

Financial Risk Management and Enterprise Risk Governance in Saudi Arabia:Strengthening Organizational Resilience under Vision 2030.

Abstract

Saudi Arabia's Vision 2030 is accelerating the scale, pace, and complexity of corporate investment while increasing demands on financial stability, transparency, and institutional governance. This study synthesizes research and policy evidence from 2020 to 2025 to examine how Saudi companies can strengthen resilience through integrated governance of liquidity, credit, market, funding, operational, cyber, sustainability, and strategic risks. A structured integrative review was conducted to synthesize peer-reviewed literature and Saudi regulatory and policy materials, focusing on evidence related to board oversight, risk appetite, financial distress, disclosure, stress testing, and enterprise risk management maturity. The synthesis indicates that resilience cannot be achieved through risk controls alone; it depends on the depth of governanceboards must translate strategy into specific risk-appetite parameters; management should align treasury and financing decisions with enterprise-wide exposures; data and scenario analysis should support early warning; and assurance functions should provide effective challenge before material losses occur. Saudi evidence also indicates that the interaction between sustainability risk and financial performance is context-dependent, reinforcing the need to integrate material non-financial risks into the financial risk framework rather than treating them as separate reporting issues. The paper presents a review-derived Financial Risk Governance and Resilience Architecture aligned with Vision 2030, together with a maturity pathway to support its implementation. The study argues that substantive integration, rather than formal compliance alone, is the critical link between enterprise risk management and organizational resilience. The review concludes by identifying managerial, regulatory, and research priorities for strengthening risk-aware Saudi institutions capable of absorbing shocks while supporting long-term transformation.

1. INTRODUCTION

Saudi Arabia is undergoing a broad economic transformation encompassing public investment, private-sector growth, capital-market development, digitalization, tourism, industrial localization, infrastructure delivery, and the introduction of new financial products. The

Financial Sector Development Program aims to develop a diversified, technologically advanced, and resilient financial sector capable of mobilizing savings, expanding financing channels, and supporting private-sector growth (Financial Sector Development Program, 2023). Although this transformation creates significant opportunities, it also reshapes the corporate risk landscape through greater financing requirements, longer project horizons, more complex counterparty relationships, rapid technological change, cyber threats, supply-chain uncertainty, interest-rate volatility, liquidity pressures, and heightened regulatory and investor scrutiny. The IMF's 2024 assessment describes the Saudi financial system as resilient while emphasizing the importance of safeguarding financial stability as investment expands and financial linkages deepen (IMF, 2024).

Effective financial risk management increasingly requires an enterprise-wide perspective rather than being confined to individual functions such as treasury, accounting, or compliance. Traditional approaches may treat credit, liquidity, market, operational, and strategic risks within separate functional areas. In contrast, enterprise risk management (ERM) provides a coordinated approach to uncertainties that may affect strategy and performance, although the literature shows considerable variation in implementation quality and outcomes (Anton & Nucu, 2020). Evidence suggests that effective board-level risk governance can strengthen the relationship between ERM and firm performance, while the mere existence of a risk committee does not necessarily translate into performance benefits (Malik et al., 2020). The central governance question therefore extends beyond the adoption of ERM to how risk information, authority, incentives, limits, and effective challenge are embedded in actual decision-making.

This governance perspective is particularly relevant in Saudi Arabia, where the Capital Market Authority requires listed companies to establish risk-management and internal-control arrangements within their corporate governance frameworks (CMA, 2023). The Saudi Central Bank similarly emphasizes financial-system resilience in terms of the capacity to withstand domestic and external shocks (Saudi Central Bank, 2024). Recent Saudi evidence indicates that governance committee structures are associated with financial risk disclosure in Saudi financial firms, highlighting the role of board-level governance in supporting transparency (Al-Matari & Al-Dubai, 2025). At the same time, Saudi studies examining sustainability, financial performance, and financial distress suggest that material non-financial risks may interact with financial outcomes in ways that vary across organizational contexts. This broadens the scope of financial risk management beyond traditional balance-sheet exposures to encompass the financial

implications of sustainability, cyber resilience, operational continuity, and strategic execution, supported by effective governance.

The purpose of this study is to synthesize recent academic and policy evidence to develop a governance-based framework for financial risk management and organizational resilience in Saudi Arabia. It examines how financial risk management can evolve from fragmented control activities into an integrated enterprise capability within the context of Vision 2030. Resilience is understood in this context as the ability to anticipate significant threats, absorb financial and operational shocks, make informed decisions under uncertainty, and recover while maintaining strategic objectives. Rather than focusing on a single risk-management tool or sector, the paper examines the governance architecture linking board oversight, risk appetite, financial risk measurement, stress testing, disclosure, assurance, and organizational learning within the Saudi context.

