



Strategic Risk Integration, Risk Oversight and Operational Performance of Listed Multinational Companies in South-West Nigeria

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ABSTRACT

Enterprise Risk Management (ERM) has emerged as a comprehensive framework that enables organisations to identify, assess, and manage risks across the entire enterprise rather than addressing them in isolation; yet the operational performance implications of its strategic and governance dimensions remain under-examined in emerging markets. This study investigated the effects of strategic risk integration and strategic risk oversight on the operational performance of listed multinational companies (MNCs) in South-West Nigeria. A cross-sectional field survey design was employed, utilising a structured questionnaire administered to senior and middle management employees in the administration, finance, human resource, and operational units of selected MNCs. From a population of 51,286 employees, a sample of 528 was determined using the Krejcie and Morgan (1970) table, of which 499 usable copies were analysed. Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 3, employing 5,000 bootstrap resamples. The measurement model demonstrated sound psychometric properties ($AVE \geq 0.500$; $CR \geq 0.861$), and discriminant validity was confirmed via the Fornell-Larcker criterion and HTMT ratios (maximum 0.542). Strategic risk integration exerted a significant positive effect on operational performance ($\beta = 0.459$, $t = 13.478$, $p < 0.001$, $R^2 = 0.211$), as did strategic risk oversight ($\beta = 0.421$, $t = 10.884$, $p < 0.001$, $R^2 = 0.178$). Strategic risk integration emerged as the most potent individual ERM predictor, with a large effect size ($f^2 = 0.267$). The study concludes that embedding risk into strategy and institutionalising board-level oversight are foundational drivers of operational performance in volatile emerging markets, and recommends the institutionalisation of risk-informed strategic planning cycles and cascading risk communication protocols.

The global business environment has become increasingly complex, volatile, and interconnected, compelling multinational companies (MNCs) to adopt more sophisticated approaches to risk management. Enterprise Risk Management (ERM) has emerged as a comprehensive framework that enables organisations to identify, assess, and manage risks across the entire enterprise rather than addressing them in isolation (Jurdi & AlGhnamat, 2021). This holistic approach to risk management has gained significant attention from both practitioners and academics, particularly in the wake of major corporate failures and global financial crises that have highlighted the inadequacies of traditional risk management practices (Anton & Nucu, 2020). Traditional risk management approaches were largely siloed, with different departments managing risks independently without coordination or integration (Anton & Nucu, 2020). These approaches often focused primarily on insurable and financial risks while neglecting strategic, operational, and reputational risks that could significantly impact organisational performance, a limitation that became evident during the 2007–2008 global financial crisis and subsequently fuelled interest in integrated ERM frameworks (Farrell & Gallagher, 2019; Beasley et al., 2019).

Several frameworks and standards have been developed to guide ERM implementation. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) ERM framework, updated in 2017, is widely recognised and adopted globally, and integrates risk management with strategy and performance by emphasising the importance of considering risks in the context of organisational objectives (COSO, 2017). ISO 31000 similarly provides principles, guidelines, and processes for managing risk that may be applied to any organisation regardless of size, sector, or geographic location (ISO, 2018). Adoption has accelerated markedly: a survey by Deloitte (2023) found that 79% of global organisations have implemented or are in the process of implementing ERM, representing a significant increase from 52% in 2020. Nevertheless, multinational corporations face unique challenges in implementing ERM due to their complex organisational structures, diverse regulatory environments, and exposure to varied cultural, political, and economic risks across different countries (Aina, 2025; Arena et al., 2022).

In Nigeria, and particularly in its economic engine in the South-West, multinational corporations are integral to the economic landscape but operate within a uniquely challenging environment. The region, with Lagos as its commercial epicentre and Ogun State as a major industrial hub, hosts a diverse array of MNCs across sectors such as fast-moving consumer goods (FMCG), manufacturing, telecommunications, and energy, including companies such as Nestlé, Unilever, Procter & Gamble, MTN, and Lafarge that have established significant manufacturing and operational footprints (Isaac et al., 2020; Agugum et al., 2022). These corporations confront a formidable set of challenges that significantly impact their operational performance and risk profiles. A primary obstacle is the severe infrastructural

deficit: unreliable and inadequate power supply forces companies to depend on costly self-generated power, which inflates production costs, while poor road networks and congested ports create logistic bottlenecks that increase operational expenses and disrupt supply chains (Aladejebi, 2020; Oludare et al., 2023). The economic and regulatory environment poses substantial risks as well, with MNCs contending with high operating costs, significant currency volatility, difficulties in accessing foreign exchange, and a regulatory landscape characterised by inconsistency, bureaucratic hurdles, and abrupt policy changes (Abdulmalik, 2023; Osamor et al., 2023). These multifaceted challenges require MNCs to adopt highly adaptive and resilient ERM frameworks in order to survive and succeed in the dynamic market conditions of the South-West Nigerian market (Noah, 2025a).

The relationship between ERM adoption and operational performance is a critical area of study because operational performance encompasses various dimensions, including efficiency, productivity, quality, innovation, and customer satisfaction (Al-Nimer et al., 2021). ERM has the potential to influence these dimensions by improving decision-making processes, resource allocation, and response to operational risks. However, studies on the performance implications of ERM have yielded mixed results. Some studies suggest a positive relationship between ERM implementation and various performance measures: Jurdi and AlGhnamat (2020) found that insurance companies with mature ERM programmes had higher firm values compared to those without such programmes, while Altuntas et al. (2021) documented a positive association between ERM adoption and operational efficiency in the insurance industry. Other evidence is more nuanced, with Farrell and Gallagher (2019) showing that the ERM maturity–performance relationship is moderated by contextual factors, such that the incremental benefit of moving from traditional risk management to ERM is less clear in some settings. A significant limitation in the current literature is its predominant focus on financial performance indicators such as firm value (Hoyt & Liebenberg, 2025) and stock returns (Tola, 2022), while largely neglecting critical operational performance dimensions including process efficiency, quality of output, and customer satisfaction.

Within the ERM literature, two dimensions stand out as foundational to the architecture of any enterprise-wide risk system: strategic risk integration and strategic risk oversight. The governance and structural perspective emphasises risk oversight mechanisms such as board-level risk committees, Chief Risk Officers (CROs), and formalised ERM policies (Afaneh, 2023; Malik et al., 2021), and Bailey (2022) demonstrates that firms with dedicated CROs exhibit stronger risk governance, yet the operational performance implications of these structures remain under-examined. The strategic and cultural perspective investigates strategic risk integration and organisational risk culture (Bhimani & Song, 2022), yet fails to adequately explore how these factors translate into tangible operational improvements (Rasedi & Sibindi, 2023).

Moreover, the literature exhibits an over-reliance on Western contexts, with few studies examining ERM in emerging economies like Nigeria, where institutional voids and regulatory ambiguities may significantly alter ERM effectiveness (Klumpes, 2025; Agarwal, 2025; Danforth II, 2024). No prior study has examined how strategic risk integration and risk oversight jointly shape operational performance among listed MNCs operating in South-West Nigeria.

This study therefore investigated two specific objectives: first, to investigate the effect of strategic risk integration on the operational performance of multinational companies in Nigeria; and second, to determine the influence of strategic risk oversight on the operational performance of multinational companies in Nigeria. Correspondingly, two null hypotheses were tested. The study is theoretically justified because it integrates the Resource-Based View and Dynamic Capabilities Theory to extend ERM literature beyond financial performance to operational resilience. Empirically, as one of the first studies to examine these ERM dimensions among South-West Nigerian MNCs, it provides valuable insights into ERM functioning in under-studied institutional environments. From a practical standpoint, given Nigeria's volatile business climate, the findings will help MNCs optimise ERM implementation to enhance operational efficiency and stakeholder confidence, critical factors for long-term survival in emerging markets (Alli & Ganiyu, 2025). The remainder of the article is organised as follows: Section 2 reviews the literature and develops the hypotheses; Section 3 presents the methodology; Section 4 reports the results; Section 5 discusses the findings; and Section 6 concludes with recommendations, contributions, limitations, and directions for future research.

2. Literature Review and Hypotheses Development

Conceptual Review

Enterprise Risk Management (ERM) and Its Adoption

ERM has been widely defined by scholars and professional organisations, reflecting its multidimensional nature. According to the Committee of Sponsoring Organizations of the Treadway Commission (COSO), ERM is a process, effected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives (COSO, 2004, cited in Fadun, 2013). This definition emphasises ERM as a strategic and organisation-wide approach rather than a siloed function. Similarly, Altuntas et al. (2020) defined ERM as a structured and disciplined framework that aligns strategy, processes, people, technology, and knowledge to evaluate and manage uncertainties in an enterprise, while Khan et al. (2016) defined ERM as a holistic approach to identifying, assessing, and mitigating risks across all organisational functions to enhance

decision-making and value creation. This study adopts the COSO conceptualisation because its explicit emphasis on integrating risk management with strategy, and its applicability across the entire enterprise, aligns precisely with the objective of examining how ERM adoption influences the multifaceted operational performance of complex multinational corporations.

