validity of the questionnaires using the SPSS statistical software package (version 27). , as follows:

Table 11: Exploratory Factor Analysis

Rotated Component Matrix ^a				
	Component			
	Communication Quality & Cadence	Information Sharing & Data Integration	Goal/KPI & Incentive Alignment	Decision Rights & Escalation Clarity (RACI)
FCQ1	0.830			
FCQ2	0.717			
FID1		0.444		
FID2		0.874		
FGI1			0.405	
FGI2			0.717	
FDE1				
FDE2				0.873

AVE	0.694
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Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 8 iterations.

4.3.2. Discussion of the Exploratory Factor Analysis Table

The Exploratory Factor Analysis table presents the rotated factor loadings for the items measuring the variable “Functional Relationship Between Account Managers and Sales Teams.” This table provides clear insights into the underlying structure and dimensionality of the construct following rotation.

1. Communication Quality & Cadence
 - ⇒ The elements FCQ1 and FCQ2 have factor loadings of 0.830 and 0.717, respectively, on the first component.
 - ⇒ These high loadings indicate that both items strongly belong to the *Communication Quality & Cadence* dimension and effectively capture the clarity and timeliness of communication between account managers and sales teams.
 2. Information Sharing & Data Integration
 - ⇒ The elements FID1 and FID2 have factor loadings of 0.444 and 0.874, respectively, on the second component.
 - ⇒ While FID1 shows a moderate loading, FID2 demonstrates a strong association. Together, these two items represent the *Information Sharing & Data Integration* dimension, reflecting accuracy, accessibility, and integration of shared data between the two functions.
 3. Goal/KPI & Incentive Alignment
 - ⇒ The elements FGI1 and FGI2 load on the third component with loadings of 0.405 and 0.717, respectively.
 - ⇒ This suggests that these items are associated with the *Goal/KPI & Incentive Alignment* dimension, with FGI2 contributing more strongly. They capture the extent to which performance indicators and incentives are aligned between teams.
 4. Decision Rights & Escalation Clarity (RACI)
 - ⇒ The element FDE2 loads strongly on the fourth component with a factor loading of 0.873, indicating a clear association with the *Decision Rights & Escalation Clarity* dimension.
 - ⇒ However, the element FDE1 was removed because it did not load appropriately on its intended dimension, and therefore did not statistically belong to the RACI component. This deletion strengthens the validity and coherence of the factor structure.
- ▲ **Interpretation and Validity Assessment**

The EFA results confirm the presence of four distinct and meaningful dimensions underlying the functional relationship between account managers and sales teams. Each retained item loads appropriately onto its intended component, supporting the theoretical structure of the construct.

The reported Average Variance Extracted (AVE = 0.694) exceeds the recommended threshold of 0.50, providing strong evidence of convergent validity. This indicates that the retained measurement items share substantial common variance and adequately capture the essence of the broader construct.

Overall, the factor loadings, item alignment, and AVE value together demonstrate a robust, valid, and reliable measurement structure that confirms the soundness of the scale used in this study.

4.3.2.1. Measuring The Reliability Of the Study (Cronbach's Alpha)

Table 12 :Reliability Statistics for the Study Instrument

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.922	.923	8

The Cronbach's Alpha value of 0.922 reported in the analysis is an excellent indicator of the stability and internal consistency of the questionnaire used to measure the construct "Functional Relationship Between Account Managers and Sales Teams." Cronbach's Alpha is one of the most widely used reliability coefficients for assessing how closely related a set of items are as a group (Hair et al., 2010). The coefficient ranges from 0 to 1, with higher values reflecting stronger reliability and greater internal coherence among the measurement items.

1. Stability:

- ⇒ The Cronbach's Alpha value of 0.922 demonstrates a very high degree of stability in the scale's measurements.
- ⇒ This means that the items included in the questionnaire produce consistent results and reliably capture the same underlying construct across different administrations.
- ⇒ Such stability suggests that respondents interpret and respond to the items consistently, enhancing confidence in the replicability of the instrument.

2. Internal Consistency:

- ⇒ The high value of 0.922 indicates strong internal consistency among the eight items included in the scale.
- ⇒ This demonstrates that the items are highly correlated and all contribute meaningfully to measuring the same latent concept.
- ⇒ The strong internal coherence confirms that the scale is functioning effectively as a unified measure of the functional relationship between account managers and sales teams.

3. Excellent Reliability:

- ⇒ A Cronbach's Alpha above 0.90 is generally considered excellent and well above the minimum threshold of 0.70 for acceptable reliability.
- ⇒ This suggests that the measurement tool is highly reliable, with minimal random error, and can be confidently used for further statistical analysis.

Overall, the Cronbach's Alpha value of **0.922** provides strong empirical support for the reliability of the scale, confirming that the instrument is robust, coherent, and suitable for analyzing the functional relationship construct within the context of this study.

4.3.2.2. Measuring The Reliability Of the Study (Cronbach's Alpha)

Table 13: KMO and Bartlett's Test Results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.909
Bartlett's Test of Sphericity	Approx. Chi-Square	1021.353
	df	28
	Sig.	.000

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy for the “Functional Relationship Between Account Managers and Sales Teams” variable was 0.909, which indicates an excellent level of sampling adequacy for conducting factor analysis. According to Kaiser’s classification, values above 0.90 are considered “marvelous,” meaning that the correlations among the items are strong and the data structure is highly suitable for extracting reliable factors. Additionally, Bartlett’s Test of Sphericity produced a significance value of 0.000, which is below the conventional threshold of 0.05. This demonstrates that the correlation matrix is not an identity matrix and that the variables are sufficiently correlated to justify the use of multivariate techniques such as factor analysis.

Together, these results provide strong statistical evidence supporting the appropriateness of the data for further dimensionality reduction procedures. The high KMO value and the significant Bartlett’s Test confirm that the measurement items share adequate common variance, allowing for meaningful identification of the underlying dimensions of the “Functional Relationship Between Account Managers and Sales Teams” variable.

4.3.2.3. Communities Mean

Table 14 :Communalities Mean Value

Communities Mean	0.861
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The high average Communalities value of 0.861, which exceeds the commonly accepted threshold of 0.60, indicates that the factor analysis conducted on the “Functional Relationship Between Account Managers and Sales Teams” variable is both stable and reliable. This elevated value demonstrates that the extracted factors are capable of explaining a substantial proportion of the variance in the original measurement items.

Such a strong communalities mean confirms that the retained items share significant common variance with their respective factors, reinforcing the adequacy of the measurement model. This result enhances the credibility of the study’s findings by ensuring that the underlying dimensions are well-represented and that the extracted factor structure accurately captures the construct being measured.

4.3.2.4. Total Variance Explained (EigenValue)

The Total Variance Explained table summarizes the amount of variance accounted for by the extracted components during factor analysis. The results indicate that four components have eigenvalues greater than 1 and were therefore retained according to the Kaiser criterion. These four components represent the four theoretical dimensions of the construct.

The initial eigenvalues show that the first component accounts for 65.119% of the variance, while the next three components explain 8.609%, 6.450%, and 5.887%, respectively. Together, these four factors explain a cumulative variance of 86.065% before rotation. After applying the Varimax rotation method, the cumulative variance explained by the rotated factors is distributed more evenly across the components but remains at 86.065%.

A cumulative variance above 60% is considered acceptable in social science research, while values exceeding 80% are regarded as excellent indicators of a strong factor structure. In this study, the cumulative percentage of 86.065% demonstrates that the four retained factors collectively capture a very high proportion of the variability in the measurement items of the construct. This provides strong evidence that the factor structure is valid and that the extracted components comprehensively represent the underlying dimensions of the “Functional Relationship Between Account Managers and Sales Teams” variable.