2. AIM AND OBJECTIVES OF THE STUDY

This study seeks to develop a review-derived framework explaining how integrated financial risk management and enterprise risk governance can strengthen organizational resilience in Saudi Arabia within the context of Vision 2030. The focus is not merely on reducing risk, but on governing it so that organizations can pursue investment, innovation, financing, and growth within clearly defined and strategically aligned risk-appetite parameters.

The review is guided by four objectives: first, to summarize recent evidence on ERM effectiveness, financial distress, financial stability, risk disclosure, and governance quality; second, to identify the financial and emerging risks most relevant to companies operating in Saudi Arabia's evolving economy; third, to assess the governance mechanisms linking board accountability, risk appetite, management decision-making, data, stress testing, and independent assurance; and fourth, to propose an implementation framework and maturity pathway for translating the review findings into practical resilience capabilities within the context of Vision 2030.

3. METHODOLOGY

A structured integrative review methodology was adopted because the research problem spans finance, governance, risk management, sustainability, regulation, and organizational strategy. The approach combines structured source-selection criteria with thematic synthesis. This approach is consistent with recent ERM scholarship that emphasizes implementation quality, organizational context, and the mechanisms linking ERM to outcomes rather than relying solely on binary measures of ERM adoption (Anton & Nucu, 2020).

The evidence review was limited to the period 2020–2025 to capture contemporary developments in post-pandemic risk governance and the accelerated implementation of Vision 2030. Sources were identified through searches of scholarly publisher databases and official Saudi and international regulatory and policy sources. Peer-reviewed studies were prioritized where they addressed ERM effectiveness, financial risk, financial distress, risk committees, ESG-related risk, financial stability, resilience, or firm performance. Official sources were incorporated to establish the Saudi governance, regulatory, and financial-stability context, including CMA regulations, Saudi Central Bank reports, the Financial Sector Development Program, Vision 2030 reports, and relevant international guidance on corporate governance and operational resilience. Practice-oriented literature was used selectively to provide additional insight into contemporary ERM integration and implementation practices (KPMG, 2023; Shah et al., 2025).

The review followed four stages of analysis. In the first stage, organizational risk governance was defined as the unit of analysis rather than a specific financial instrument or sector. In the second stage, the literature was coded into six thematic categories: governance and risk appetite; financial risk identification and measurement; financial distress and stability; sustainability and emerging risks; information, disclosure, and assurance; and resilience in the context of strategic transformation. In the third stage, the findings were compared for convergence, contradiction, and contextual dependence, with particular attention to evidence that ERM outcomes vary according to governance quality and organizational context (Malik et al., 2020; Abdellattif et al., 2025). In the fourth stage, the synthesis was translated into two analytical outputs: an integrated Financial Risk Governance and Resilience Architecture and a maturity pathway linking governance practices to observable organizational capabilities.

Quality control was supported by prioritizing recent peer-reviewed studies and direct regulatory sources, assessing material claims against the cited evidence, and distinguishing Saudi-specific evidence from international evidence used for conceptual support. The methodology is not

presented as a registered systematic review or as providing comprehensive database coverage; rather, it uses thematic synthesis to achieve conceptual integration and support the development of the proposed framework. This limitation is important because reported ERM outcomes may vary according to measurement choices, industry structure, and the regulatory environment. Accordingly, the conclusions are presented as propositions derived from the review rather than as universal causal assertions.

4. CONCEPTUAL FOUNDATIONS: FROM FINANCIAL RISK CONTROL TO ENTERPRISE RISK GOVERNANCE

Financial risk management focuses on exposures that may affect cash flow, earnings, capital, or firm value, including liquidity, credit, market, funding, and counterparty risks. Financial outcomes may also be affected by cyber disruption, governance weaknesses, sustainability-related exposures, reputational risk, and challenges in strategy execution. As noted by Habib et al. (2020), research on financial distress indicates that it often arises from the interaction of financial, operational, market, and managerial factors rather than from a single cause. Accordingly, organizational resilience requires a governance architecture that recognizes how material non-financial events can translate into financial consequences.