The transition from traditional risk management to ERM reflects broader shifts in business complexity and regulatory demands. Historically, risk management was fragmented, focusing on insurable risks such as financial losses or operational hazards (Soileau, 2010). However, as organisations faced increasing interconnected risks, such as cyber threats, regulatory changes, and global supply chain disruptions, the need for an integrated approach became evident (Nyandika et al., 2022). Njagi and Njuguna (2017) traced ERM's evolution to the early 2000s, when corporate scandals such as Enron and WorldCom prompted stricter governance requirements, and Karunaratne (2017) added that financial crises, such as the 2008 global recession, accelerated ERM adoption as firms recognised the limitations of siloed risk management. ERM frameworks typically consist of several key components that ensure comprehensive risk management, including risk identification, risk assessment, risk response, control activities, and monitoring (Togok et al., 2016), with the COSO framework outlining eight components spanning the internal environment through monitoring (Fadun, 2013). The successful adoption of ERM must nevertheless be conceptualised as a multidimensional construct, extending substantially beyond the mere codification of a formal policy; key dimensions include strategic risk integration, strategic risk oversight, risk culture and communication, and risk response strategies (Fraser & Simkins, 2010; GBenga, 2024), which constitute the measurement backbone of the present investigation.

Strategic Risk Integration

Strategic Risk Integration (SRI) refers to the extent to which risk management is embedded into an organisation's strategic planning, decision-making, and objective-setting processes. Within the COSO (2017) architecture, SRI operationalises the principle that risk management is not a peripheral control function but an intrinsic element of strategy setting and performance management. At the lead of this construct is the assumption that effective adoption of ERM improves the ability of organisations to manage uncertainties, optimise decision making, and improve operational outcomes: rather than handling risks in silos, ERM makes risk considerations part of the strategic planning and governance structure, the organisational culture, and the operational processes. Beasley and Frigo (2010) emphasise ERM's role in strategic planning and strategy execution, and Frigo and Anderson (2011) characterise strategic risk management as the integration of risk considerations into the formulation and execution of strategy itself. Organisations that are able to adopt such practices effectively are therefore more likely to achieve improved operational performance, because risk appetite is

explicitly aligned with capital allocation, long-term planning, and competitive positioning. In the measurement model of this study, SRI is captured through five reflective indicators: the alignment of risk management with strategic objectives (SRI1), the consideration of potential risk exposures in strategic decisions (SRI2), risk assessment informing long-term planning (SRI3), ERM's contribution to competitive advantage (SRI4), and the embedding of risk considerations in the strategic planning process (SRI5).

Strategic Risk Oversight

Strategic Risk Oversight (SRO) refers to the governance structures and policies established to monitor and control risks at an organisational level, including risk committees, board-level review processes, and the office of the Chief Risk Officer. The governance and structural perspective in the ERM literature emphasises these mechanisms as the institutional foundation of enterprise risk management (Ganiyu, 2025; Ganiyu, 20219; Afaneh, 2023; Malik et al., 2021). Oversight bodies exercise structural legitimacy by counterbalancing managerial discretion, ensuring that risk exposures are evaluated systematically rather than reactively, and providing reasonable assurance that the ERM system is functioning as designed. Effective risk oversight structures, including risk committees, Chief Risk Officers, and board-level review processes, serve as institutional mechanisms that counteract the cognitive biases of individual decision-makers, thereby reducing the probability of catastrophic operational failures driven by unchecked managerial risk-taking or regulatory non-compliance (Kahneman & Tversky, 1979; Bailey, 2022). In this study, SRO is measured through four reflective indicators: the existence of a risk oversight body (SRO1), active senior management involvement in risk oversight (SRO2), regular board review of the risk management framework (SRO3), and CRO oversight of ERM implementation (SRO4).

Operational Performance

Operational Performance refers to the efficiency and effectiveness of an organisation's core business processes in delivering value. It encompasses various dimensions, including efficiency, productivity, quality, innovation, and customer satisfaction (Al-Nimer et al., 2021; Noah, 2025b), and operational efficiency serves as a fundamental driver of competitive advantage, especially in emerging markets where MNCs face heightened operational risks (Stefán, 2023; Alli, 2025). Whereas the mainstream ERM-performance literature has concentrated on financial indicators, this study deliberately operationalises performance through three complementary dimensions adapted from Pagach and Warr (2011) and Kaplan and Norton (1992): process efficiency (the optimisation of workflows and reduction of operational bottlenecks), customer satisfaction (the quality of customer experience and service delivery), and quality of output (the consistency and reliability of products and services). These dimensions are particularly appropriate for the Nigerian context, where the day-to-day reliability of processes, service continuity, and output quality determine the competitiveness

of MNCs confronting infrastructural deficits and macroeconomic volatility. In the measurement model, process efficiency (PRE) is assessed through seven indicators covering process optimisation, workflow redundancy, resource allocation, automation, standard operating procedures, bottleneck elimination, and performance metrics, with customer satisfaction and quality-of-output items providing additional validation of the outcome domain.

Theoretical Framework

Prospect Theory

Prospect Theory, introduced by Kahneman and Tversky (1979), revolutionised the understanding of how individuals make decisions under conditions of uncertainty by challenging the traditional economic assumption of rational utility maximisation. The theory highlights two key phases in decision-making: the editing phase, where individuals simplify complex options, and the evaluation phase, where they assess potential outcomes based on subjective value rather than objective probabilities. One of its central contributions is the explanation of how people evaluate gains and losses asymmetrically, a phenomenon known as loss aversion: individuals tend to feel the pain of losses more intensely than the pleasure derived from equivalent gains, leading them to adopt risk-averse behaviour in gain scenarios and risk-seeking behaviour in loss scenarios. Applied to the present study, Prospect Theory provides a behavioural lens for understanding why managers in Nigerian MNCs, operating amid economic volatility, political instability, and infrastructural challenges, may adopt ERM frameworks primarily to mitigate potential losses rather than pursue opportunities for gain. It also explains why effective risk oversight structures matter: oversight bodies serve as institutional mechanisms that counteract the cognitive biases of individual decision-makers, ensuring that risk exposures are evaluated systematically rather than reactively.

Dynamic Capability Theory

Dynamic Capability Theory, first introduced by Teece, Pisano, and Shuen (1997), represents a significant evolution in strategic management literature by addressing how firms may achieve and sustain competitive advantage in rapidly changing environments. The theory posits that organisations must develop dynamic capabilities, defined as the ability to integrate, build, and reconfigure internal and external competencies, to adapt to shifting market conditions, technological advancements, and competitive pressures. Unlike traditional resource-based views of the firm, which emphasise static resources, Dynamic Capability Theory highlights the need for continuous renewal and transformation through three core processes: sensing, which involves identifying and assessing emerging opportunities and threats; seizing, which entails mobilising resources to capitalise on these opportunities; and transforming, which refers to the reconfiguration of assets and capabilities to ensure long-term viability. Strategic risk integration operationalises precisely these sensing and reconfiguring capabilities, enabling

organisations to align risk considerations with strategic planning in ways that enhance operational efficiency, reduce disruptions, and improve resource allocation, while risk oversight represents the governance-level analogue of the sensing capability, the institutional architecture through which emerging threats are detected and escalated for strategic response.

The Eclectic Paradigm

The Eclectic Paradigm, also known as the OLI Framework, was introduced by Dunning (1979) and has become a cornerstone of international business theory for explaining the motivations and determinants of foreign direct investment and multinational enterprise activity. The paradigm derives its name from the three key conditions that Dunning identified as necessary for firms to engage in foreign production: Ownership advantages, Location advantages, and Internalisation advantages. From the perspective of this study, the finding on strategic risk integration reflects the importance of ownership-specific advantages: MNCs with mature SRI capabilities possess a proprietary risk intelligence capability that enables them to navigate Nigeria's volatile environment, characterised by infrastructural deficits, regulatory inconsistencies, and currency volatility, more effectively than firms without such capabilities. Similarly, risk oversight structures constitute an internalised governance advantage that substitutes for the weaker external institutions of the host environment. Together, Prospect Theory, Dynamic Capability Theory, and the Eclectic Paradigm provide a comprehensive foundation for understanding how ERM adoption impacts operational performance in the Nigerian multinational context.

Empirical Review

A growing body of empirical work links strategic risk integration to superior operational outcomes across African and emerging-market settings. Ndlovu and Khumalo (2023), in their study of South African executives across multiple industries, found that SRI had a significant positive effect on both financial and non-financial dimensions of organisational performance, with adaptive capabilities partially mediating this relationship; they concluded that organisations with higher adaptability are better positioned to leverage strategic risk information for superior outcomes. Zungu and Maredi (2024), studying fast-moving consumer goods firms in Gauteng Province, South Africa, demonstrated that SRI directly enhances operational agility, defined as speed, flexibility, and adaptability, which in turn significantly correlates with improved service levels, shorter lead times, and reduced operational costs; their path analysis further identified scenario planning and early warning systems as key mechanisms linking SRI to agile performance. Baloyi and Pretorius (2023) provided additional empirical support from the energy sector, demonstrating that firms with high levels of SRI exhibited significantly better operational performance in areas such as equipment uptime, service delivery consistency, and cost control, and concluding that integrating strategic risk

thinking into operational systems is essential for achieving sustainable operational excellence.