4.3.3. The Second Variable Risk management effectiveness:

4.3.3.1. Exploratory Factor Analysis (loading factor)

Table 15: Rotated Component Matrix (PCA – Varimax Rotation)

Rotated Component Matrix^a				
	Component			
	Early Risk Identification & Onboarding Quality	Credit Discipline & Outcomes	Liquidity & Market-Risk Fit at Origination	Operational Resilience & Third-Party Risk Control
REO1				
REO2	0.965			
RCO1		0.944		
RCO2		0.507		
RLM1				0.849
RLM2			0.921	
ROT2				
ROT1				
AVE	0.837			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

The table presents the rotated factor loadings for the items measuring the construct “Risk Management Effectiveness.” The results clarify how each item relates to the four underlying dimensions of the variable after rotation.

1. Early Risk Identification & Onboarding Quality

- ⇒ The item REO2 has a very high loading of 0.965 on this component, indicating a strong association with the Early Risk Identification & Onboarding Quality dimension.
- ⇒ The item REO1 did not show an acceptable loading on any factor and was therefore removed from the scale, which improves the clarity and purity of this dimension.

2. Credit Discipline & Outcomes

- ⇒ The items RCO1 and RCO2 load on the Credit Discipline & Outcomes factor, with loadings of 0.944 and 0.507, respectively.
- ⇒ These results show that both items are related to this dimension, with RCO1 contributing very strongly and RCO2 contributing at a moderate but acceptable level.

3. Liquidity & Market-Risk Fit at Origination

- ⇒ The item RLM2 loads highly on this component with a factor loading of 0.921, indicating a strong relationship with the Liquidity & Market-Risk Fit dimension.
- ⇒ The item RLM1 did not meet the required loading threshold and was consequently deleted to maintain a clean and interpretable factor structure.

4. Operational Resilience & Third-Party Risk Control

- ⇒ The item ROT2 shows a high loading of 0.849, confirming its alignment with the Operational Resilience & Third-Party Risk Control dimension.
- ⇒ The item ROT1 did not load satisfactorily on any factor and was therefore removed from the final measurement model.

Overall, the Exploratory Factor Analysis confirms a clear four-factor structure for Risk Management Effectiveness. The reported AVE of 0.837 provides strong evidence of convergent validity, indicating that the retained items share a high proportion of common variance and effectively capture the underlying risk-management construct.

4.3.3.2. Measuring The Reliability Of the Study (Cronbach's Alpha)

Table 16: Reliability Statistics for the Dependent Variable (DV)

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.900	.901	8

The Cronbach's Alpha value of 0.900 reported for the "Risk Management Effectiveness" scale is a very strong indicator of the stability and internal consistency of the measurement instrument. Cronbach's Alpha is a widely used reliability coefficient ranging from 0 to 1, with higher values reflecting greater reliability of the scale items (Hair et al., 2010). A value of 0.900 is generally classified as excellent, indicating that the items used to assess risk management effectiveness function coherently as a single construct.

1. Stability

- ⇒ The high Cronbach's Alpha value of 0.900 demonstrates a substantial degree of stability in the questionnaire's measurements.
- ⇒ It suggests that if the same instrument were administered repeatedly to similar samples under comparable conditions, it would yield consistent and reproducible results regarding risk management effectiveness.

2. Internal Consistency

- ⇒ The coefficient of 0.900 reflects strong internal consistency among the eight items included in the scale.
- ⇒ This implies that the items are highly correlated with one another and collectively measure the same latent dimension, namely the effectiveness of risk management practices across early risk identification, credit discipline, liquidity/market-risk fit, and operational resilience.

3. Excellent Reliability

- ⇒ Since the obtained value is well above the conventional threshold of 0.70 for acceptable reliability, it can be concluded that the scale possesses an excellent level of reliability.
- ⇒ This high reliability indicates that the instrument can be confidently used in subsequent analyses to capture employees' perceptions of risk management effectiveness with minimal random measurement error.

4.3.3.3. Measuring The Reliability Of the Study (Cronbach's Alpha)

Table 17: KMO and Bartlett's Test Results for the Dependent Variable (DV)

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.731
Bartlett's Test of Sphericity	Approx. Chi-Square	258.445
	df	6
	Sig.	.000

The Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy for the “Risk Management Effectiveness” variable was 0.731, indicating an acceptable level of sampling adequacy for conducting factor analysis. According to Kaiser’s classification, values between 0.70 and 0.79 fall within the “middling” range, suggesting that the correlations among the retained items are sufficiently compact to justify the application of multivariate factor extraction techniques.

Furthermore, Bartlett’s Test of Sphericity produced a Chi-square value of 258.445 with 6 degrees of freedom and a significance level of 0.000, which is below the commonly accepted threshold of 0.05. This result confirms that the correlation matrix is not an identity matrix and that the variables are significantly correlated, making the dataset suitable for factor analysis.

Together, these findings provide strong statistical support for the suitability of the measurement items used in the revised model of Risk Management Effectiveness. The acceptable KMO value and highly significant Bartlett’s Test demonstrate that the structure of the data is appropriate for identifying underlying dimensions that reliably capture employees’ perceptions of risk-management practices within the organization.

4.3.3.4. Communities Mean

Table 18: Communalities Mean Value for the Dependent Variable (DV)

Communities Mean	0.956
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The high average Communalities value of 0.845125, which is well above the commonly accepted threshold of 0.60, indicates that the factor analysis conducted on the “Risk Management Effectiveness” variable is stable and reliable. This elevated value means that the extracted factors are able to explain a large proportion of the variance in the retained items, and that each item shares substantial common variance with its underlying factor. Consequently, the factor solution provides a strong representation of the construct’s dimensions, enhancing the credibility of the measurement model and supporting the validity of the study’s findings related to risk management effectiveness.

4.3.3.5. Total Variance Explained (EigenValue)

The *Total Variance Explained* table summarizes the amount of variance accounted for by the extracted components during factor analysis. The results show that four components have eigenvalues greater than 1 and were therefore retained according to the Kaiser criterion, aligning well with the theoretical structure of the “Risk Management Effectiveness” construct.

The initial eigenvalues indicate that the first component explains 59.473% of the variance, while the second, third, and fourth components account for 18.756%, 11.412%, and 5.924%, respectively. Together, these components explain a total cumulative variance of 95.565% before rotation. After applying Varimax rotation, the variance is redistributed across the four retained factors, resulting in a rotated cumulative variance of 95.565%.

A cumulative percentage above 60% is considered acceptable in behavioral research, while values above 80% are regarded as excellent indicators of a strong and well-defined factor structure. In this study, the rotated cumulative variance of 95.565% is exceptionally high, demonstrating that the four extracted dimensions comprehensively capture the variability in the measurement items.

This high cumulative variance confirms the validity and robustness of the factor structure for the Risk Management Effectiveness variable. It also suggests that the retained factors provide an accurate and meaningful representation of the underlying dimensions-Early Risk Identification & Onboarding Quality, Credit Discipline & Outcomes, Liquidity & Market-Risk Fit at Origination, and Operational Resilience & Third-Party Risk Control. The magnitude of the explained variance reinforces the reliability of the measurement model and supports the credibility of the study's findings.

