THE CHARTERED INSTITUTE OF LOAN & RISK MANAGEMENT OF NIGERIA

PAPER PRESENTATION

BY

PROF. MUSA ADEIZA FAROUK
Dean, College of Private Sector Accounting
ANAN University Kwall, Plateau State

ENTERPRISE RISK MANAGEMENT FOR ENVIRONMENTAL, SOCIAL AND GOVERNANCE RISKS

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16TH ANNUAL RISK PROFESSIONAL INTERNATIONAL CONFERENCE

NICON LUXURY HOTEL,
AREA 11, GARKI
ABUJA.

NOVEMBER 27, 2026.

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1. INTRODUCTION: THE EVOLUTION OF RISK MANAGEMENT

The 16th Annual Risk Professional International Conference arrives at a pivotal moment in the history of the Chartered Institute of Loan and Risk Management. The global economy is transitioning from a focus on short-term financial gains to a multi-stakeholder model of capitalism, where an organization's sustainability profile is as critical as its balance sheet [43]. This evolution is driven by the realization that "novel risks" those that are complex, systemic, and often non-linear—cannot be managed through traditional, reductionistic risk tools alone [38].

Enterprise Risk Management (ERM) has traditionally been the primary architecture for managing organizational uncertainties. Defined as a process, effected by an entity's board of directors and management, ERM is designed to identify potential events that may affect the entity and manage risk to be within its risk appetite [23], [55]. However, the rise of Environmental, Social, and Governance (ESG) factors has challenged the boundaries of ERM. ESG risks often manifest over long-term horizons, cross traditional departmental silos, and are deeply interconnected with global megatrends like climate change, social inequality, and digital transformation [13], [22], [54].

In Nigeria and across Africa, the call for integrated risk management is amplified by unique regional challenges. From the impact of climate-related physical risks on agriculture and infrastructure to the social complexities of labor rights and community engagement, the "E" and "S" are no longer peripheral [2], [7], [51]. Simultaneously, "G" (Governance) remains the bedrock of institutional trust, particularly in emerging markets where regulatory frameworks are still maturing [17], [27]. This lecture seeks to move the discussion from why ESG matters to how risk professionals can practically embed these factors into the very fabric of their organizations.

2. CONCEPTUAL FOUNDATIONS: ERM, ESG, AND THE VALUE NEXUS

The integration of ESG into ERM is grounded in several theoretical frameworks, most notably the Stakeholder Theory, Legitimacy Theory, and the Resource-Based View (RBV) [3], [16]. These theories suggest that firms are not isolated entities but are part of a broader social contract. By managing ESG risks effectively, organizations maintain their "license to operate" and build "green intellectual capital" that drives superior sustainability performance [3], [16].

2.1 The Concept of Sustainable Enterprise Risk Management (SERM)

Sustainable Enterprise Risk Management (SERM) is an emerging paradigm that adapts traditional ERM frameworks to the specificities of sustainability risks [7]. Unlike traditional ERM, which may treat sustainability as a separate "corporate social responsibility" (CSR) activity, SERM views sustainability as a

core risk-return driver. This paradigm shift involves integrating reductionistic risk management (the COSO approach) with holistic sustainability perspectives (the GRI or UN SDG approach) [4], [5].

2.2 ESG as a Value Moderator

Research consistently shows that ESG performance and disclosure act as moderators in the relationship between risk management and firm performance [6], [9]. For instance, in the manufacturing sector, while implementing a robust ERM system can sometimes reduce short-term accounting profitability (due to high implementation costs), strong ESG disclosure mitigates this effect and amplifies the positive impact on market valuation (Tobin's Q) [9], [11]. In ASEAN and other emerging economies, ESG initiatives serve as an alternative or complementary non-financial risk mechanism, helping firms meet investor expectations and reduce the cost of debt [12], [41], [53].

3. ESG RISK TAXONOMY AND CATEGORIZATION

A critical first step for the risk professional is the clear identification and categorization of ESG risks. These risks are not new categories in themselves but are rather "risk drivers" that influence existing categories like credit, market, operational, and strategic risks [13], [18].