Additional evidence refines the conditions under which SRI translates into performance. Ncube and Lephala (2023), in a manufacturing sector perspective, explored the intersection of SRI and lean operations practices using data from 131 lean managers and plant supervisors across medium-to-large manufacturing firms in the Eastern Cape, and found that SRI significantly supports lean operations by improving risk visibility and waste reduction, with the effect more pronounced in firms with mature risk management frameworks. Kanu (2020), studying Nigerian and African firms, found empirical evidence that when ERM is integrated at the strategic planning stage there is a significant improvement in firm financial performance measured by return on assets; crucially, however, the mere implementation of ERM, without integration into strategic planning, was not significantly related to performance, a nuance indicating that it is the depth of integration into strategic decision-making processes, not the existence of an ERM framework per se, that determines operational impact. Mokoena and Dlamini (2024) extended this literature by demonstrating that the relationship between SRI and firm performance is moderated by the level of organisational learning, with firms characterised by strong learning cultures experiencing greater performance benefits. Furthermore, Hillson (2006) argued that an integrated risk management approach, one that bridges the gap between strategic and tactical levels, is essential for achieving sustainable organisational success.

The empirical literature on risk oversight consistently associates strong board-level structures with superior organisational outcomes. Dupire, Haddad, and Slagmulder (2022), investigating European banking and insurance institutions during the sovereign debt crisis, found that financial institutions with stronger board-level risk oversight prior to the crisis were significantly less vulnerable to the adverse effects of the crisis, even after controlling for other influencing factors, suggesting that effective oversight in the pre-disruption period provides a governance buffer that enhances operational resilience and continuity. Ittner and Keusch (2015), using a combination of archival and survey data, demonstrated that firms which formally assign risk oversight responsibilities to the board as a whole, rather than delegating them exclusively to individual committees, exhibit stronger oversight practices, which in turn produce a direct positive relationship with risk management process maturity and a significant indirect influence on future stock return volatility through enhanced risk management. Oyerogba, Alade, Idode, and Oluyinka (2017), examining 186 companies listed on the Nigeria Stock Exchange over a five-year period, found that board oversight functions, specifically audit committee function, risk management committee function, and remuneration committee function, have a significant impact on the financial performance of listed companies in Nigeria, making this among the most contextually proximate studies to the present research.

Further evidence highlights contingency conditions of the oversight-performance relationship. Kemboi (2019), studying 42 commercial banks in Kenya over a five-year longitudinal period, found a significant positive relationship between specific risk governance mechanisms, including the existence of a risk committee, credit committee size, and the number of risk governance mechanisms, and financial performance ($r = 0.376$; $R^2 = 0.142$), with board size significantly moderating the relationship, suggesting that the effectiveness of risk oversight is contingent on the structural configuration of governance bodies, not merely their existence. Ames, Hines, and Sankara (2018), using a sample of insurance firms from 2007 to 2013, confirmed that the presence of a board risk committee is positively associated with higher financial strength ratings, though this effect strengthens over time, with approximately five years required for committee formation to manifest in improved firm performance. Saat, Karbhari, Heravi, and Nassir (2011), examining listed firms on Bursa Malaysia, found that board oversight roles significantly enhance firm performance when a senior independent director and an independent board chairman are present, particularly in cases where the CEO or managing director is not a board member, indicating that the independence of oversight structures is a critical quality determinant above and beyond their formal existence. Collectively, these studies support the expectation that risk oversight exerts a significant positive influence on operational performance, while implying that the strength of this relationship may be conditioned by the visibility and empowerment of oversight mechanisms at operational levels.

Gaps in the Literature

Despite the considerable scholarly focus on ERM, several critical gaps persist that this study addresses. First,

there remains a dominant emphasis on financial performance indicators, such as firm value, return on assets, and cost of capital, as primary measures of ERM effectiveness (Hoyt & Liebenberg, 2025; Alli, 2026). This preoccupation has led to the under-exploration of the operational performance dimension, which is particularly vital in contexts characterised by operational fragility and resource constraints in developing countries such as Nigeria. Second, the contextual bias toward developed economies in ERM research has resulted in a limited understanding of how ERM functions in emerging markets with unique socio-political and infrastructural challenges; most empirical studies have been conducted in North America, Europe, and parts of Asia, thereby overlooking how institutional voids, cultural diversity, regulatory fragmentation, and political instability influence ERM adoption and effectiveness in countries like Nigeria (Klumpes, 2025; Agarwal, 2025). Third, the governance and structural perspective has documented the existence of oversight mechanisms but has rarely traced their consequences for operational outcomes, leaving the performance implications of board-level risk structures under-examined (Bailey, 2022; Rasedi & Sibindi, 2023). By examining strategic risk integration and strategic risk oversight as distinct yet complementary drivers of operational performance among listed MNCs in South-West Nigeria, this study responds directly to these gaps.

2.5 Conceptual Framework and Hypotheses Development

The conceptual framework presented in Figure 1 demonstrates how Strategic Risk Integration and Strategic Risk Oversight exert effects on Operational Performance, the dependent variable, and the framework further acknowledges the combined effect of these dimensions in helping to form the outcome of organisational performance.

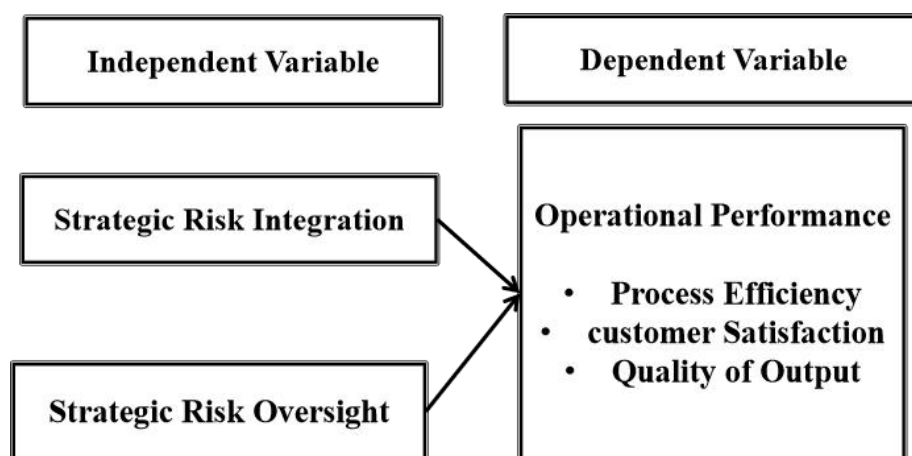


Figure 1. Conceptual framework. *Source: Author's conceptualisation (2025).*

Grounded in Dynamic Capability Theory, strategic risk integration is expected to enhance operational performance because it operationalises the sensing and reconfiguring capabilities through which organisations align risk considerations with strategic planning, thereby enhancing operational efficiency, reducing disruptions, and improving

resource allocation (Teece et al., 1997). The empirical record consistently associates SRI with superior operational agility, lean effectiveness, equipment uptime, and cost control (Ndlovu & Khumalo, 2023; Zungu & Maredi, 2024; Baloyi & Pretorius, 2023; Ncube & Lephalo, 2023). Prospect Theory and the governance literature likewise imply that board-level

oversight structures counteract managerial cognitive biases and buffer organisations against catastrophic operational disruptions (Kahneman & Tversky, 1979; Dupire et al., 2022; Ittner & Keusch, 2015), while Nigerian evidence confirms the performance significance of board oversight functions in the very institutional environment sampled here (Oyerogba et al., 2017). Accordingly, the following null hypotheses were formulated and tested:

Ho1: Strategic risk integration has no significant effect on the operational performance of multinational companies in Nigeria.

Ho2: Strategic risk oversight has no significant influence on the operational performance of multinational companies in Nigeria.

Methodology

This study adopted a field survey research design to examine the relationship between ERM adoption and operational performance in multinational companies in South-West Nigeria. This design is particularly suitable because it allows data to be collected in real time from representative samples of MNCs in the study region, thereby ensuring ecological validity and contemporary relevance. The field survey approach was chosen for three compelling reasons. First, it facilitates the collection of primary data directly from knowledgeable respondents who possess first-hand experience with ERM implementation and operational performance metrics within their respective organisations. Second, the design enables the examination of complex relationships among multiple variables simultaneously, which is essential for investigating the multidimensional nature of ERM

adoption and its synergistic effects on operational performance. Third, the cross-sectional nature of the field survey allows for the capture of data at a specific point in time, providing a snapshot of current ERM practices and their performance outcomes across different sectors and organisational contexts. The survey instrument was structured to capture both quantitative and qualitative dimensions of ERM adoption, employing validated measurement scales adapted from prior empirical studies while contextualising items to fit the unique characteristics of MNCs operating in Nigeria's institutional environment.