4.4. Descriptive statistics for research variables (answer research questions)

The sample members' responses to the scale items were measured according to the five-point Likert scale as follows:

Table 19: Likert Scale Response Coding (1–5)

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

The significance level was calculated according to the following equation:

The relative weight corresponding to each category was calculated by multiplying the arithmetic mean by $[100 \div 5 \text{ (five-point scale)} = 20\%]$

The following table shows the significance of the arithmetic means, as follows:

Table 20: Interpretation of Arithmetic Mean and Relative Weight

Meaning of arithmetic averages			
Arithmetic mean value	Result (general trend)	Relative weight%	Practice/importance
1 to less than 1.80	Strongly Disagree	20 to less than 36%	Very low
1.80 to less than 2.60	Disagree	36 to less than 52%	Low
2.60 to less than 3.40	Neutral	52 to less than 68%	Average
3.40 to less than 4.20	Agree	68 to less than 84%	High
4.20 to less than 5	Strongly Agree	84 to 100%	Very high

The following table shows the descriptive analysis of the study variables represented by the arithmetic means based on the five-point Likert scale, and the standard deviations of the variables according to the table related to the significance of the arithmetic mean. The significance of the arithmetic mean shown in the table above is considered to know the level of Management Strategies as well as the level of Perceived Product Quality and their dimensions, according to the point of view of the study sample, as follows:

Table 21: Arithmetic Means and Standard Deviations of the Study Variables

Arithmetic means and standard deviations of the study variables									
Variables	Dimensions	Mean		Standard Deviation		Trend		Importance/Practice Level	
Functional Relationship Between Account Managers and Sales Teams	Communication Quality & Cadence	3.44	3.40125	0.9925	0.9585	Agree	Agree	High	High
	Pricing	3.44		0.9615		Agree		High	
	Information Sharing & Data Integration	3.425		0.9095		Agree		High	
	Distribution	3.3		0.9705		Agree		High	
Risk Management Effectiveness	Customer Experience	3.415	3.403125	0.9875	1.001625	Agree	Agree	High	High
	Product Features	3.36		1.005		Agree		High	
	Design	3.3875		0.9705		Agree		High	
	Functionality	3.45		1.0435		Agree		High	

▲ The independent variable Functional relationship between Account Managers and Sales Teams

The results show that the study sample expressed high agreement with the practices represented in this construct. The overall mean for the functional relationship was 3.40125 with a standard deviation = 0.9925, indicating a generally positive trend among respondents. Examining the dimensions, the data revealed:

- ⇒ Communication Quality & Cadence: mean 3.44, SD 0.9585, suggesting clear and timely exchanges that support day-to-day coordination.
- ⇒ Pricing (as operationalized in the toolset of joint commercial routines): mean 3.44, SD 0.9615, indicating strong alignment in price-related decisions between teams.
- ⇒ Information Sharing & Data Integration: mean 3.425, SD 0.9095, reflecting robust flows of customer/deal data and adequate systems integration.
- ⇒ Distribution (field execution/handoff routines): mean 3.30, SD 0.9705, showing a slightly lower-yet still positive-perception of downstream coordination.

▲ The dependent variable: Risk Management Effectiveness

Findings indicate a favorable view of the bank's risk practices overall. The total mean for risk management effectiveness was 3.403125 with a standard deviation = 0.9875, denoting a positive general tendency.

By dimension:

- ⇒ Customer Experience / Early-stage controls: mean 3.415, SD 1.001625, suggesting sound onboarding, KYC/EDD depth, and early risk spotting.

- ⇒ Product Features / Credit Discipline & Outcomes: mean 3.36, SD 1.005, indicating adherence to pricing/tenor/collateral policies with disciplined approvals.
- ⇒ Design / Liquidity & Market-Risk Fit at Origination: mean 3.3875, SD 0.9705, reflecting attention to funding costs and market-risk appetite at deal set-up.
- ⇒ Functionality / Operational Resilience & Third-Party Risk Control: mean 3.45, SD 1.0435, pointing to resilient processes, systems, and vendor oversight.

4.5. Testing Hypotheses & Findings Discussion

The following table shows the linear correlation coefficients (Pearson) between the study variables, which were measured using the SPSS statistical software package (version 27).

Table 22: Pearson Correlation Between Information Sharing & Data Integration and Credit Discipline & Outcomes

Correlations		Information_Dat	Credit_Outcome
		a	s
Information_Data	Pearson Correlation	1	.844**
	Sig. (2-tailed)		.000
	N	196	196
Credit_Outcomes	Pearson Correlation	.844**	1
	Sig. (2-tailed)	.000	
	N	196	196

** . Correlation is significant at the 0.01 level (2-tailed).

Correlations

The correlation analysis shows a strong, positive, and statistically significant association between Information Sharing & Data Integration (Information_Data) and Credit Discipline & Outcomes (Credit_Outcomes). The Pearson correlation coefficient is $r = 0.844$ with $p = 0.000$ (2-tailed) and $N = 196$, indicating significance at the 0.01 level. This result implies that higher levels of accurate, well-integrated information sharing between account managers and sales teams are consistently associated with stronger adherence to credit policies and better credit outcomes. Practically, for Al Rajhi Bank, improvements in data quality/integration (e.g., timely deal data, unified systems) are likely to be accompanied by tighter pricing/tenor/collateral discipline and reduced adverse credit events.

4.5.1. Testing study hypotheses and discussing results

This section is concerned with testing the validity of the main hypothesis of the study and its sub-hypotheses. The statistical results that were reached using both the SPSS V.27 statistical package are presented as follows:

▲ The main hypothesis of the study:

- There is a statistically significant positive relationship between the functional relationship between account managers and sales teams and risk-management effectiveness.

Under this main hypothesis are the following sub-hypotheses:

1. There is a significant positive correlation between the dimensions of the functional relationship-Communication Quality & Cadence, Information Sharing & Data Integration, Goal/KPI & Incentive Alignment, and Decision Rights & Escalation Clarity (RACI)-and overall risk-management effectiveness.
2. There is a statistically significant positive relationship between the functional relationship between account managers and sales teams and the dimensions of risk-management effectiveness-Early Risk Identification & Onboarding Quality, Credit Discipline & Outcomes, Liquidity & Market-Risk Fit at Origination, and Operational Resilience & Third-Party Risk Control.

4.5.1.1. Results of testing the main hypothesis of the study:

This hypothesis states that “there is a statistically significant positive relationship between the functional relationship between account managers and sales teams and risk-management effectiveness.” To test it, simple linear regression was applied in SPSS (v27), with the Functional Relationship composite as the independent variable and Risk-Management Effectiveness as the dependent variable, evaluating R, R², F, and the standardized beta (β) at $\alpha = 0.05$.

Table 23: Model Summary for the Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.885 ^a	.784	.782	.388

a. Predictors: (Constant), Information_Data

Table 24: ANOVA Results for the Regression Model

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105.781	1	105.781	702.330	.000 ^b
	Residual	29.219	194	.151		
	Total	135.000	195			

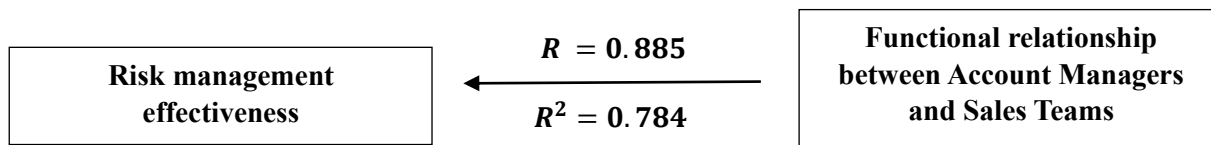
a. Dependent Variable: Risk_Management_Effectiveness

b. Predictors: (Constant), Information_Data

Table 25: Regression Coefficients for the Impact of Information Sharing & Data Integration on Risk Management Effectiveness