ERM provides a more comprehensive framework for integrating these risk considerations. Recent reviews describe ERM as an enterprise-wide process for identifying, assessing, responding to, and monitoring uncertainties that may affect organizational objectives and performance (Anton & Nucu, 2020). Furthermore, evidence from Spanish listed companies suggests that the effects of ERM on performance and financial stability are mixed and may depend on specific risk-management practices and organizational context (González et al., 2020). Similarly, evidence suggests that the relationship between ERM, financial performance, and firm value may be influenced by complementary organizational resources and ESG performance (Chairani & Siregar, 2021). These findings support a capability-based perspective in which the value of ERM derives not merely from the existence of policies, but from its contribution to information quality, coordination, and decision-making.

Risk governance embeds accountability within ERM by defining who owns risk, who approves the level of risk the organization is willing to accept, who has authority to approve exceptions, what risk information is reported to the board, and how effective challenge is exercised. The

2023 G20/OECD Principles emphasize board responsibilities, disclosure and transparency, sustainability, and resilience as important dimensions of corporate governance (OECD, 2023). Empirical evidence on board-level risk committees further suggests that stronger risk governance can reinforce the relationship between effective ERM and firm performance (Malik et al., 2020). In the Saudi context, governance committees have been associated with more extensive financial risk disclosure, reinforcing the importance of board-level governance structures for transparency and sustainable corporate practice (Al-Matari & Al-Dubai, 2025).

Risk appetite defines the amount and types of risk an organization is willing to accept in pursuit of its objectives and becomes operationally meaningful when translated into specific limits, escalation thresholds, and decision criteria. Financial risk appetite may encompass parameters relating to liquidity, leverage, counterparty concentration, earnings at risk, debt-service capacity, currency exposure, and refinancing risk. Hopkin and Thompson (2022) emphasize that effective risk management depends on its integration with governance, strategy, culture, and decision-making. Aven and Renn (2018) similarly emphasize principle-based risk governance that addresses uncertainty rather than reducing risk to fixed probability estimates. From this perspective, risk appetite is not a static compliance document but a strategic boundary that should be reviewed as market conditions, project exposures, technology, or organizational capacity change.

The Basel Committee (2021) frames operational resilience in terms of the ability to withstand disruption while continuing to deliver critical operations. At the corporate level, this concept can be extended to financial resilience through liquidity, capital, access to funding, earnings stability, and adaptive capacity. Resilience is therefore closely linked to governance quality: effective organizations identify emerging threats, assess potential shocks, maintain decision-making capacity, and learn from near misses. Financial risk management provides the measurement and control mechanisms, while enterprise risk governance embeds these mechanisms within strategic decision-making, accountability, and organizational behavior.

5. SAUDI VISION 2030 AND THE CHANGING RISK LANDSCAPE

Vision 2030 is reshaping the environment in which Saudi companies allocate capital and manage uncertainty. The transformation agenda promotes private investment, deeper capital markets, digital finance, industrial diversification, infrastructure development, tourism, logistics, and

187 technology. The Financial Sector Development Program highlights resilience, institutional
188 capability, market development, and digitalization as interconnected priorities supporting the
189 development of the Saudi financial sector (Financial Sector Development Program, 2023).
190 Similarly, the Vision 2030 Annual Report 2025 highlights institutional transformation and
191 private-sector participation as important elements of Saudi Arabia's economic transformation
192 (Saudi Vision 2030, 2026). For organizations, these priorities expand the range of opportunities
193 while also increasing the breadth, complexity, and interdependence of risks that must be
194 managed.

195 Liquidity and funding risks are particularly significant because rapid growth can create
196 mismatches between investment commitments and operating cash flows. Large-scale projects
197 may require substantial upfront expenditures and financing before revenue streams become
198 stable. Reliance on short-term borrowing to finance long-term assets can create maturity
199 mismatches and increase refinancing pressure when market conditions deteriorate. The Saudi
200 Central Bank's 2024 assessment highlights the resilience of the financial system while
201 continuing to monitor credit, liquidity, and interconnected exposures (Saudi Central Bank, 2024).
202 The International Monetary Fund similarly notes that, despite overall financial-system resilience,
203 strong credit growth and expanding financial linkages may increase the transmission of shocks
204 (IMF, 2024).

205 Market-risk exposure may also increase as companies access larger and more diversified sources
206 of funding. Changes in interest or profit rates can affect debt-servicing costs; foreign-exchange
207 movements can affect imported inputs and foreign-currency obligations; commodity-price
208 movements can compress margins; and asset-price volatility can affect the value of collateral and
209 investment portfolios. As capital markets develop, companies gain access to a broader range of
210 financing options, increasing the importance of effective disclosure, covenant management,
211 maturity planning, and investor communication. Saudi Exchange guidance on debt capital
212 markets reflects the development of more diversified financing channels and increasingly
213 institutionalized market practices (Saudi Exchange, 2024).