The target population comprises all multinational companies registered with the Nigerian Corporate Affairs Commission (CAC) and operating in South-West Nigeria, particularly Lagos, Ogun, Ekiti, Ondo, Osun, and Oyo States, since a large percentage of multinational companies in Nigeria have their headquarters in Lagos State. Since it was impossible to utilise all multinational companies, the top ten multinational companies with headquarters in Lagos and Ogun States were selected based on their market capitalisation as of April 2025, as presented in Table 1. Within the selected multinational companies, the study obtained data from key categories of personnel who possess adequate knowledge of organisational operations and strategic decisions, including senior management staff, middle-level management staff, administrative officers, and operational staff, as well as personnel working in relevant departments such as finance, human resources, operations, information technology, and corporate strategy. These categories of respondents were considered appropriate because of their direct involvement in organisational processes and their ability to provide reliable information relevant to the objectives of the study.

Table 1. Top 10 multinational companies in South-West Nigeria by market capitalisation.

S/N	Company Name	Market Capitalisation (NGN)	Employee Population in South-West
1	Airtel Africa	12.93 trillion	8,264
2	BUA Foods	7.524 trillion	2,250
3	MTN Nigeria	5.357 trillion	5,736
4	Guaranty Trust Holding Company	2.23 trillion	5,803
5	Zenith Bank	1.96 trillion	7,704
6	Dangote Cement	7.24 trillion	10,824
7	BUA Cement	3.149 trillion	1,618
8	Nestle Nigeria	871.92 billion	2,300
9	Lafarge Africa	1.3 trillion	1,455
10	Unilever Nigeria	218.60 billion	5,332
	Total		51,286

Note. Source: Researcher's investigation (2025).

The sample size was calculated using Krejcie and Morgan's (1970) sample size determination for finite populations, which is particularly suitable when the population size is known and relatively large. For large populations, the simplified formula $n = \frac{\chi^2 P(1 - P)}{d^2}$ was applied with $\chi^2 = 3.841$ (95% confidence level, 1 df), $P = 0.5$ (maximum variability), and $d = 0.05$ (5% margin of error), yielding $n = \frac{(3.841)(0.5)(0.5)}{(0.0025)} = 384.1$, and therefore a minimum sample of 384. Following Israel's (2013) suggestion that the minimum sample size should be increased by 10% to 40% to allow for attrition, the study added 40% (144) of the initial sample size, making the actual sample size 528. The study employed a stratified random sampling technique to ensure comprehensive sectoral representation of multinational corporations in South-West Nigeria, implemented in three key phases:

stratification, proportional allocation, and random selection. Stratification involved categorising the target MNCs into three primary sectors based on their core business activities: financial services (banking), manufacturing (encompassing fast-moving consumer goods), and telecommunications. Proportional allocation distributed the sample across the ten firms according to their employee populations (Table 2), and random selection was applied to choose individual participants within each company using a random number generator applied to predefined lists provided by HR departments, ensuring equitable representation across executives, middle managers, and operational staff.

Table 2. Sample size allocation table.

S/N	Company Name	Employee Population in South-West	Sample Size
1	Airtel Africa	8,264	85
2	BUA Foods	2,250	23
3	MTN Nigeria	5,736	59
4	Guaranty Trust Holding Company	5,803	56
5	Zenith Bank	7,704	79
6	Dangote Cement	10,824	111
7	BUA Cement	1,618	17
8	Nestle Nigeria	2,300	24
9	Lafarge Africa	1,455	15
10	Unilever Nigeria	5,332	55
Total		51,286	528

Note. Source: Author's computation (2025).

The study utilised a well-structured questionnaire as the primary instrument, divided into three sections. Section A captured demographic and organisational characteristics; Section B measured ERM adoption across four dimensions, drawing from validated frameworks such as COSO (2017) and Hoyt and Liebenberg (2011); and Section C assessed operational performance, adapted from the works of Pagach and Warr (2011) as well as Kaplan and Norton (1992). All constructs were measured on 5-point Likert scales ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Content validity was established through expert evaluation: a panel of five ERM experts, comprising both academics and industry practitioners, independently assessed each item's alignment with the study's conceptual framework using a Content Validity Index (CVI), and items achieving a CVI score of ≥ 0.80 were retained, in line with established methodological standards (Polit & Beck, 2006). Construct validity was empirically tested using Exploratory Factor Analysis, with the Kaiser-Meyer-Olkin measure of sampling adequacy (≥ 0.70) and Bartlett's test of sphericity ($p < 0.05$) confirming the factorability of the items (Field, 2018). Reliability was evaluated using Cronbach's alpha, with all dimensions exceeding the 0.70 threshold recommended by Nunnally (1978), and any dimensions showing lower reliability were refined through item analysis before full-scale administration. A pilot survey involving 20 employees of multinational corporations operating in Kwara State was conducted prior to full-scale administration to identify ambiguities, redundancies, or complexities in the questionnaire items.

Consistent with the first objective, and adapting the functional modelling structure of Ittner and Keusch (2015), the effect of strategic risk integration on operational performance was specified in functional form as $OP = f(SRI)$ and transformed into a linear econometric model:

$$OP = \beta_0 + \beta_1 SRI + \varepsilon_i$$

where OP is Operational Performance, SRI is Strategic Risk Integration, β_0 is the intercept term, β_1 is the coefficient measuring the effect of SRI on OP, and ε_i is the stochastic error term capturing unobserved influences. Consistent with the second objective, the influence of strategic risk oversight was specified, adapting the governance modelling logic of Ittner and Keusch (2015), as $OP = f(SRO)$ with the estimable form:

$$OP = \beta_0 + \beta_2 SRO + \varepsilon_i$$

where SRO is Strategic Risk Oversight and β_2 measures its marginal effect on operational performance. These parsimonious specifications reflect the study's focus on the direct effects of each ERM dimension on organisational outcomes, while the underlying logic of deriving a dependent variable as a function of key organisational antecedents is consistent with the governance modelling tradition from which they are adapted.

The quantitative data were analysed using a systematic multi-stage approach comprising data cleaning, descriptive statistical summarisation, and hypothesis testing via Structural Equation Modelling. Data cleaning involved missing-data treatment, outlier detection using standardised z-scores and Mahalanobis distance, examination of univariate skewness and kurtosis, and collinearity

diagnostics (Tabachnick & Fidell, 2013; Field, 2018). Hypotheses were tested using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 3, chosen for its suitability in predictive modelling, its tolerance for non-normal data, and its flexibility in handling reflective constructs with modest sample sizes (Hair et al., 2019). The analysis proceeded in two sequential stages: assessment of the measurement (outer) model, covering indicator reliability (outer loadings ≥ 0.70), internal consistency reliability (Cronbach's alpha and Composite Reliability between 0.70 and 0.95), convergent validity (AVE ≥ 0.50 ; Fornell & Larcker, 1981), and discriminant validity via the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio (< 0.90 ; Henseler et al., 2015); followed by evaluation of the structural (inner) model. Path coefficient significance was assessed through bootstrapping with 5,000 resamples, with paths considered statistically significant at $p < 0.05$; the coefficient of determination (R^2) was interpreted using thresholds of 0.75 (substantial), 0.50 (moderate), and 0.25 (weak); effect sizes (f^2) were interpreted using Cohen's (1988) criteria of 0.02 (small), 0.15 (medium), and 0.35 (large). Ethical compliance was maintained throughout, with informed consent, voluntary participation, anonymity, and secure data management conforming to the standards of the Nigerian Data Protection Regulation (NDPR, 2019).

Results and Discussion

Response Rate and Demographic Profile of Respondents

Table 3 presents the distribution and response profile of the research instrument. A total of 529 questionnaires were administered to respondents drawn from listed multinational companies operating in South-West Nigeria, representing the full complement of the targeted sample. Of this number, 509 questionnaires were successfully returned, yielding a response rate of 96.2% and leaving only 20 copies (3.8%) unreturned. Following a rigorous data screening process aimed at detecting and eliminating incomplete, inconsistent, or otherwise invalid responses, 499 questionnaires were deemed suitable for inclusion in the final analytical dataset, representing 98.0% of the returned instruments, while a residual 10 questionnaires (2.0%) were excluded on grounds of inadequate completion or significant missing data. The response rate of 96.2% is exceptionally high by established standards in survey-based organisational research: Baruch and Holtom (2008), in their comprehensive review of response rates in academic studies, reported a mean organisational survey response rate of approximately 52.7%, with individual-level surveys averaging 35.7%. The response rate achieved in this study substantially exceeds these benchmarks, which enhances the credibility and representativeness of the dataset, and the 499 usable responses constitute a robust and statistically adequate sample for PLS-SEM analysis, particularly given Hair et al.'s (2014) recommendation that PLS-SEM can yield reliable estimates with as few as 100 observations provided the model meets the relevant quality criteria.