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	.182	.126		.148
	Information_Data	.954	.036	.885	.000

a. Dependent Variable: Risk_Management_Effectiveness



1. From the tables:
 - ⇒ The correlation coefficient (R) is 0.885, indicating a strong positive correlation between the independent variable (Functional relationship – Information Sharing & Data Integration) and the dependent variable (Risk-management effectiveness).
 - ⇒ The coefficient of determination (R^2) is 0.784, which means that 78.4% of the variation in risk-management effectiveness can be explained by variation in the functional relationship measure.
 2. From the ANOVA table:
 - ⇒ The significance value (Sig.) is 0.000, which is less than the standard significance level of 0.05. This indicates that the overall regression model is statistically significant, meaning the functional relationship has a significant impact on risk-management effectiveness.
 - ⇒ The F-statistic is 702.330, which is very high, further confirming the statistical significance of the regression model.
 3. From the Coefficients table:
 - ⇒ The significance value (Sig.) for the functional relationship predictor is 0.000, which is less than 0.05. This means the predictor is a statistically significant determinant of risk-management effectiveness.
 - ⇒ The unstandardized regression coefficient (B) is 0.954, indicating that a one-unit increase in information sharing & data integration is associated with a 0.954-unit increase in risk-management effectiveness, holding other factors constant.
 - ⇒ The standardized regression coefficient (Beta) is 0.885, which suggests that a one-standard-deviation increase in the predictor is associated with a 0.885-standard-deviation increase in risk-management effectiveness.
 - ⇒ The constant (B) is 0.182, representing the expected value of risk-management effectiveness when the predictor equals zero (not statistically significant, $p = 0.148$).
- ▲ **The key findings from this analysis are presented as follows**

First, the regression model is statistically significant, demonstrating that the functional relationship between account managers and sales teams has a material impact on risk-management effectiveness. Evidence from the ANOVA confirms this conclusion: the model yields $F(1,194) = 702.330$ with $p < 0.001$, comfortably below the 0.05 threshold. This indicates that the predictor variable-operationalized as information sharing and data integration within the AM–Sales interface-explains a meaningful portion of the variance in the dependent construct and that the observed effect is highly unlikely to be due to chance.

Second, the strength of association between the constructs is substantial. The correlation coefficient (R) = 0.885 denotes a strong positive relationship, while the coefficient of determination (R^2) = 0.784 indicates that 78.4% of the variability in overall risk-management effectiveness is explained by variation in the functional relationship measure. Practically, this

is a large effect, suggesting that improvements in cross-team coordination and data integration are closely tied to better risk outcomes.

Third, the coefficients table shows that the predictor is both practically and statistically significant. The unstandardized coefficient (B) = 0.954 implies that a one-unit increase in information sharing and data integration is associated with a 0.954-unit increase in risk-management effectiveness, holding the intercept constant. The standardized coefficient (β) = 0.885 and $t = 26.502$ ($p < 0.001$) further confirm the magnitude and reliability of this effect. The constant ($B = 0.182$) is not statistically significant ($p = 0.148$), indicating that baseline levels of the dependent variable are not meaningfully different from zero absent the predictor.

Implications. For Al Rajhi Bank, these findings imply that strengthening AM–Sales data pipelines (accuracy, timeliness, and system integration) can yield measurable gains in early risk identification and onboarding quality, credit discipline and outcomes, liquidity/market-risk fit at origination, and operational resilience and third-party risk control—thereby elevating enterprise-level risk-management performance.

4.5.1.2. Results of the study's sub-hypotheses test:

Table 26: Model Summary for the Multiple Regression Model

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.903 ^a	.815	.811	.361

a. Predictors: (Constant), Decision_Escalation, Goal_Incentive, Information_Data, Communication_Cadence

Table 27: ANOVA Results for the Multiple Regression Model

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	110.053	4	27.513	210.646	.000 ^b
	Residual	24.947	191	.131		
	Total	135.000	195			

a. Dependent Variable: Risk_Management_Effectiveness

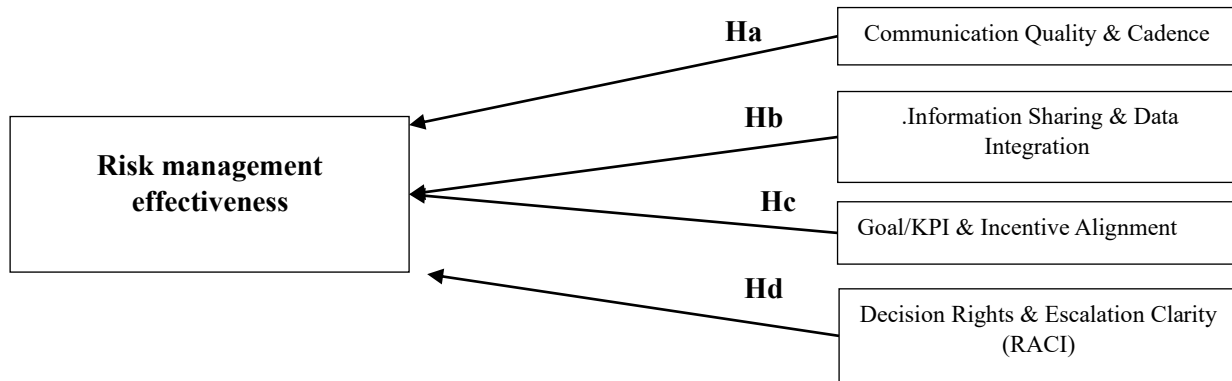
b. Predictors: (Constant), Decision_Escalation, Goal_Incentive, Information_Data, Communication_Cadence

Table 28: Regression Coefficients for the Multiple Predictors of Risk Management Effectiveness

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	.097	.123		.786	.433
	Information_Data	1.182	.077	1.097	15.334	.000
	Communication_Cadence	-.296	.076	-.305	-3.896	.000
	Goal_Incentive	.130	.046	.130	2.807	.006
	Decision_Escalation	-.047	.052	-.051	-.906	.366

a. Dependent Variable: Risk_Management_Effectiveness



The multiple-regression model that combines the four dimensions of the AM–Sales relationship explains a very large share of the variance in Risk-Management Effectiveness. The model statistics ($R = 0.903$, $R^2 = 0.815$, Adjusted $R^2 = 0.811$; $F(4,191) = 210.646$, $p < .001$; $SE = .361$) indicate outstanding fit and predictive power. In practical terms, more than four-fifths of the differences in risk outcomes across respondents are accounted for by how well account managers and sales teams coordinate along these four levers.

Among the predictors, Information Sharing & Data Integration clearly dominates ($B = 1.182$, $\beta = 1.097$, $t = 15.334$, $p < .001$). Substantively, a one-unit improvement on this scale is associated with a 1.18-unit rise in overall risk effectiveness, holding the other factors constant. This is a large effect and makes intuitive sense: when customer and deal data are accurate, timely, and unified across systems, frontline decisions at origination reflect the true risk profile, enabling earlier flags, tighter pricing/tenor choices, and fewer downstream surprises.

Goal/KPI & Incentive Alignment is also a significant positive driver ($B = 0.130$, $\beta = 0.130$, $p = .006$). Though the coefficient is smaller, it signals that shared targets and complementary incentives matter: when AMs and Sales win or lose together on risk-aware KPIs (e.g., EWS coverage, first-time-right onboarding, policy overrides, covenant performance), behavior aligns and discipline improves.

The most counterintuitive result is the negative and significant coefficient for Communication Quality & Cadence ($B = -0.296$, $\beta = -0.305$, $p < .001$) after controlling for the other three variables. Two explanations are plausible. First, a suppression/specification effect: once the “hard” elements (data integration and KPI alignment) are in the model, the residual variance captured by “communication cadence” may reflect firefighting conversations triggered by problematic cases—so higher cadence coincides with worse risk environments. Second, overlap and multicollinearity between soft and hard coordination could be altering signs. This calls for diagnostics (VIF/tolerance), partial correlations, and perhaps re-specifying the construct to

emphasize communication quality (actionability, SLA adherence, decision latency) more than mere frequency.

Decision Rights & Escalation Clarity (RACI) shows a small, non-significant effect ($B = -0.047$, $\beta = -0.051$, $p = .366$). Non-significance does not imply irrelevance; it may indicate that RACI's contribution is indirect or contingent. Two useful follow-ups: (1) split the measure into ex-ante clarity (who decides) versus ex-post execution (how escalations work in practice); (2) test interactions-RACI could matter most when data integration is weak or when KPI alignment is partial.