3.1 Environmental Risks (E)

Environmental risks are often the most visible and include:

- Climate Change (Physical and Transition Risks): Physical risks involve direct damage from extreme weather events (e.g., severe weather disrupting operations) [13], [18]. Transition risks arise from the shift to a low-carbon economy, such as environmental bans on certain financing areas or regulatory changes that render existing assets obsolete [13], [18].
- Biodiversity and Ecosystem Destruction: Risks associated with land clearing, pollution, and the loss of natural capital [15].
- Waste and Energy Management: Inefficiencies in resource use that lead to higher costs and regulatory fines [15].

3.2 Social Risks (S)

Social risks focus on the human and community dimension of business:

- Labor Standards and Human Rights: Risks related to employee rights, occupational health and safety (OHS), and fair compensation [15], [37].
- Community Relations and Social Conflict: Disputes with local communities over resource access or environmental impact, which can lead to project delays and reputational damage [15], [25].
- Diversity, Equity, and Inclusion (DEI): Risks associated with a lack of diversity in the workforce or leadership, which can affect innovation and decision-making quality [31].

3.3 Governance Risks (G)

Governance risks are the systems of oversight and control:

- Board Effectiveness and Structure: Inadequate oversight of sustainability issues or a lack of independent board members [1], [2].
- Business Ethics and Compliance: Risks of fraud, corruption, and regulatory violations [15], [36].
- Transparency and Disclosure: Inconsistent or misleading reporting (greenwashing) that undermines investor trust [28], [47].
- Information Security and Cyber Risk: Protecting the integrity of digital systems and data [15], [18].

4. MATERIALITY, PRIORITIZATION, AND STRATEGIC LINKAGE

Not all ESG risks are equally relevant to every organization. The principle of Materiality specifically "double materiality" requires organizations to identify risks that affect their own financial value as well as their impact on the environment and society [30], [33].

4.1 The Materiality Assessment Process

The materiality assessment involves engaging with internal and external stakeholders to rank ESG topics based on their importance and impact. This process transforms a broad list of ESG factors into a manageable set of "material" issues that can be embedded into the risk register [15], [17]. For example, in the Nigerian banking sector, materiality often centers on climate-related credit risk, financial inclusion, and governance transparency [17], [52].

4.2 Linking Risk to Strategy

Once prioritized, material ESG risks must be linked to the organization's strategic objectives. Advanced ERM frameworks prioritize risks associated with ESG aspects to guide ethical decision-making and improve long-term financial performance [11]. By aligning risk information with capital allocation and strategy, organizations create a continuous decision loop that supports sustainable growth [1], [3].

5. GOVERNANCE, OVERSIGHT, AND THE THREE LINES MODEL

Effective ESG risk management requires a robust governance architecture. This is often framed within the Three Lines Model, which distributes responsibilities across the organization [5], [45].

5.1 The Board of Directors (The Governing Body)

The Board provides the direction and oversight for ESG risk management. This involves:

- ✓ Board Structure: Establishing specialized committees, such as Social and Ethics Committees or Climate Oversight Committees [2], [20].
- ✓ Risk Direction: Setting the risk appetite and ensuring that sustainability principles are integrated into organizational decision-making [1], [33].

- ✓ Incentives: Linking executive compensation to ESG performance, although evidence in some markets like Nigeria suggests this practice is still in its nascent stages [2].

5.2 The Three Lines of Defense

First Line (Business Operations): Risk owners who manage ESG risks in day-to-day activities, such as project managers implementing OHS standards [15], [45].

Second Line (Risk and Compliance): The Group Risk Office or specialized sustainability departments that aggregate risk data, develop taxonomies, and provide the frameworks for identification and assessment [1], [13], [45].

Third Line (Internal Audit): Providing independent assurance on the effectiveness of ESG risk management and the credibility of sustainability disclosures [1], [32], [36], [45].

6. OPERATIONAL INTEGRATION: STRATEGY, APPETITE, AND CONTROLS

Integration must move beyond the boardroom into the core operations of the firm. This involves embedding ESG factors into risk appetite statements, internal controls, and procurement processes.

6.1 Defining ESG Risk Appetite

Organizations must define the amount and type of ESG risk they are willing to accept in pursuit of their objectives. This might involve setting "exclusion lists" for certain industries (e.g., no new coal financing) or "thresholds" for carbon intensity in investment portfolios [17], [50].

6.2 Internal Controls and the Integrated Framework

Applying the COSO Internal Control - Integrated Framework to ESG risks ensures that there are effective policies and procedures in place to mitigate identified threats [23]. This includes:

- Control Activities: Developing ESG checklists and enhanced due diligence processes for high-risk clients or suppliers [17], [35].
- Information and Communication: Ensuring that high-quality ESG data flows from the business units to the risk office and ultimately to the board [1], [10].