Table 3. Distribution of research questionnaire.

Response Rate	Frequency	Percentage (%)
Questionnaires Distributed	529	100.0
Questionnaires Returned	509	96.2
Questionnaires Unreturned	20	3.8
Total Distributed	529	100.0
Questionnaires Used for Analysis	499	98.0
Questionnaires Excluded	10	2.0
Total Returned	509	100.0

Note. Figures represent the frequency and proportional distribution of questionnaires across the stages of administration, return, and usability screening. Source: Field Survey (2026).

Table 4 presents the socio-demographic and professional profile of the 529 respondents, examined across five categorical variables. With respect to gender distribution, the sample comprises 289 male respondents (54.63%) and 240 female respondents (45.37%); the near-parity in representation indicates that the findings are unlikely to be materially influenced by gender-specific perceptions or reporting biases, a balance consistent with the gender composition observed in senior and mid-level professional cadres within the Nigerian financial and corporate sectors (Adeyemi & Fagbemi, 2010). Regarding age and work experience, the plurality of respondents falls within the 35–44 years bracket (37.05%) and the 6–15 years experience range (56.72%), representing a core cohort of mid-career professionals and operational managers. The inclusion of early-career professionals is a methodological strength rather than a limitation: while top executives possess high-level strategic visibility, they are frequently insulated from the day-to-day operational realities and may overestimate the maturity of ceremonial ERM frameworks, whereas mid-level managers and frontline operational staff are the actual nodes where risk oversight is experienced, communication channels are tested, and process efficiencies are realised. The functional area composition reflects robust representation from Risk Management (25.90%), Operations and Strategy (24.00%), Finance and Accounting (21.74%), and Compliance and Audit (16.63%), ensuring that the data captures a 360-degree perspective on ERM implementation across organisational silos.

Table 4. Demographic profile of respondents.

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	289	54.63
	Female	240	45.37
	Total	529	100
Age Group	25–34 years	152	28.73
	35–44 years	196	37.05
	45–54 years	122	23.06
	55 years and above	59	11.15
	Total	529	100
Educational Qualification	Bachelor's Degree	173	32.70
	Postgraduate Degree	230	44.99
	Professional Certification	85	16.07
	Others	33	6.24
	Total	529	100
Work Experience	1–5 years	104	19.66
	6–10 years	159	30.06
	11–15 years	141	26.66
	Above 15 years	125	23.62
	Total	529	100
Functional Area	Risk Management	137	25.90
	Finance / Accounting	115	21.74
	Operations / Strategy	127	24.00
	Compliance / Audit	88	16.63
	Other Departments	62	11.72
	Total	529	100.0

Note. n = 529. Percentages are rounded to two decimal places. Source: Field Survey Data (2026).

Descriptive Statistics

Table 5 presents the aggregate descriptive statistics for the three latent constructs engaged by this study. All constructs record minimum and maximum values of 1.00 and 5.00 respectively, confirming that the full span of the five-point Likert scale was utilised and that no systematic floor or ceiling effects are present in the data. Mean scores for all constructs range from 3.698 to 3.847, placing each above the theoretical midpoint of 3.0 and suggesting a generally positive organisational posture across both the focal ERM dimensions and the operational outcome indicators. Operational Performance records the highest mean (3.847, SD = 0.612), followed by Strategic Risk Integration (3.721, SD = 0.641) and Strategic Risk Oversight (3.698, SD = 0.659), indicating that respondents perceive their organisations' strategic and governance ERM architecture as comparatively well developed.

Table 5. Descriptive statistics of latent constructs.

Construct	Mean	SD	Min	Max
Operational Performance (PRE)	3.847	0.612	1.00	5.00
Strategic Risk Integration (SRI)	3.721	0.641	1.00	5.00
Strategic Risk Oversight (SRO)	3.698	0.659	1.00	5.00

Note. All items measured on a 5-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree). SD = Standard Deviation. n = 499. Source: Field Survey Data (2026).

Tables 6 and 7 report the item-level frequency distributions for the two focal ERM dimensions. The Strategic Risk Integration construct (Table 6) yields a construct aggregate mean of 4.25 (SD = 0.69), indicating a robust and deeply institutionalised consensus regarding strategic risk alignment across the sample. The item eliciting the highest mean response is SRI2, which asserts that strategic decisions consider potential risk exposures (Mean = 4.31; 91.2% agree or strongly agree), reflecting a highly mature integration of risk-conscious strategic decision-making at the executive tier. Items related to ERM's contribution to competitive advantage (SRI4, Mean = 4.21) and the embedding of risk in long-term planning processes (SRI3, Mean = 4.20) also register very strong endorsement, with over 85% of respondents selecting the Agree or Strongly Agree

categories. The overwhelming positive skew across all SRI items demonstrates that formal risk management policies are actively cascaded and operationalised throughout the hierarchy, confirming alignment between risk appetite and strategic execution.

Table 6. Frequency distribution – Strategic Risk Integration (SRI).

Code	Item Statement	SD n (%)	D n (%)	U n (%)	A n (%)	SA n (%)	Mean	SD
SRI1	Risk management is aligned with the organisation's strategic objectives.	2 (0.4)	10 (2.0)	40 (8.0)	250 (50.1)	197 (39.5)	4.26	0.68
SRI2	Strategic decisions consider potential risk exposures.	1 (0.2)	8 (1.6)	35 (7.0)	245 (49.1)	210 (42.1)	4.31	0.65
SRI3	Risk assessment informs long-term planning.	3 (0.6)	12 (2.4)	45 (9.0)	260 (52.1)	179 (35.9)	4.20	0.71
SRI4	ERM contributes to competitive advantage.	2 (0.4)	15 (3.0)	50 (10.0)	240 (48.1)	192 (38.5)	4.21	0.73
SRI5	Risk considerations are embedded in the strategic planning process.	1 (0.2)	9 (1.8)	38 (7.6)	255 (51.1)	196 (39.3)	4.27	0.67
Total	Construct Aggregate – Strategic Risk Integration	9 (0.4)	54 (2.2)	208 (8.3)	1,250 (50.1)	974 (39.0)	4.25	0.69

Note. SD = Strongly Disagree; D = Disagree; U = Undecided; A = Agree; SA = Strongly Agree. Percentages in parentheses. n = 499. Source: Field Survey (2026).

The Strategic Risk Oversight construct (Table 7) records a highly positive aggregate mean of 4.21 (SD = 0.72). A defining feature of this distribution is the pronounced concentration of Agree and Strongly Agree responses across all four items, ranging from 85.4% (SRO3) to 89.8% (SRO2). The item examining whether the board regularly reviews the risk management framework (SRO3, Mean = 4.18) and the presence and active role of a Chief Risk Officer (SRO4, Mean = 4.20) both received overwhelming affirmation. This finding provides strong governance-theoretic evidence: within the Nigerian multinational context, board-level risk oversight structures are not only nominally present to satisfy regulatory frameworks but are practically activated, highly visible, and functionally engaged by operational and middle management, confirming that oversight bodies exercise genuine structural legitimacy and provide an effective governance buffer against operational risks.

Table 7. Frequency distribution – Strategic Risk Oversight (SRO).

Code	Item Statement	SD n (%)	D n (%)	U n (%)	A n (%)	SA n (%)	Mean	SD
SRO1	A risk oversight body exists within the organisation.	2 (0.4)	12 (2.4)	45 (9.0)	260 (52.1)	180 (36.1)	4.21	0.72
SRO2	Senior management is actively involved in risk oversight.	1 (0.2)	10 (2.0)	40 (8.0)	255 (51.1)	193 (38.7)	4.26	0.68
SRO3	The board regularly reviews the risk management framework.	3 (0.6)	15 (3.0)	55 (11.0)	240 (48.1)	186 (37.3)	4.18	0.75
SRO4	A Chief Risk Officer or equivalent oversees ERM implementation.	2 (0.4)	14 (2.8)	48 (9.6)	250 (50.1)	185 (37.1)	4.20	0.73
Total	Construct Aggregate – Strategic Risk Oversight	8 (0.4)	51 (2.6)	188 (9.4)	1,005 (50.4)	744 (37.3)	4.21	0.72

Note. SD = Strongly Disagree; D = Disagree; U = Undecided; A = Agree; SA = Strongly Agree. Percentages in parentheses. n = 499. Source: Field Survey (2026).