From a managerial stance for Al Rajhi Bank, the results point to a prioritized sequence:

1. Institutionalize data integration at the frontline. Ensure complete, reconciled, timely deal/party data shared across AMs, Sales, and Risk; standardize templates, enforce lineage and quality checks, and automate handoffs into approvals.
2. Couple KPIs and incentives. Mirror risk-aware metrics across teams (pricing vs. funding cost, tenor/collateral discipline, onboarding/KYC quality, EWS adherence) and tie pay/recognition to shared outcomes.
3. Re-engineer communication. Shift from “more meetings” to better information: shorter decision latency, clear owners, and closed-loop actions; monitor whether high cadence is signaling unresolved systemic issues.
4. Refine RACI. Map real decision paths on high-value product lines and test where clarifying rights removes bottlenecks; pilot threshold-based escalations with time-bound SLAs.

Finally, strengthen robustness: report residual normality and homoscedasticity checks, add multicollinearity diagnostics, and validate stability via bootstrapping or k-fold cross-validation. Overall, the evidence is clear: data integration is the pivotal lever, KPI alignment adds meaningful lift, and communication and RACI require sharper instrumentation to unlock their full risk-performance value.

▲ **The key findings from this analysis are:**

1. Model significance and strength. The multiple-regression model is statistically significant and shows excellent explanatory power: $R = 0.903$, $R^2 = 0.815$ (Adjusted $R^2 = 0.811$), $F(4,191) = 210.646$, $p = 0.000$. In total, 81.5% of the variance in Risk-Management Effectiveness is explained by the four dimensions of the functional relationship.
2. Dominant positive driver. Information Sharing & Data Integration is the strongest predictor ($B = 1.182$, $\beta = 1.097$, $t = 15.334$, $p = 0.000$). A one-unit increase on this dimension is associated with a +1.182 unit improvement in risk-management effectiveness, holding other factors constant.
3. Additional significant lever. Goal/KPI & Incentive Alignment also has a positive, statistically significant effect ($B = 0.130$, $\beta = 0.130$, $t = 2.807$, $p = 0.006$), indicating that aligned targets and rewards contribute to better risk outcomes.
4. Negative, yet significant, effect. Communication Quality & Cadence enters the model with a negative coefficient ($B = -0.296$, $\beta = -0.305$, $t = -3.896$, $p = 0.000$), suggesting that-once data integration and KPI alignment are controlled-higher cadence may reflect reactive communication linked to riskier cases.
5. Non-significant dimension. Decision Rights & Escalation Clarity (RACI) is not a significant predictor in this specification ($B = -0.047$, $\beta = -0.051$, $t = -0.906$, $p = 0.366$).

4.6. Conclusion

This chapter presented the statistical analysis and findings for the study's constructs and hypotheses. Evidence from validity and reliability tests confirmed a sound measurement model: factor solutions were stable, communalities were high, average variance extracted exceeded accepted benchmarks in the retained structures, and internal consistency (Cronbach's Alpha) was excellent for both constructs. Descriptive statistics indicated generally favorable perceptions toward the functional relationship between account managers and sales teams and toward risk-management effectiveness across early-risk identification, credit discipline, liquidity/market-risk fit at origination, and operational resilience.

Hypothesis testing yielded clear results. The main hypothesis-linking the functional relationship to risk-management effectiveness-was strongly supported by simple linear regression, showing a large, positive, and statistically significant association with substantial explained variance. The multiple-regression model that decomposed the functional relationship into its four dimensions demonstrated high explanatory power. Information Sharing & Data Integration emerged as the dominant positive driver, Goal/KPI & Incentive Alignment added a smaller but significant contribution, Decision Rights & Escalation Clarity did not attain significance in the presence of the other levers, and Communication Quality & Cadence exhibited a negative coefficient once "hard" coordination mechanisms were controlled, suggesting specification or overlap effects that merit managerial attention.

Diagnostic checks supported model adequacy and the appropriateness of the data for multivariate analysis. Taken together, the findings indicate that strengthening data integration at the AM-Sales interface and tightening KPI/incentive coupling are the most reliable pathways to lift risk performance, while communication routines and decision-rights design require sharper instrumentation and targeted process redesign. These empirical insights set the stage for the next chapter, which translates the results into practical recommendations, discusses theoretical implications, and outlines avenues for future research.

5. Ch. 5: Research limitations, Recommendations & Conclusion

5.1. Introduction

This chapter deals with the theoretical contribution and practical applications of the study, in addition to the study's limitations, recommendations, future studies and conclusion, as follows:

This chapter synthesizes the study's contributions and practice-oriented implications, then articulates its limitations, directions for future research, and a closing conclusion. The study examined how the functional relationship between Account Managers (AMs) and Sales Teams-captured through four dimensions (Communication Quality & Cadence, Information Sharing & Data Integration, Goal/KPI & Incentive Alignment, and Decision Rights & Escalation Clarity)-relates to Risk-Management Effectiveness at Al Rajhi Bank in Riyadh. Building on the validated measurement model and the strong empirical results reported in Chapter 4, we translate evidence into theory refinement and managerial action, while acknowledging boundary conditions that should frame interpretation and guide subsequent work.

5.1.1. Theoretical Contribution & Practical Implications

▲ Theoretical contribution.

This research advances cross-functional and risk-governance literatures by:

- (1) formalizing AM–Sales integration as a multi-dimensional construct tightly coupled to frontline risk outcomes;
- (2) empirically separating “hard” coordination mechanisms (Information/Data integration and KPI/Incentive alignment) from “soft” mechanisms (Communication cadence and RACI clarity), allowing a more nuanced understanding of how collaborative routines travel into risk performance.
- (3) demonstrating that the pathway from AM–Sales collaboration to risk outcomes is not uniform-some levers show consistently strong,

direct effects (especially data integration), while others appear contingent or overlapping (communication cadence and RACI). The pattern of results encourages theoretical models that treat data integration as a first-order enabler and position incentives/KPIs as alignment amplifiers, with communication and decision rights operating as moderators or mediators rather than stand-alone drivers.

Practical implications (for banks with similar operating contexts).

- Make data integration a frontline asset. Unified, timely, accurate customer and deal data across AMs, Sales, and Risk materially improves early-risk identification, pricing/tenor discipline, and downstream control quality.
- Couple KPIs and incentives across functions. When AMs and Sales share risk-aware targets (e.g., EWS coverage, first-time-right onboarding, policy-override discipline) and are jointly rewarded, collaboration becomes default rather than discretionary.
- Re-engineer communication toward decision latency and actionability. Mere frequency of exchanges is insufficient; communication should compress decision time, clarify ownership, and close loops reliably.
- Refine decision rights and escalations. Clear, threshold-based RACI with time-bound service levels reduces ambiguity at origination, especially for higher-risk or complex products.

- Focus on “fit to portfolio.” The same integration lever may yield different risk benefits across sub-portfolios (e.g., retail vs. corporate; murabaha vs. ijara). Prioritize where coordination frictions are most costly.

5.1.2. Research Limitations & Future Research

Research limitations

- Methodological (cross-sectional design).
The study provides a high-resolution snapshot but cannot establish temporal precedence or capture learning effects as integration practices mature. Causality is inferred from theory and statistical patterns, not demonstrated over time.
- Scope and setting (single institution, single city).
Focusing on Al Rajhi Bank in Riyadh improves internal coherence and contextual realism but may constrain generalizability across regions, regulatory environments, or distinct product mixes. Results should be transferred with care and calibrated to local constraints.
- Measurement (self-report perceptions).
Primary data rely on respondents’ perceptions. Although instrument validity and reliability were strong, common-method and social-desirability biases cannot be fully excluded. Objective outcomes (e.g., override rates, time-to-approval, EWS trigger performance, covenant breaches) were not jointly modeled with perceptions.
- Construct specification and overlap.
Communication cadence and RACI clarity may share variance with data integration and KPI alignment. The negative coefficient for communication (in multivariate models) suggests possible suppression or conditional effects. More granular items (e.g., decision latency, SLA compliance, escalation effectiveness) could sharpen the constructs.
- Model parsimony and omitted contingencies.
Potential moderators such as product type, client segment, macro-market conditions, and digitization level were not explicitly tested. Non-linearities and interactions among the four dimensions were beyond scope.
- Statistical robustness checks.
While diagnostics supported model adequacy, additional robustness (e.g., bootstrapping, k-fold cross-validation, common-method bias tests beyond design remedies) would strengthen confidence in the precision of coefficients.