7. SCENARIO ANALYSIS AND FORWARD-LOOKING RISK TOOLS

Traditional risk models often rely on historical data to predict future events. However, climate change and other ESG risks are forward-looking and characterized by high uncertainty. This necessitates the use of Scenario Analysis and Stress Testing [13], [18].

7.1 Climate Scenario Analysis

Scenario analysis allows organizations to test their resilience against various future pathways, such as a "2-degree Celsius" world or a "disorderly transition" [18]. While many institutions currently face constraints

in technical capacity and climate data, the use of forward-looking tools is essential for identifying potential disruptions in loan portfolios, collateral values, and insurance exposures [13], [18].

7.2 The Risk Canvas Model

The "ESG Risk Canvas" is a conceptual tool designed to structure the identification and analysis of ESG risks. It provides a visual framework for mapping how ESG drivers interact with business models and stakeholder expectations, facilitating a more holistic response than traditional risk registers [24], [34], [46].

8. METRICS, PERFORMANCE, AND DISCLOSURE STANDARDS

What gets measured gets managed. The integration of ESG into ERM relies on the development of robust metrics and key risk indicators (KRIs) [13], [15].

8.1 Global Standards: IFRS S1 and S2

The issuance of IFRS S1 (General Requirements for Disclosure of Sustainability-related Financial Information) and IFRS S2 (Climate-related Disclosures) in 2023 has set a new global baseline for sustainability reporting [8], [17], [18]. These standards require organizations to disclose their governance, strategy, risk management, and metrics and targets related to material sustainability risks.

8.2 Sector-Specific Frameworks

Other critical frameworks include:

- ✓ GRI (Global Reporting Initiative): Focused on the impact of the organization on the economy, environment, and people [4], [14].
- ✓ Equator Principles and UN PRB: Specifically for the banking sector to manage environmental and social risks in project finance [17], [21].
- ✓ ISO 31000/31010: Providing the general principles and techniques for risk management and assessment [15], [19], [33].

9. THE AFRICAN AND NIGERIAN LANDSCAPE

Implementing ESG-ERM integration in Africa involves navigating a unique set of drivers and barriers. Nigerian firms, in particular, are at a crossroads of regulatory reform and market pressure.

9.1 The Nigerian Context

- ✓ Listed Firms and Governance: Studies of 151 firms listed on the Nigerian Exchange (NGX) between 2010 and 2024 demonstrate that climate risk disclosure and board oversight have a statistically significant positive impact on firm performance (ROA) [2]. However, the integration of climate-related incentives into executive compensation is still in its early stages, showing a positive but statistically insignificant effect [2]. This suggests that while boards are acknowledging climate risk, the formal mechanisms for accountability are still maturing.

- ✓ Banking Sector and Sustainable Finance: Nigerian banks are conceptualizing sustainable finance through three distinct lenses: a compliance-centric approach (focused on meeting regulatory minimums), a risk-centric approach (protecting the loan book), and a strategy-embedded model (where ESG drives new business opportunities) [17]. Key operational practices include the use of ESG checklists, exclusion lists for sensitive sectors, and "conditional approvals" where disbursements are tied to remediation timelines for identified environmental or social risks [17].
- ✓ Legal Foundations and Disclosure: The legal foundation for ESG in Nigeria is evolving, with a growing call for integrated reporting to replace fragmented disclosures [27], [49]. Challenges remain regarding the consistency of reporting quality and the lack of robust external assurance for sustainability reports [18], [52].
- ✓ Transport and Infrastructure: The Nigerian Road transport sector provides a stark example of how institutional challenges can drive breakdowns in traditional risk management. Proposing a "Sustainable ERM" (SERM) paradigm is seen as essential for enhancing sector performance in the Global South by adapting Northern frameworks to local contingencies and systems dynamics [7].