Table 8 reports the item-level frequency distribution for the Process Efficiency dimension of the Operational Performance construct, which records an aggregate mean of 4.23 (SD = 0.71). The data reveals a consistent pattern of exceptional operational maturity and digital integration: items pertaining to the effective use of automation (PRE4, Mean = 4.20; 86.6% positive) and the systematic deployment of performance metrics (PRE7, Mean = 4.19; 85.6% positive) register high mean scores, demonstrating that the sampled multinational companies have successfully leveraged technological automation and data analytics to streamline workflows and eliminate bottlenecks. These findings indicate a high level of Industry 4.0 integration within the Nigerian operational contexts of these MNCs, confirming that global best practices in process optimisation and continuous performance monitoring have been effectively transferred and localised to drive superior operational efficiency (Alli & Ganiyu, 2021).

Table 8. Frequency distribution – Operational Performance / Process Efficiency (PRE).

Code	Item Statement	SD n (%)	D n (%)	U n (%)	A n (%)	SA n (%)	Mean	SD
PRE1	Business processes are optimised for speed and accuracy.	1 (0.2)	9 (1.8)	35 (7.0)	265 (53.1)	189 (37.9)	4.26	0.67
PRE2	There is minimal redundancy in operational workflows.	2 (0.4)	12 (2.4)	42 (8.4)	255 (51.1)	188 (37.7)	4.23	0.71
PRE3	Resources are allocated efficiently across operational units.	1 (0.2)	10 (2.0)	40 (8.0)	260 (52.1)	188 (37.7)	4.25	0.68
PRE4	Automation is effectively used to streamline processes.	3 (0.6)	14 (2.8)	50 (10.0)	245 (49.1)	187 (37.5)	4.20	0.75
PRE5	Standard Operating Procedures (SOPs) are clear and consistently followed.	2 (0.4)	11 (2.2)	38 (7.6)	260 (52.1)	188 (37.7)	4.24	0.70
PRE6	Continuous effort exists within the organisation to eliminate operational bottlenecks.	1 (0.2)	13 (2.6)	45 (9.0)	250 (50.1)	190 (38.1)	4.23	0.69
PRE7	Performance metrics are systematically used to monitor and improve operational efficiency.	2 (0.4)	15 (3.0)	55 (11.0)	240 (48.1)	187 (37.5)	4.19	0.74
Total	Construct Aggregate – Process Efficiency / Operational Performance	12 (0.3)	84 (2.4)	305 (8.7)	1,775 (50.9)	1,317 (37.7)	4.23	0.71

Note. SD = Strongly Disagree; D = Disagree; U = Undecided; A = Agree; SA = Strongly Agree. Percentages in parentheses. n = 499. Source: Field Survey (2026).

Diagnostic Tests

Prior to inferential statistical analysis, a series of diagnostic assessments were conducted to evaluate the statistical assumptions underlying the PLS-SEM framework, encompassing collinearity among predictor constructs and the stability of the bootstrap distributions. Multicollinearity among the exogenous predictors was assessed using the Variance Inflation Factor (VIF), the standard diagnostic metric in PLS-SEM inner model evaluation. Multicollinearity poses a significant inferential threat because it inflates the standard errors of path coefficient estimates, producing unstable and potentially misinterpreted coefficients (Kock & Lynn, 2012); Hair et al. (2019) recommend a conservative VIF threshold of 3.3 as the maximum tolerable level for PLS-SEM applications. As shown in Table 9, the VIF values are 1.000 for both SRI and SRO, each of which enters its individual structural model as the sole exogenous predictor of Operational Performance; values at this theoretical minimum are comfortably below the threshold and indicate the complete absence of multicollinearity among the predictor constructs.

Table 9. Collinearity statistics – Variance Inflation Factor (VIF).

Predictor Construct	VIF – Individual Model
Strategic Risk Integration (SRI)	1.000
Strategic Risk Oversight (SRO)	1.000

Note. VIF values below the recommended maximum of 3.3 (Hair et al., 2019) indicate negligible multicollinearity. In the individual bivariate models each focal ERM dimension is the sole exogenous predictor of Operational Performance, and a VIF of 1.000 therefore reflects the absence of any collinearity. Source: SmartPLS 3 output.

4.4 Measurement Model Assessment

The evaluation of the outer (measurement) model is a methodologically mandatory prerequisite in structural equation modelling (Anderson & Gerbing, 1988; Hair et al., 2019). Table 10 presents the outer loadings, outer weights, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's alpha for the three constructs engaged by this article. Indicator reliability was evaluated through the outer loadings of each observed variable on its assigned latent construct: Hair et al. (2014) stipulate that outer loadings should exceed 0.708 to ensure that the construct accounts for more than 50% of the variance in its corresponding indicators. The results demonstrate robust indicator reliability across all measurement items: outer loadings range from a minimum of 0.721 to a maximum of 0.856, with no indicator falling below the recommended threshold, and the Operational Performance construct exhibits the most uniformly high indicator loadings (0.839–0.856), a pattern consistent with the theoretically well-developed and empirically tested nature of this construct within the operations management and ERM literature.

Table 10. Measurement model – outer loadings, outer weights, AVE, Composite Reliability, and Cronbach's alpha.

Construct / Indicator	Description	Loading	Outer Weight	AVE	CR	α
Operational Performance (PRE)	7-item reflective construct			0.717	0.941	0.928
PRE1	Process optimisation	0.843	0.166			
PRE2	Workflow redundancy	0.856	0.172			
PRE3	Resource allocation	0.848	0.167			
PRE4	Automation	0.850	0.168			
PRE5	SOPs	0.853	0.170			
PRE6	Bottleneck elimination	0.840	0.173			
PRE7	Performance metrics	0.839	0.166			
Strategic Risk Integration (SRI)	5-item reflective construct			0.563	0.864	0.812
SRI1	Strategic alignment	0.761	0.275			
SRI2	Risk-informed decisions	0.729	0.257			
SRI3	Long-term planning	0.738	0.246			
SRI4	Competitive advantage	0.758	0.281			
SRI5	Strategic embedding	0.756	0.277			
Strategic Risk Oversight (SRO)	4-item reflective construct			0.611	0.862	0.792
SRO1	Oversight body	0.772	0.348			
SRO2	Senior management involvement	0.764	0.314			
SRO3	Board review	0.791	0.318			
SRO4	CRO oversight	0.794	0.302			

Note. PRE = Operational Performance; SRI = Strategic Risk Integration; SRO = Strategic Risk Oversight. All outer loadings exceed the minimum acceptable threshold of 0.708 (Hair et al., 2014). $AVE \geq 0.500$ confirms convergent validity (Fornell & Larcker, 1981). CR and Cronbach's α values ≥ 0.700 confirm composite and internal reliability (Nunnally, 1978). Bolded rows represent construct-level summary statistics. Source: SmartPLS 3 output files.

Internal consistency reliability was assessed using both Cronbach's alpha and Composite Reliability. While Cronbach's alpha assumes equal weighting of all indicators and is acknowledged to be a conservative lower-bound estimator of true reliability (Sijtsma, 2009), Composite Reliability is considered the preferred metric in PLS-SEM because it accounts for the differential outer loadings of the indicators (Hair et al., 2019). Both indices consistently exceed the minimum threshold of 0.70 recommended by Nunnally (1978): Cronbach's alpha ranges from 0.792 (SRO) to 0.928 (PRE), while Composite Reliability ranges from 0.861 to 0.941. All values fall below the upper ceiling of 0.95 beyond which construct redundancy and lack of item diversity would be suspected (Hair et al., 2019), confirming that the constructs are measured with excellent internal consistency. Convergent validity, evaluated using the Average Variance Extracted, is likewise satisfactory for all three constructs: Operational Performance exhibits the highest AVE of 0.717, followed by Strategic Risk Oversight (0.611) and Strategic Risk Integration (0.563), all comfortably above the 0.500 benchmark established by Fornell and Larcker (1981). It is therefore empirically established that each latent construct explains more variance in its assigned indicators than is attributable to measurement error.

Discriminant validity establishes the empirical distinctiveness of the latent constructs, confirming that each construct represents a unique, non-redundant theoretical domain (Henseler et al., 2015). Two complementary approaches were employed: the classical Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio of correlations. Table 11 presents the Fornell-Larcker matrix, in which the diagonal values, representing the square root of AVE for each construct, range from 0.750 (SRI) to 0.847 (PRE). In all cases these diagonal values substantially exceed the highest inter-construct correlation in their respective rows and columns; for instance, PRE exhibits a square root of AVE of 0.847, which exceeds its highest inter-construct correlation of 0.498 (with SRI) by a substantial margin of 0.349. These results confirm that each construct shares more variance with its own indicators than with any other construct in the model.

Table 11. Discriminant validity – Fornell-Larcker criterion (square root of AVE on the diagonal).

Construct	PRE	SRI	SRO
Operational Performance (PRE)	0.847		
Strategic Risk Integration (SRI)	0.498	0.750	
Strategic Risk Oversight (SRO)	0.453	0.397	0.782

Note. Diagonal entries (bold) represent the square root of AVE for each construct; off-diagonal entries are inter-construct Pearson correlations. Discriminant validity is supported when each diagonal value exceeds all corresponding row and column off-diagonal values (Fornell & Larcker, 1981). Source: SmartPLS 3 output.