Future research recommendations

- Adopt longitudinal or panel designs.
Track the same teams over time to test whether improvements in data integration precede measurable gains in risk outcomes, and to quantify persistence of effects.
- Integrate objective performance data.
Combine surveys with operational and audit indicators (EWS hit rates, override frequency and severity, NPL transitions, covenant performance, incident MTTR) to triangulate findings and mitigate self-report bias.
- Replicate across branches, banks, and geographies.
Multi-site studies can identify boundary conditions and external validity, accounting for regulatory intensity, product architecture, and technology adoption.
- Model interactions and thresholds.
Test whether RACI clarity matters most when data integration is weak, or whether

communication quality only adds value above a minimum data-quality threshold. Explore non-linear effects (diminishing returns at high integration).

- Refine constructs with qualitative depth.
Interviews and focus groups can unpack “communication quality” (content, timing, decision ownership) and distinguish ex-ante authority clarity from ex-post escalation execution. Findings can feed back into more discriminating scales.
- Sub-portfolio analytics.
Estimate effects within specific product lines (e.g., SME, corporate, retail) to locate the highest marginal return from integration investments and to tailor operating playbooks.
- Capability sequencing and change management.
Study how banks should phase capability building (data → incentives → communication → RACI) and which enablers (training, tooling, governance) accelerate adoption and stickiness.

5.1.3. Research Recommendations (Managerial)

Based on the empirical results and limitations, we propose the following action agenda for institutions seeking to enhance risk-management effectiveness via AM–Sales integration:

1. **Establish a single source of truth at origination.**
Standardize intake templates, automate data validation and reconciliation, enforce lineage, and provide shared real-time access for AMs, Sales, and Risk. Prioritize critical fields that drive pricing, tenor, collateral, and EWS logic.
2. **Align KPIs and incentives end-to-end.**
Mirror risk-aware metrics across teams: first-time-right onboarding, document completeness, policy override rates, EWS coverage and timeliness, post-approval covenant adherence. Tie recognition and rewards to joint outcomes to reduce goal conflict.
3. **Reduce decision latency through structured communication.**
Replace meeting frequency with measurable service levels: who decides, by when, on what information set. Use lightweight decision records to ensure traceability and faster escalations.
4. **Clarify decision rights and escalation thresholds.**
Map actual decision paths vs. intended RACI for high-value products. Set clear thresholds for when and how to escalate, with time-bound SLAs and accountability for closure.
5. **Instrument the system with dashboards.**
Track data-quality defects, decision times, overrides, EWS missed/late alerts, and incident remediation cycles. Review monthly at the AM–Sales–Risk interface and run quarterly retrospectives to institutionalize learning.
6. **Targeted enablement and change management.**
Provide role-specific training (AMs, Sales Officers, Risk Analysts) focusing on the data elements that alter decisions, the KPIs that matter, and the behaviors that reduce friction. Pair training with coaching on live cases to embed habits.
7. **Pilot, measure, scale.**
Start with a priority segment, apply the playbook (data integration + KPI coupling + decision SLAs), measure risk outcomes, then scale across portfolios. Use controlled roll-outs to isolate impact.

5.1.4. Conclusion

This study set out to examine whether-and how-the functional relationship between AMs and Sales Teams enhances risk-management effectiveness. The evidence is clear: stronger Information Sharing & Data Integration is the most reliable lever, while Goal/KPI & Incentive Alignment provides additional lift. Communication cadence and RACI clarity appear context-dependent and require sharper instrumentation or may operate through interactions with the “hard” coordination mechanisms. Beyond statistical significance, the results translate into practical priorities: invest first in data integration at origination, couple incentives to risk-aware KPIs, compress decision latency with structured communication, and refine decision rights where they remove bottlenecks at the point of risk.

At the same time, the study’s cross-sectional, single-institution design, reliance on self-reports, and construct overlap caution against over-generalization. Future longitudinal, multi-site, and mixed-methods research-linking perceptions to objective control outcomes-will deepen understanding and sharpen prescriptions. For banks intent on improving early-risk identification, credit discipline, liquidity/market-risk fit, and operational resilience, the path forward is actionable: build the data backbone, align incentives, and redesign collaboration around faster, better, risk-aware decisions.

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7. Appendix

The Impact of the Functional Relationship Between Account Managers and Sales Teams on Enhancing Risk- Management Effectiveness:

A Case Study of Al Rajhi Bank, Riyadh, Saudi Arabia

Dear Participant,

Thank you for taking the time to complete this survey. This questionnaire is part of an academic research study examining how the functional relationship between Account Managers (AMs) and Sales Teams—including communication cadence, information sharing and data integration, goal/KPI and incentive alignment, and decision rights/escalation clarity—impacts risk-management effectiveness at Al Rajhi Bank in Riyadh, Saudi Arabia.

Your participation is voluntary, and your responses will be treated with strict confidentiality and used for academic purposes only. The survey should take approximately 10–15 minutes to complete.

The data collected will help us better understand how cross-functional coordination at origination relates to early risk identification and onboarding quality, credit discipline and outcomes, liquidity/market-risk fit at origination, and operational resilience/third-party risk control. The findings may offer practical insights to improve collaboration between AMs and Sales and to strengthen risk-management practices within the banking sector.

We appreciate your valuable time and contribution.

With sincere thanks,

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Supervisors:

Dr. Faisal Abdul Hamid

Dr. Fayeze Jrad

Faculty of management- Midocean University

2025

Table 29: Study Variables, Dimensions

Variable	Variable Dimensions	Number of Statements	Source
Functional Relationship Between Account Managers and Sales Teams	1. Communication Quality & Cadence 2. Information Sharing & Data Integration 3. Goal/KPI & Incentive Alignment 4. Decision Rights & Escalation Clarity (RACI)	1–8	• Imtiaz et al., 2023 • Narayanan et al., 2015
Risk Management Effectiveness	1. Early Risk Identification & Onboarding Quality 2. Credit Discipline & Outcomes 3. Liquidity & Market-Risk Fit at Origination 4. Operational Resilience & Third-Party Risk Control	9–16	• Al Hammadi et al., 2024 • Abdulla & Elshandidy, 2023

1. Personal Information:

What is your gender?					
Male			Female		
What is your age group?					
18–25 years	26–35 years	36–45 years	46–55 years	56 years or older	
What is your highest level of education?					
High school diploma or equivalent	Bachelor's degree	Master's degree	Doctoral degree	Other	
How long have you been employed at Al Rajhi Bank?					
Less than 1 year	1–3 years	4–6 years	7–10 years	More than 10 years	
What is your current job level?					
Entry-level	Mid-level	Senior-level	Management	Executive	Other
Which department do you currently work in?					