214 Credit and counterparty risks are becoming increasingly interconnected with project and supply-
215 chain performance. Companies operating within complex business ecosystems may develop
216 significant dependencies on customers, contractors, banks, or technology providers.
217 Consequently, counterparty weakness can translate into liquidity pressure, while delayed
218 receivables may contribute to covenant breaches. Evidence on financial distress among Saudi

companies highlights the importance of considering profitability, financing structure, and financial sustainability when assessing organizational vulnerability (Syed et al., 2023). Broader research on financial distress also indicates that effective early-warning assessment requires a combination of financial and non-financial indicators rather than reliance on a single solvency measure (Habib et al., 2020).

Emerging risks are expanding organizational exposures across cybersecurity, data, third-party dependencies, fraud, model risk, and sustainability, with potential implications for financing costs, asset values, supply chains, and disclosure expectations. Recent international research has examined associations between ESG-related risks, financial distress, and financial-sector stability (Antunes et al., 2023; Citterio & King, 2023; Bouattour et al., 2024). Saudi evidence suggests that the relationship between sustainability risk management and financial distress is not uniform and may vary with financial performance, highlighting the context-dependent nature of sustainability-related risk outcomes (Abdellattif et al., 2025). This finding suggests that ESG and sustainability controls should not be viewed as inherently sufficient to ensure organizational resilience.

The evolving risk landscape in Saudi Arabia therefore reinforces the need for coordinated enterprise-wide risk oversight. A single strategic initiative may simultaneously increase leverage, heighten exposure to currency fluctuations, increase dependence on cyber systems, concentrate on supplier relationships, and increase liquidity risk. When these risks are assessed in isolation, their interdependencies may be overlooked and the organization's overall vulnerability underestimated. In this context, the increasing complexity and interdependence of risks associated with Vision 2030 reinforce the value of enterprise-wide risk aggregation, scenario analysis, and board-level risk prioritization. The challenge for organizations is therefore not merely to identify additional risks, but to understand how risks interact and are transmitted across the enterprise and to manage their combined impact on cash flow, capital, reputation, and strategic execution.

6. INTEGRATED FINANCIAL RISK GOVERNANCE ARCHITECTURE

Based on the review synthesis, an integrated Financial Risk Governance and Resilience Architecture is proposed, comprising five interrelated governance layers: board direction, enterprise risk translation, financial risk execution, assurance and disclosure, and resilience

learning. The first layer, board direction, involves approving the organization's risk appetite, establishing boundaries for material financial risks, and challenging whether the strategy remains financially sustainable under adverse conditions. CMA governance requirements place risk oversight within the board's governance responsibilities (CMA, 2023). Consistent with this emphasis, international governance principles highlight the board's role in strategic guidance, effective monitoring of management, and accountability (OECD, 2023). Board risk reporting should therefore emphasize decision-relevant information and material vulnerabilities rather than relying primarily on descriptive risk registers.

The second layer translates enterprise strategy into specific risk parameters. Management should translate growth plans, acquisitions, capital expenditure programs, financing plans, and operating targets into exposure forecasts and scenario assumptions. Effective risk translation requires a common risk taxonomy, consistent time horizons, and clear links between risk appetite and performance indicators. A well-developed ERM system should quantify the potential effects of delayed collections on liquidity, rate changes on earnings, counterparty concentration, maturity clustering, and events that could trigger covenant breaches. In this way, risk appetite becomes operational rather than remaining a high-level statement of intent.

The third layer, financial risk execution, focuses on managing financial exposures within approved risk parameters. Treasury, finance, business units, procurement, credit teams, and investment functions should manage their respective exposures within approved limits. Financial risk exposures can be managed through mechanisms such as diversification, natural hedging, tenor alignment, liquidity facilities, credit limits, collateral, insurance, contractual terms, and derivatives. The objective is to manage financial risk efficiently while considering economic implications, accounting requirements, legal enforceability, and strategic objectives. ERM research suggests that performance benefits may be strengthened when risk management is integrated with complementary organizational resources and decision-making processes (Saeidi et al., 2021; Resende et al., 2024). Financial risk decisions should therefore be evaluated according to their impact on overall enterprise risk and the organization's capacity to achieve strategic objectives, rather than solely on gains from individual transactions.