Table 12 presents the HTMT matrix, a more sensitive and less lenient discriminant validity test than the Fornell-Larcker criterion (Henseler et al., 2015). Problematic discriminant validity is flagged when HTMT values exceed 0.850 (conservative criterion) or 0.900 (lenient criterion for conceptually similar constructs). The maximum HTMT value observed is 0.542, between Operational Performance and Strategic Risk Integration, which is substantially below both thresholds; the remaining HTMT ratios are 0.499 (PRE–SRO) and 0.441 (SRI–SRO), confirming robust empirical distinctiveness across all construct pairings. The notably low HTMT ratios between the two focal ERM dimensions validate the multidimensional conceptualisation of ERM adopted in this study and confirm that respondents cognitively differentiated between the distinct ERM domains. Having established satisfactory indicator reliability, internal consistency reliability, convergent validity, and discriminant validity, the research is fully justified in proceeding to structural model evaluation.

Table 12. Discriminant validity – Heterotrait-Monotrait (HTMT) ratio matrix.

Construct	PRE	SRI	SRO
Operational Performance (PRE)	–		
Strategic Risk Integration (SRI)	0.542	–	
Strategic Risk Oversight (SRO)	0.499	0.441	–

Note. Off-diagonal entries are HTMT ratios of correlations; discriminant validity is confirmed when all HTMT ratios are < 0.850 (Henseler et al., 2015; Gold et al., 2001). Source: SmartPLS 3 output.

Structural Model Assessment and Hypothesis Testing

The structural (inner) model was assessed using PLS-SEM bootstrapping with 5,000 resamples, as recommended by Hair et al. (2019). Statistical significance is evaluated at the conventional $p < 0.05$ level using two-tailed t-tests, with t-statistics exceeding 1.96 confirming significance. Table 13 presents the complete hypothesis test results for the two individual-model hypotheses. The path coefficient for Hypothesis 1 (H1: SRI → Operational Performance) is $\beta = 0.459$, with a bootstrap mean of $M = 0.462$, $STDEV = 0.034$, and a t-statistic of 13.478 (95% CI: [0.393, 0.526]). The t-statistic of 13.478 substantially exceeds the critical value of 1.96, and the confidence interval excludes zero, jointly confirming that the effect is positive, statistically significant, and practically meaningful. Strategic Risk Integration emerges as the most potent individual predictor of Operational Performance, explaining 21.1% of variance in the endogenous construct on its own ($R^2 = 0.211$).

Table 13. Hypothesis testing results – individual models (H1–H2) with bootstrap statistics.

Hypothesis / Path	β (O)	M	STDEV	t-Stat	95% CI [LL, UL]	p-Value	Decision
H1: SRI → Operational Performance	0.459	0.462	0.034	13.478	[0.393, 0.526]	< 0.001	Supported
H2: SRO → Operational Performance	0.421	0.424	0.039	10.884	[0.347, 0.498]	< 0.001	Supported

Note. β (O) = Original sample path coefficient; M = Bootstrap mean; STDEV = Bootstrap standard deviation; t-Stat = $|O/STDEV|$; 95% CI = Percentile bootstrap confidence interval. All p-values < 0.001. H_0 is rejected when $t > 1.96$ and the 95% CI excludes zero. Source: SmartPLS 3 bootstrapping output (H1_BOOTSTRAP.xlsx, H2_BOOTSTRAP.xlsx).

Hypothesis 2 (H2: SRO → Operational Performance) yields $\beta = 0.421$, $M = 0.424$, $STDEV = 0.039$, and $t = 10.884$ (95% CI: [0.347, 0.498]; $R^2 = 0.178$). The lower t-statistic relative to H1 reflects the higher standard deviation of the bootstrap distribution, which may be partially attributable to the greater variance in respondents' perceptions of top-level governance structures. Nevertheless, the effect remains strongly significant and the confidence interval is entirely positive, confirming H2.

Figures 2 and 3 display the SmartPLS path diagrams for each individual model, showing the standardised path coefficients, R^2 values, and indicator loadings.

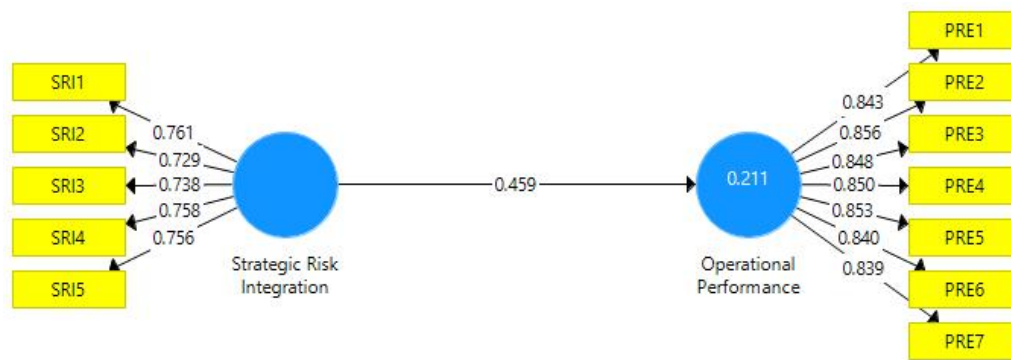


Figure 2. H1 path diagram: Strategic Risk Integration → Operational Performance ($\beta = 0.459$, $R^2 = 0.211$).

Source: SmartPLS 3 output (2026).



Figure 3. H2 path diagram: Strategic Risk Oversight → Operational Performance ($\beta = 0.421$, $R^2 = 0.178$).

Source: SmartPLS 3 output (2026).

Table 14 reports the percentile and bias-corrected (BC) bootstrap confidence intervals for the two structural paths. Bias-corrected intervals are considered more conservative and statistically defensible than standard percentile intervals because they correct for any asymmetry in the bootstrap distribution, thereby reducing the risk of Type I error in the presence of distributional skewness (Efron & Tibshirani, 1993; Preacher & Hayes, 2008). All bias values are negligible in magnitude (0.0032 for H1 and 0.0030 for H2), and the minimal discrepancy between the percentile and BC confidence intervals confirms the near-perfect symmetry of the bootstrap distributions across both paths. The BC intervals remain entirely positive and exclude zero, a necessary and sufficient condition for rejecting the null hypotheses and affirming the direction, magnitude, and significance of each structural relationship, and the remarkable consistency of point estimates and confidence intervals across 5,000 independently drawn bootstrap resamples confirms that the findings are robust to sampling variation.

Table 14. Bootstrap confidence intervals – percentile and bias-corrected (5,000 subsamples).

Hypothesis / Path	β (O)	Bias	Pctile 2.5%	Pctile 97.5%	BC 2.5%	BC 97.5%	R^2	Sig.
H1: SRI → OP (individual)	0.459	0.0032	0.393	0.526	0.385	0.519	0.211	***
H2: SRO → OP (individual)	0.421	0.0030	0.347	0.498	0.339	0.493	0.178	***

Note. β (O) = Original sample coefficient; Bias = Bootstrap mean minus original sample coefficient; Pctile = Percentile CI bounds; BC = Bias-corrected CI bounds. *** $p < 0.001$ (two-tailed). R^2 values reported for the individual-model hypotheses. Source: SmartPLS 3 bootstrapping output.

Table 15 presents the effect sizes (f^2) for the two structural paths, providing a scale-independent assessment of the practical significance of each relationship that supplements the statistical significance information provided by t-statistics and confidence intervals. Cohen (1988) established the widely adopted benchmarks of $f^2 \geq 0.02$ (small), $f^2 \geq 0.15$ (medium), and $f^2 \geq 0.35$ (large) for regression-based analyses, benchmarks that Hair et al. (2019) have explicitly extended to PLS-SEM applications. Strategic Risk Integration exerts a large effect on Operational Performance ($f^2 = 0.267$), and Strategic Risk Oversight likewise

exerts a large effect ($f^2 = 0.217$). Both ERM dimensions therefore exert practically significant, non-trivial contributions to operational performance in both statistical and practical terms.

Table 15. Effect size (f^2) for structural paths – individual models.

Path Relationship	f^2 (Individual Model)	Effect (Individual)
SRI → Operational Performance	0.267	Large
SRO → Operational Performance	0.217	Large

Note. $f^2 = (R^2_{\text{included}} - R^2_{\text{excluded}}) / (1 - R^2_{\text{included}})$. Effect size classifications: $f^2 \geq 0.02$ = small; $f^2 \geq 0.15$ = medium; $f^2 \geq 0.35$ = large (Cohen, 1988; Hair et al., 2019). Source: SmartPLS 3 effect size output.