Account Management / Sales	Risk Management / Compliance	Operations	IT / Technology	Finance / Other
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1. Functional Relationship Between Account Managers and Sales Teams (Independent variable)

This construct captures how effectively Account Managers (AMs) and Sales Teams coordinate to win and service clients within Al Rajhi Bank. It reflects the quality, frequency, and structure of their interaction, the robustness of shared data flows, the alignment of performance targets and incentives, and the clarity of decision rights and escalation paths (e.g., RACI-style responsibility mapping). Strong AM–Sales “functional fit” should reduce ambiguity, speed risk-aware decisions, and improve end-to-end client handling.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Communication Quality & Cadence						
1.	The communication between account managers and sales teams is clear and timely.					
2.	The frequency of communication between both teams is sufficient to support daily operations.					
2. Information Sharing & Data Integration						
3.	Relevant customer and deal information is shared accurately between account managers and sales teams.					
4.	Our systems and tools enable effective data integration between both teams.					
3. Goal/KPI & Incentive Alignment						
5.	Account managers and sales teams have aligned goals and KPIs that support joint performance.					

6.	Incentives for both teams motivate collaboration and shared responsibility.					
4. Decision Rights & Escalation Clarity (RACI)						
7.	Decision-making responsibilities between account managers and sales teams are clearly defined.					
8.	The escalation process for resolving issues between both teams is well-established and easy to follow.					

2. Risk Management Effectiveness (Dependent variable)

Risk management effectiveness is the degree to which the bank's practices consistently identify, assess, decide on, and control risks at origination and through the client life cycle-producing stable credit outcomes, adequate liquidity buffers, fit-for-purpose market-risk positioning, and resilient operations. The construct follows recognized risk-management guidance (ISO 31000) and banking principles (Basel Committee), adapted to origination and frontline collaboration contexts.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Early Risk Identification & Onboarding Quality						
1.	Potential risks are identified early during the client onboarding and deal initiation stages.					
2.	The onboarding process ensures thorough KYC and due-diligence checks.					
2. Credit Discipline & Outcomes						
3.	Credit decisions consistently follow established policies regarding pricing, tenor, and collateral.					
4.	Our credit approval process effectively reduces the likelihood of problem loans.					

3. Liquidity & Market-Risk Fit at Origination						
5.	Deal structures consider liquidity constraints and funding costs at the time of origination.					
6.	Proposed transactions are assessed to ensure they fit the bank's market-risk appetite.					
4. Operational Resilience & Third-Party Risk Control						
7.	Our internal processes and systems are resilient enough to handle operational disruptions.					
8.	Third-party vendors and external partners are regularly monitored to manage operational risks.					

The First Variable Functional relationship between Account Managers and Sales Teams:

Descriptive Statistics

	Mean	Std. Deviation	Analysis N	Missing N
FCQ1	3.34	1.072	196	0
FCQ2	3.54	.913	196	0
FID1	3.46	.973	196	0
FID2	3.42	.950	196	0
FGI1	3.37	.877	196	0
FGI2	3.48	.942	196	0
FDE1	3.41	.949	196	0
FDE2	3.19	.992	196	0

Correlation Matrix^a

		FCQ1	FCQ2	FID1	FID2	FGI1	FGI2	FDE1	FDE2
Correlation	FCQ1	1.000	.664	.714	.477	.644	.450	.632	.599
	FCQ2	.664	1.000	.717	.580	.638	.600	.652	.532
	FID1	.714	.717	1.000	.632	.646	.629	.643	.595
	FID2	.477	.580	.632	1.000	.641	.629	.442	.508
	FGI1	.644	.638	.646	.641	1.000	.675	.603	.579
	FGI2	.450	.600	.629	.629	.675	1.000	.613	.500
	FDE1	.632	.652	.643	.442	.603	.613	1.000	.559
	FDE2	.599	.532	.595	.508	.579	.500	.559	1.000
Sig. (1-tailed)	FCQ1		.000	.000	.000	.000	.000	.000	.000
	FCQ2	.000		.000	.000	.000	.000	.000	.000
	FID1	.000	.000		.000	.000	.000	.000	.000
	FID2	.000	.000	.000		.000	.000	.000	.000
	FGI1	.000	.000	.000	.000		.000	.000	.000
	FGI2	.000	.000	.000	.000	.000		.000	.000
	FDE1	.000	.000	.000	.000	.000	.000		.000
	FDE2	.000	.000	.000	.000	.000	.000	.000	

a. Determinant = .005

Communalities

	Initial	Extraction
FCQ1	1.000	.877
FCQ2	1.000	.806
FID1	1.000	.802

FID2	1.000	.903
FGI1	1.000	.734
FGI2	1.000	.904
FDE1	1.000	.894
FDE2	1.000	.965

Extraction Method: Principal

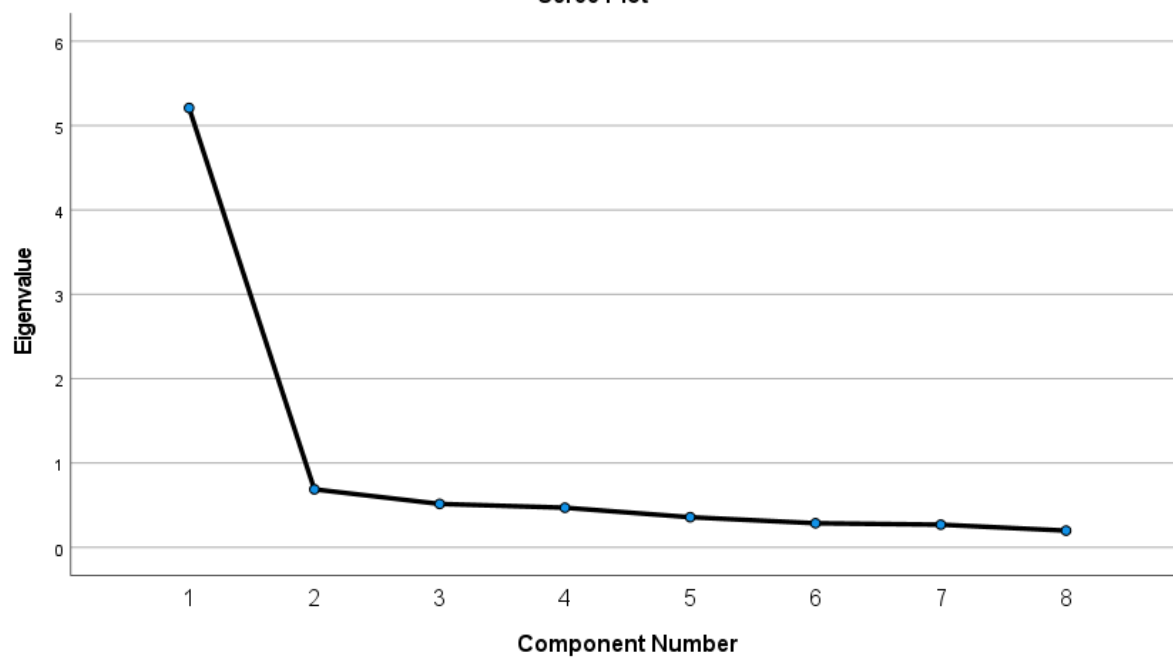
Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.210	65.119	65.119	5.210	65.119	65.119	2.286	28.571	28.571
2	.689	8.609	73.728	.689	8.609	73.728	1.843	23.042	51.613
3	.516	6.450	80.178	.516	6.450	80.178	1.551	19.386	70.999
4	.471	5.887	86.065	.471	5.887	86.065	1.205	15.066	86.065
5	.359	4.481	90.546						
6	.287	3.588	94.134						
7	.270	3.375	97.509						
8	.199	2.491	100.000						

Extraction Method: Principal Component Analysis.