The fourth layer concerns assurance and disclosure. Management and oversight functions including risk, compliance, accounting, and legal should support the identification, monitoring, and reporting of exposures, limits, valuations, and exceptions, while internal audit provides independent assurance over the effectiveness of the related governance, risk

management, and control processes. Risk and financial reporting should be integrated to provide a coherent view of risk exposures and their financial implications. Evidence from Saudi companies indicates that governance committee structures are associated with more extensive financial risk disclosure, highlighting the importance of transparency for informed internal decision-making and external communication (Al-Matari & Al-Dubai, 2025). Similarly, the CMA governance framework establishes responsibilities relating to internal control, risk management, and board oversight (CMA, 2023). Assurance should therefore assess the effectiveness of the governance and control processes supporting significant risk decisions, rather than focusing solely on whether approvals have been documented.

The fifth layer, resilience learning, uses feedback from stress tests, near-miss reviews, incident analyses, and post-investment evaluations to inform updates to risk appetite, limits, and policies. Stress testing should incorporate combined-risk scenarios, such as delayed receipts, higher financing costs, supplier disruptions, and cyber incidents affecting payment systems. A key consideration is whether a combination of such shocks could exhaust available liquidity or impair the organization's decision-making capacity. The Basel Committee's operational-resilience principles support the use of severe but plausible disruption scenarios and emphasize the ability to continue delivering critical operations through disruption (Basel Committee, 2021).

Figure 1 illustrates the architecture and clarifies the allocation of responsibilities. The board is responsible for risk appetite and oversight; executive management for risk-adjusted strategy; finance and business functions for the accurate identification and management of exposures; risk and compliance functions for oversight and effective challenge; internal audit for independent assurance; and the organization as a whole for learning. This allocation of responsibilities helps preserve business ownership of risk, while ensuring that oversight or approval does not transfer accountability from the business units responsible for managing the underlying exposures.

Table 1. Review-derived financial risk governance priorities and resilience outcomes

Risk domain	Transformation exposure	Governance response	Example resilience metric
Liquidity & funding	Project cash-flow timing; refinancing concentration	Liquidity buffers; debt maturity profile; committed facilities; scenario triggers	Liquidity runway; debt-service coverage

Risk domain	Transformation exposure	Governance response	Example resilience metric
Credit & counterparty	Customer, bank, and supplier concentration	Limits; collateral; diversification; exposure aggregation	Top-10 counterparty concentration; expected loss
Market risk	Rate/profit-rate, FX, and commodity volatility	Natural hedging; limits; tenor matching; derivative hedging within approved limits	Earnings-at-risk; open FX exposure
Operational & cyber	Payment disruption; data loss; third-party failure	Critical-process mapping; cyber controls; contingency liquidity	Recovery time; critical-service disruption tolerance
Sustainability & transition	Climate/policy exposure; insurance and funding repricing	Materiality mapping; scenario analysis; capital-allocation integration	Sustainability exposure-at-risk; transition sensitivity
Strategic/project	Major-project delay; cost overrun; demand uncertainty	Stage-gate governance; downside scenarios; escalation thresholds	NPV-at-risk; covenant headroom

Financial Risk Governance and Resilience Architecture

Saudi organizational model aligned with Vision 2030



Figure 1. Integrated financial risk governance and resilience architecture for Saudi organizations under Vision 2030.

7. ORGANIZATIONAL RESILIENCE MECHANISMS AND EMERGING RISK INTEGRATION

Organizational resilience depends on early threat detection, financial flexibility, reliable information under stress, adaptive decision-making, and post-event learning. The review identifies four mechanisms through which risk governance can support resilience: financial flexibility, information quality, governance challenge, and adaptive learning.

The first mechanism is financial flexibility. Maintaining liquidity reserves, access to diversified funding sources, manageable leverage, a well-distributed maturity profile, and committed credit facilities enables management to respond when operating cash flows weaken. The financial-distress literature identifies profitability, leverage, cash flow, and financial flexibility as important factors associated with organizational vulnerability and survival prospects (Habib et al., 2020). Financial flexibility is particularly relevant in the context of Saudi Arabia's transformation, where companies may undertake large, staged investments with uncertain cash-flow timing. Accordingly, a risk appetite that permits high leverage without adequate

consideration of liquidity timing may weaken resilience even where long-term project economics remain favorable.