Discussion of Findings

The first specific objective of this study was to investigate the effect of strategic risk integration on the operational performance of listed multinational companies in Nigeria. The null hypothesis (Ho1), which stated that strategic risk integration has no significant effect on operational performance, was tested and subsequently rejected. The individual bivariate model yielded a standardised path coefficient of $\beta = 0.459$, a t-statistic of 13.478, and a 95% bias-corrected confidence interval of [0.385, 0.519], all significant at $p < 0.001$ ($R^2 = 0.211$). This finding indicates that SRI is the most potent individual predictor of operational performance within the ERM architecture of the sampled firms. The result is theoretically consistent with Dynamic Capability Theory (Teece et al., 1997), which posits that firms capable of sensing, seizing, and reconfiguring internal competencies in response to environmental uncertainty will achieve superior performance outcomes: strategic risk integration operationalises precisely these sensing and reconfiguring capabilities, enabling organisations to align risk considerations with strategic planning in ways that enhance operational efficiency, reduce disruptions, and improve resource allocation.

The empirical literature robustly supports this finding. Ndlovu and Khumalo (2023) found that SRI had a significant positive effect on both financial and non-financial dimensions of organisational performance among South African executives, with adaptive capabilities partially mediating the relationship, a conclusion that mirrors the present finding that SRI is the dominant ERM driver of operational performance in the Nigerian MNC context. Zungu and Marede (2024) demonstrated that SRI directly enhances operational agility, defined as speed, flexibility, and adaptability, which in turn significantly correlates with improved service levels, shorter lead times, and reduced operational costs; given that several of the sampled MNCs in the present study operate in the FMCG sector, including BUA Foods, Nestle Nigeria, and Unilever Nigeria, this finding provides particularly strong contextual resonance. Baloyi and Pretorius (2023) likewise documented that firms with high levels of SRI exhibited significantly better operational performance in equipment uptime, service delivery consistency, and cost control. Kanu (2020) provides the most instructive nuance: studying Nigerian and African firms, he found that when ERM is integrated at the strategic planning stage there is a significant improvement in firm performance, whereas the mere

implementation of ERM without integration into strategic planning was not significantly related to performance, reinforcing that it is the depth of integration into strategic decision-making processes, not the existence of an ERM framework per se, that determines operational impact. From the perspective of the Eclectic Paradigm (Dunning, 1979), the finding reflects the importance of ownership-specific advantages: MNCs with mature SRI capabilities possess a proprietary risk intelligence capability that enables them to navigate Nigeria's volatile environment, characterised by infrastructural deficits, regulatory inconsistencies, and currency volatility, more effectively than firms without such capabilities.

The second specific objective was to determine the influence of strategic risk oversight on the operational performance of multinational companies in Nigeria. The null hypothesis (Ho2), which posited that strategic risk oversight has no significant influence on operational performance, was rejected. The individual model produced a path coefficient of $\beta = 0.421$, $t = 10.884$, and a 95% bias-corrected confidence interval of [0.339, 0.493], significant at $p < 0.001$, with an R^2 of 17.8%. This finding is theoretically grounded in Prospect Theory (Kahneman & Tversky, 1979), which highlights the role of loss aversion in organisational decision-making: effective risk oversight structures, including risk committees, Chief Risk Officers, and board-level review processes, serve as institutional mechanisms that counteract the cognitive biases of individual decision-makers, ensuring that risk exposures are evaluated systematically rather than reactively. By embedding oversight at the governance level, MNCs reduce the probability of catastrophic operational failures driven by unchecked managerial risk-taking or regulatory non-compliance. From a Dynamic Capability Theory perspective, risk oversight represents the governance-level analogue of the sensing capability, the institutional architecture through which emerging threats are detected and escalated for strategic response.

The empirical literature provides substantial corroboration. Dupire, Haddad, and Slagmulder (2022) found that European financial institutions with stronger board-level risk oversight prior to the sovereign debt crisis were significantly less vulnerable to its adverse effects, a finding directly analogous to the present result: effective oversight provides a governance buffer that enhances operational resilience and continuity, a dimension of operational performance that is particularly salient in the volatile Nigerian business environment. Ittner and Keusch (2015) demonstrated

that firms which formally assign risk oversight responsibilities to the board as a whole exhibit stronger oversight practices, producing a direct positive relationship with risk management process maturity and a significant indirect influence on future stock return volatility. Oyerogba et al. (2017), examining 186 companies listed on the Nigeria Stock Exchange over a five-year period, found that board oversight functions have a significant impact on the financial performance of listed companies in Nigeria, making this among the most contextually proximate validations of the present Ho2 rejection. The moderation insights of Kemboi (2019) and the temporal evidence of Ames et al. (2018) further contextualise the finding: the nominal presence of oversight structures does not automatically translate into performance improvements unless these structures are sufficiently empowered, staffed, and operationally visible, and many sampled MNCs may still be in the earlier phases of oversight institutionalisation, which is consistent with the moderate aggregate mean for the SRO construct (3.698) and explains why its individual R^2 (17.8%) trails that of SRI (21.1%) despite its robust path coefficient. The item-level evidence that board-level review (SRO3) attracted the highest undecided proportion within the construct likewise suggests an epistemic gap between governance intent and operational awareness that MNCs should actively close.

Conclusion and Recommendations

This study investigated the effects of strategic risk integration and strategic risk oversight on the operational performance of listed multinational companies in South-West Nigeria, using PLS-SEM on a usable sample of 499 senior and middle management respondents drawn from ten listed MNCs across banking, manufacturing, and telecommunications. The measurement model demonstrated excellent psychometric properties, with all outer loadings exceeding 0.708, AVE values above 0.500, Composite Reliability above 0.861, and discriminant validity confirmed through both the Fornell-Larcker criterion and HTMT ratios. Two clear conclusions follow from the structural results. First, strategic risk integration exerts a statistically significant, positive, and large effect on operational performance ($\beta = 0.459$, $t = 13.478$, $p < 0.001$, $R^2 = 0.211$, $f^2 = 0.267$), confirming that embedding risk considerations into strategic planning, decision-making, and objective-setting is the single most potent ERM driver of operational outcomes in this context; without the explicit alignment of risk appetite with corporate strategy, ERM remains a peripheral function. Second, strategic risk oversight exerts a statistically significant, positive, and large effect on operational performance ($\beta = 0.421$, $t = 10.884$, $p < 0.001$, $R^2 = 0.178$, $f^2 = 0.217$), confirming that board-level risk committees, active senior management involvement, and empowered Chief Risk Officers provide the governance legitimacy and structural buffer through which operational continuity is protected in volatile emerging markets, while the comparatively higher proportion of undecided responses on board-review items signals residual epistemic uncertainty between governance intent and operational awareness that

merits managerial attention. Based on the empirical findings and theoretical synthesis, the following evidence-based recommendations are directed at corporate boards, executive management, and risk practitioners of multinational companies in Nigeria.

First, boards and executive committees must institutionalise risk-informed strategic planning cycles: risk appetite statements should be formally linked to capital allocation and long-term scenario planning, and Chief Risk Officers must be granted permanent seats on strategic planning and investment committees to ensure risk considerations are integrated at the inception of strategy formulation, rather than retrofitted as an afterthought.

Second, to address the epistemic uncertainty surrounding risk oversight, MNCs must implement cascading risk communication protocols: board-level risk decisions and risk committee resolutions should be translated into departmental performance targets and communicated transparently across all operational tiers, and CROs should conduct quarterly, business-unit-level risk briefings to demystify governance structures and foster a sense of shared accountability.

Contributions, Limitations and Future Research

Theoretically, this study extends ERM literature beyond financial performance to operational resilience by conceptualising strategic risk integration and risk oversight as firm-specific capabilities within an integrated Resource-Based View and Dynamic Capabilities framework, thereby repositioning ERM from a compliance-oriented framework to a value-creating operational resource. Empirically, it offers scarce evidence from multinational companies in South-West Nigeria, an emerging market context that is under-researched, and its focus on operational rather than aggregate financial outcomes fills a significant gap, as operational measures are key drivers of competitiveness and long-term sustainability. Methodologically, the validated measurement scales provide a replicable foundation for further empirical investigations in similar institutional environments. The study is nonetheless subject to limitations that contextualise its findings: the reliance on cross-sectional survey data captures a snapshot of ERM maturity at a single point in time and cannot definitively prove longitudinal causality, or capture the temporal lag, often up to five years, required for governance structures to fully manifest in outcomes (Ames et al., 2018); the geographical and sectoral confinement to South-West Nigerian MNCs across banking, manufacturing, and telecommunications limits immediate generalisability to other geopolitical zones and institutional profiles; and the self-reported perceptual data reflect managerial perceptions rather than objective archival operational records, so the potential for social desirability bias or common method variance cannot be entirely eliminated. Future research should therefore employ longitudinal designs to track the temporal evolution of ERM maturity, replicate the model in other emerging markets to isolate which ERM dimensions are universally effective, and integrate mediating mechanisms such as organisational learning and adaptive capability, whose conditioning roles are implied by the

moderation evidence of Mokoena and Dlamini (2024) and Ndlovu and Khumalo (2023).

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