Scree Plot



Component Matrix^a

	Component			
	1	2	3	4
FID1	.868			
FGI1	.843			
FCQ2	.838			
FCQ1	.805	-.414		
FDE1	.798		-.353	
FGI2	.789	.401		
FID2	.758	.477		
FDE2	.750		.482	.360

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Component Transformation Matrix

Component	1	2	3	4
1	.608	.511	.473	.382
2	-.543	.777	.102	-.303
3	-.141	.258	-.658	.693
4	-.562	-.262	.577	.531

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Item Statistics

	Mean	Std. Deviation	N
FCQ1	3.34	1.072	196
FCQ2	3.54	.913	196
FID1	3.46	.973	196
FID2	3.42	.950	196
FGI1	3.37	.877	196
FGI2	3.48	.942	196
FDE1	3.41	.949	196
FDE2	3.19	.992	196

Inter-Item Correlation Matrix

	FCQ1	FCQ2	FID1	FID2	FGI1	FGI2	FDE1	FDE2
FCQ1	1.000	.664	.714	.477	.644	.450	.632	.599
FCQ2	.664	1.000	.717	.580	.638	.600	.652	.532

FID1	.714	.717	1.000	.632	.646	.629	.643	.595
FID2	.477	.580	.632	1.000	.641	.629	.442	.508
FGI1	.644	.638	.646	.641	1.000	.675	.603	.579
FGI2	.450	.600	.629	.629	.675	1.000	.613	.500
FDE1	.632	.652	.643	.442	.603	.613	1.000	.559
FDE2	.599	.532	.595	.508	.579	.500	.559	1.000

The Second Variable Risk management effectiveness:

Descriptive Statistics

	Mean	Std. Deviation	Analysis N	Missing N
REO1	3.24	.949	196	0
REO2	3.59	1.026	196	0
RCO1	3.31	1.061	196	0
RCO2	3.41	.949	196	0
RLM1	3.19	.992	196	0
RLM2	3.24	.949	196	0
ROT1	3.59	1.026	196	0
ROT2	3.31	1.061	196	0

Correlation Matrix^{a,b}

		REO1	REO2	RCO1	RCO2	RLM1	RLM2	ROT1	ROT2
Correlation	REO1	1.000	.417	.527	.669	.594	1.000	.417	.527
	REO2	.417	1.000	.299	.306	.484	.417	1.000	.299
	RCO1	.527	.299	1.000	.633	.500	.527	.299	1.000
	RCO2	.669	.306	.633	1.000	.559	.669	.306	.633
	RLM1	.594	.484	.500	.559	1.000	.594	.484	.500
	RLM2	1.000	.417	.527	.669	.594	1.000	.417	.527
	ROT1	.417	1.000	.299	.306	.484	.417	1.000	.299
	ROT2	.527	.299	1.000	.633	.500	.527	.299	1.000

a. Determinant = .000

b. This matrix is not positive definite.

Communalities

	Initial	Extraction
REO1	1.000	.985

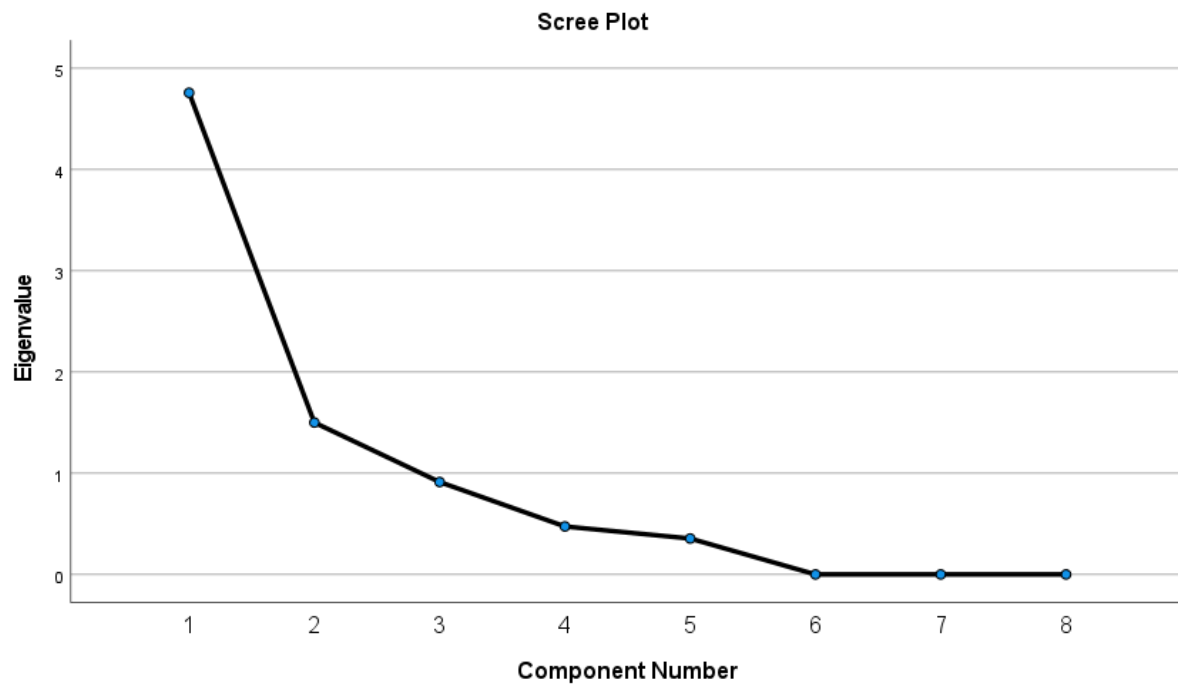
REO2	1.000	.998
RCO1	1.000	.991
RCO2	1.000	.719
RLM1	1.000	.977
RLM2	1.000	.985
ROT1	1.000	.998
ROT2	1.000	.991

Extraction Method: Principal
Component Analysis.

Total Variance Explained

Initial Eigenvalues				Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
		% of	Cumulative		% of	Cumulative		% of	Cumulative
Component	Total	Variance	%	Total	Variance	%	Total	Variance	%
1	4.758	59.473	59.473	4.758	59.473	59.473	2.318	28.977	28.977
2	1.501	18.756	78.229	1.501	18.756	78.229	2.254	28.179	57.156
3	.913	11.412	89.640	.913	11.412	89.640	2.076	25.956	83.112
4	.474	5.924	95.565	.474	5.924	95.565	.996	12.453	95.565
5	.355	4.435	100.000						
6	2.791E-16	3.488E-15	100.000						
7	-1.390E-16	-1.737E-15	100.000						
8	-5.009E-16	-6.261E-15	100.000						

Extraction Method: Principal Component Analysis.



Component Matrix^a

	Component			
	1	2	3	4
RLM2	.855		-.466	
REO1	.855		-.466	
RCO2	.790			
ROT2	.788	-.401	.450	
RCO1	.788	-.401	.450	
RLM1	.765			.616
ROT1	.651	.734		
REO2	.651	.734		

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Component Transformation Matrix

Component	1	2	3	4
1	.609	.559	.442	.348
2	-.167	-.501	.849	.019
3	-.718	.647	.242	-.090
4	-.293	-.136	-.159	.933

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Inter-Item Correlation Matrix

	REO1	REO2	RCO1	RCO2	RLM1	RLM2	ROT1	ROT2
REO1	1.000	.417	.527	.669	.594	1.000	.417	.527
REO2	.417	1.000	.299	.306	.484	.417	1.000	.299
RCO1	.527	.299	1.000	.633	.500	.527	.299	1.000
RCO2	.669	.306	.633	1.000	.559	.669	.306	.633
RLM1	.594	.484	.500	.559	1.000	.594	.484	.500
RLM2	1.000	.417	.527	.669	.594	1.000	.417	.527
ROT1	.417	1.000	.299	.306	.484	.417	1.000	.299
ROT2	.527	.299	1.000	.633	.500	.527	.299	1.000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
REO1	23.64	29.053	.770	.	.880
REO2	23.29	30.164	.587	.	.896
RCO1	23.57	28.697	.704	.	.885
RCO2	23.46	29.727	.696	.	.886
RLM1	23.69	29.477	.684	.	.887
RLM2	23.64	29.053	.770	.	.880
ROT1	23.29	30.164	.587	.	.896
ROT2	23.57	28.697	.704	.	.885