The second mechanism is information quality. The reliability of risk-informed decisions depends substantially on the quality of exposure data, forecasts, and underlying assumptions. Poor forecasts may overstate perceived liquidity, incomplete data may obscure concentration risk, and inconsistent assumptions may distort the enterprise-wide view of risk. KPMG (2023) suggests that ERM can provide a framework for integrating ESG-related uncertainty into decision-making rather than treating it primarily as a separate reporting activity. Emerging risks should be translated into financial transmission pathways that enable boards to assess their potential effects on cash flow, earnings, capital, and strategic objectives.

The third mechanism is governance challenge. The effectiveness of ERM depends in part on whether boards and relevant oversight functions can challenge optimistic assumptions and prompt timely action before approved risk limits are breached. Malik et al. (2020) suggest that robust board-level risk committees can strengthen the relationship between ERM effectiveness and firm performance, while Al-Matari and Al-Dubai (2025) highlight the role of governance committees in financial risk disclosure among Saudi firms. These findings suggest that the effectiveness of governance committees depends on more than their formal existence. Effective challenge requires appropriate expertise, independence, access to relevant information, sufficient time for downside analysis, and escalation procedures that enable control and assurance functions to raise concerns effectively.

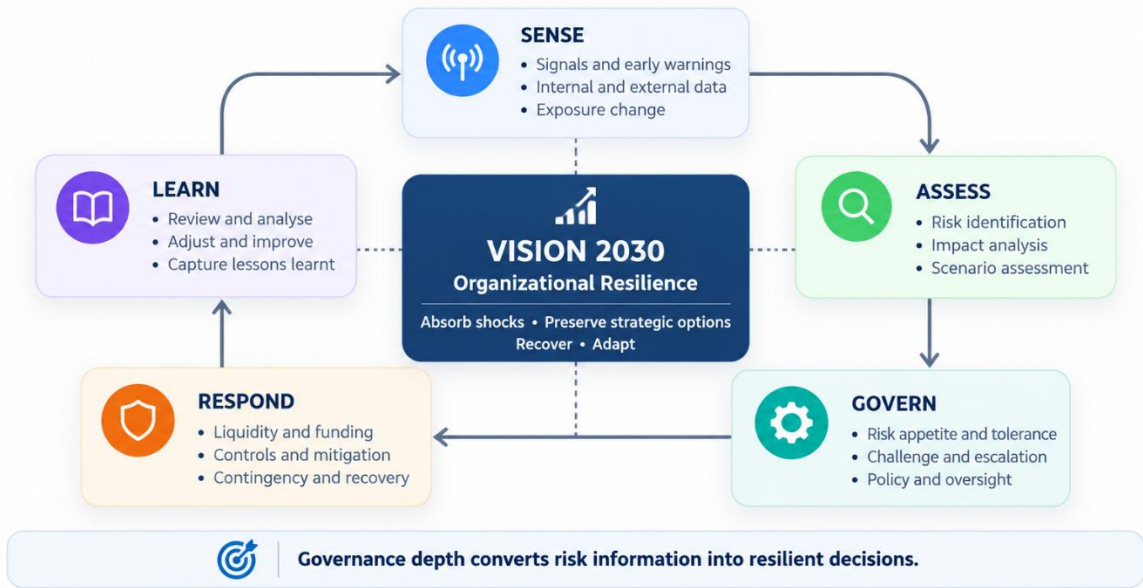
The fourth mechanism is adaptive learning. Organizations should compare scenario assumptions with actual outcomes, analyze the causes of risk-limit breaches, and revise underlying assumptions where appropriate. This feedback loop enables risk management to evolve into a dynamic organizational capability rather than remain a routine compliance activity. Research suggests that when ERM is integrated with organizational capabilities and strategic processes, it can be associated with improved organizational performance (Chairani & Siregar, 2021; Saeidi et al., 2021; Eklemet et al., 2024). Furthermore, the literature indicates important links between sustainability-related risks, risk management, and financial outcomes. Landi et al. (2022) identify an association between ESG-related risk and corporate financial risk, while Ding et al. (2024) highlight financial performance as an important pathway linking risk management and ESG performance.

Emerging risks should be integrated into the resilience process through established risk-governance mechanisms. Cyber risk should be integrated into critical-process mapping, liquidity contingency planning, third-party risk management, and incident-escalation procedures. Sustainability risk should be integrated into capital allocation, credit assessment, insurance decisions, project evaluation, and disclosure processes. Where climate-related risks or policy uncertainty are material, they should be incorporated into relevant stress-testing scenarios. Research on financial distress and ESG-related risks suggests that the relationship between sustainability-related factors and financial stability may vary across organizational contexts (Antunes et al., 2023; Bouattour et al., 2024; Habib, 2023). Organizations should therefore avoid relying on general ESG scores as a substitute for exposure-specific analysis and should instead identify the pathways through which material sustainability issues may translate into financial consequences.

Figure 2 shows the resilience loop as consisting of five repeated activities: sensing, assessing, governing, responding, and learning. It emphasizes that resilience is not a final state achieved through the implementation of ERM; rather, it is an ongoing organizational capability that must evolve as Vision 2030 reshapes markets, technologies, financing structures, and stakeholder expectations.

Organizational Resilience Loop

Continuous sensing, risk-informed action, and learning under uncertainty.



Governance depth converts risk information into resilient decisions.

Figure 2. Organizational resilience loop linking risk sensing, assessment, governance, response, and learning.

8. DISCUSSION AND SYNTHESIS

The synthesis suggests that governance quality is a key mechanism linking financial risk management to organizational resilience. Although measures such as risk limits, hedging arrangements, liquidity buffers, and credit policies are necessary, they may be insufficient unless they are integrated with strategy, decision-making authority, and accountability. The literature consistently highlights the importance of implementation quality, particularly when organizations are pursuing strategic expansion. ERM outcomes may vary across firms because the same formal framework can either be deeply integrated into decision-making or remain primarily a compliance exercise (Anton & Nucu, 2020). Evidence across the reviewed studies suggests that ERM effectiveness and performance outcomes may be strengthened by complementary factors such as board-level risk governance, ESG-related capabilities, organizational resources, and strategic integration (Malik et al., 2020; Chairani & Siregar, 2021; Resende et al., 2024).

Second, financial and non-financial risks should be assessed and managed from an enterprise-wide perspective. Sustainability risks, cyber threats, operational disruptions, reputational events, and regulatory changes can translate into financial consequences through revenue losses, increased funding pressures, higher costs, asset impairment, or restricted market access. Recent research further identifies associations between ESG-related risks and outcomes such as financial distress, downside risk, and financial-sector stability (Antunes et al., 2023; Citterio & King, 2023). However, evidence from Saudi Arabia suggests that the relationship between sustainability risk management and financial distress is context-dependent and may vary according to firms' financial performance (Abdellattif et al., 2025). Governance should therefore focus on materiality and financial transmission pathways rather than treating emerging risks as a compliance checklist.

Third, in the context of Vision 2030, risk governance can be viewed as a capability that supports sustainable growth. The objective is not to eliminate risk, but to enable informed and controlled risk-taking. Capital-market development, innovation, and large-scale investment inherently involve uncertainty, while the Financial Sector Development Program emphasizes growth, diversification, innovation, and resilience (Financial Sector Development Program, 2023).

Informed risk-taking requires organizations to understand their downside capacity, liquidity requirements, and escalation thresholds before making significant commitments. This is consistent with the OECD (2023) principles, which emphasize the role of sound corporate governance in supporting access to finance, sustainable growth, and financial stability.

Fourth, transparency can support organizational resilience. Although risk disclosure is often viewed primarily as an external reporting obligation, the review suggests that disclosure quality can also serve as an internal governance check. An organization's ability to explain its principal financial exposures, the application of its risk appetite, stress-testing results, and the rationale for risk-mitigation decisions to investors or regulators can therefore provide an important indication of the quality of its underlying risk information and governance processes. Saudi evidence further indicates an association between governance committee structures and financial risk disclosure (Al-Matari & Al-Dubai, 2025). Transparency can therefore support resilience by encouraging consistent exposure data, documented decision-making, and clear accountability.

Ultimately, organizational resilience should be assessed as a multidimensional capability rather than through a single metric. Table 1 summarizes the main risk areas, governance mechanisms, and resilience outcomes, while Table 2 presents a four-stage maturity model derived from the proposed architecture. An organization may be advanced in market-risk analytics while having weak board challenge or may demonstrate strong compliance capabilities while remaining less developed in scenario testing. A maturity-based approach makes these differences visible and supports targeted improvement efforts. The proposed architecture is therefore deliberately modular, allowing it to be adapted to banks, insurers, listed corporations, family-owned businesses, and large project developers. It can also be adapted to family business groups, government-related organizations, and large project organizations while preserving the same underlying governance logic.

Table 2. Financial Risk Governance Maturity Model

Stage	Governance characteristics	Data/analytics	Organizational outcome
1. Compliance-led	Policies and committees are in place; risk is discussed periodically	Fragmented spreadsheets; lagging indicators	Formal compliance; limited anticipatory capacity

Stage	Governance characteristics	Data/analytics	Organizational outcome
2. Coordinated	Risk appetite is defined for key risks; ownership is clearer	Common taxonomy; consolidated reporting	Better visibility and control consistency
3. Integrated	Risk is embedded in strategy, capital allocation, and financing decisions	Stress testing; KRIs; exposure aggregation	Lower unexpected volatility; stronger decision quality
4. Resilient/adaptive	Board challenge; dynamic risk appetite; continuous learning loops	Forward-looking scenarios; early warning; integrated dashboards	Shock absorption; rapid adaptation; credible growth

9. MANAGERIAL AND POLICY IMPLICATIONS

For boards, risk appetite should be translated into specific financial limits, and significant strategic decisions should incorporate analysis of potential downside scenarios. Board reporting packages should focus on trends, concentrations, liquidity horizons, scenario impacts, risk-limit breaches, and management responses rather than presenting static risk registers. Directors should receive training on financing, cyber-financial risk transmission, sustainability risks, and the interpretation of stress-testing results.

Risk governance should be integrated from the outset of investment and financing processes. Relevant functions including treasury, finance, strategy, procurement, legal, technology, and risk should jointly assess significant commitments before contracts are finalized. Scenario analysis should examine combined shocks and define the required management actions, decision timelines, and contingency funding requirements. Although business units should retain responsibility for their forecasts and exposures, central risk functions should establish relevant standards and provide effective challenge to business proposals.

For regulators and market institutions, the implication is that supervisory attention should extend to ERM maturity and evidence of effective integration, rather than focusing primarily on the existence of formal policies. Saudi Arabia's current regulatory frameworks emphasize

governance, internal control, resilience, and disclosure (CMA, 2023; Saudi Central Bank, 2024). Future guidance should set out expectations regarding risk appetite, stress testing, the integration of emerging risks, and board reporting, with these expectations calibrated to the size and sector of each firm.

For organizations seeking to capture the opportunities associated with Vision 2030, a key strategic implication is that organizational resilience can help reduce the hidden costs of growth. Improved governance can strengthen financing credibility, reduce unexpected volatility, enhance lender and investor confidence, and preserve management flexibility during disruptions. Risk governance can therefore be viewed as enabling infrastructure for transformation.

10. RESEARCH GAPS AND FUTURE DIRECTIONS

The literature addressing the integration of financial risk management, enterprise risk governance, and organizational resilience in the Saudi transformation context remains relatively limited. First, more longitudinal evidence is needed to examine whether greater ERM maturity is associated with lower funding costs, lower earnings volatility, lower default risk, or shorter recovery times following shocks. Second, future research should distinguish between formal ERM adoption and substantive integration by examining the quality of board challenge, the application of risk appetite, the quality of scenario analysis, and escalation practices. Third, sector-specific studies are needed because different industries are exposed to distinct financial risk-transmission pathways. Fourth, future research should examine how cyber risk, climate transition, artificial intelligence, and dependence on third-party digital services may affect liquidity and financial resilience.

Saudi datasets offer further opportunities for empirical research. Researchers could develop a Financial Risk Governance Maturity Index using annual reports, governance disclosures, risk committee characteristics, evidence from stress testing, and disclosures relating to risk appetite, and then examine its association with market valuation, credit spreads, profitability, and financial distress. Research in this area could extend the existing evidence on financial distress and risk disclosure in the Saudi context (Syed et al., 2023; Al-Matari & Al-Dubai, 2025).

11. CONCLUSION

In the context of Saudi Arabia's transformation, financial risk management and enterprise risk governance are becoming increasingly integrated. While Vision 2030 expands investment and financing activity, it also creates more interconnected exposures to liquidity stress, market volatility, counterparty failure, cyber disruption, sustainability transition risks, and strategic execution risks. The evidence reviewed suggests that organizational resilience is stronger when risk management is integrated into governance and decision-making rather than treated as a set of separate controls.

The proposed architecture places board-approved risk appetite at its core, translates strategy into specific exposure limits, links financial risk management with enterprise-wide information, strengthens independent assurance and disclosure, and completes the cycle through stress testing and organizational learning. This approach is consistent with Saudi regulatory expectations and with international evidence suggesting that ERM outcomes depend on the depth of implementation, governance quality, and organizational context. Resilient organizations in Saudi Arabia should not seek to eliminate uncertainty; rather, they should develop the governance capabilities needed to understand, assess, absorb, and adapt to uncertainty while pursuing strategic growth. Under Vision 2030, this capability is not merely defensive; it can also support financing credibility, institutional trust, and sustainable value creation.

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