9.2 Regional Challenges in Sub-Saharan Africa

- ❖ Data and Capacity Constraints: Many African markets, including Ghana and South Africa, face severe constraints in climate-related data, which hinders the effectiveness of scenario analysis and stress testing [18]. There is also a significant gap in technical capacity for auditing and providing assurance on ESG metrics [18], [32].
- ❖ Maturity of Risk Culture: Evidence from South Africa's provincial planning and treasury suggests that a lack of risk management awareness and training is a primary barrier. A high percentage of officials reported never being trained in risk management or seeing the organizational risk policy, leading to a culture of "paper compliance" [19].
- ❖ Agribusiness and Manufacturing: In sectors like agribusiness, challenges include managing social risks in supply chains and the impact of environmental degradation on long-term productivity [25]. For manufacturing, technical roadmaps are being developed to bridge manufacturing science with ERM, offering risk-informed pathways for regional adoption [40].
- ❖ Family-Owned Businesses: In the African context, family-owned businesses face specific ESG challenges related to succession planning, transparency, and the integration of social values into formal governance structures [44].

10. CASE ILLUSTRATION: PRACTICAL IMPLEMENTATION EXAMPLES

10.1 PT Nindya Karya (Construction/Infrastructure)

This case study demonstrates the practical application of the ISO 31000 framework for ESG risk management. The organization identifies risks based on thematic document analysis and maps them using likelihood and impact matrices [15].

- Environmental Focus: Prioritizing carbon emission reduction, waste management, and energy efficiency [15].

- Social Focus: Focusing on occupational health and safety (OHS), employee rights, and managing social conflicts with local communities [15].
- Governance Focus: Ensuring transparency, accountability, and the prevention of project fraud [15].

The transition from a "compliance tool" to a "value creation instrument" was supported by digitalizing evidence and developing real-time ESG risk dashboards [15].

10.2 Nigerian Publicly Quoted Banks (A Multi-Case Design)

A qualitative study of Nigerian banks highlights a "four-building-blocks playbook" for sustainable finance [17]:

- Governance and Incentives: Establishing board committees and linking sustainability to performance.
- Policy and Processes: Integrating ESG into credit policies and due diligence.
- Data and Tools: Using ESG checklists and enhanced monitoring tools.
- Disclosure and Assurance: Aligning with IFRS S1 and S2 standards.

This case shows that deeper ESG integration is often driven by the adoption of global frameworks like the Equator Principles and the UN Principles for Responsible Banking (UN PRB) [17].

10.3 Indian MSME Financing (Sustainable Credit Risk Governance)

In the context of MSME financing, a proposed four-layer model demonstrates the integration of ERM, ESG, and digital readiness [10]:

- Layer 1 (Risk Governance): Setting the overarching framework and roles.
- Layer 2 (ESG Assessment): Integrating sustainability factors into credit scoring.
- Layer 3 (Digital Analytics): Using alternative data and advanced analytics to reduce information asymmetry.
- Layer 4 (Stakeholder Engagement): Ensuring ongoing dialogue with borrowers and regulators.

This model shows how emerging markets can leverage technology to overcome data gaps in ESG risk assessment [10].

10.4 South African Mining Sector (Emerging and Junior Miners)

Research in South Africa’s emerging junior mining sector shows a clear link between enterprise-oriented ERM practices such as board oversight and the perceived sustainability of the organization [42]. Different ERM approaches, ranging from compliance-focused to strategically-aligned, significantly influence how stakeholders view the long-term viability of mining operations in a socially sensitive environment [42].

11. CRITICAL CHALLENGES AND BARRIERS

Despite the clear benefits, several barriers impede the effective integration of ESG into ERM:

- Siloed Organizations: Sustainability and risk management departments often operate independently, leading to inconsistent data and fragmented strategies [13], [22].
- Short-Termism: Investor pressure for quarterly results can conflict with the long-term nature of ESG risks [20].
- Lack of Uniform Taxonomies: The absence of standardized definitions for ESG risks across different jurisdictions makes it difficult for multinational firms to aggregate risk data [13], [18].
- Assurance Gaps: Differences in reporting quality and a lack of external assurance undermine the credibility of sustainability disclosures [18], [32].

12. IMPLEMENTATION ROADMAP FOR PRACTITIONERS

A successful implementation follows a structured, iterative process:

Phase 1: Governance Setup: Establish board-level oversight and define the roles of the three lines of defense [1], [13].

Phase 2: Identification and Materiality: Conduct a materiality assessment to identify relevant ESG risk drivers [15], [17].

Phase 3: Assessment and Integration: Map ESG risks to existing risk categories and integrate them into the risk register using tools like the ESG Risk Canvas [24], [34].

Phase 4: Operationalization: Develop ESG-specific internal controls, checklists, and KRIs [13], [17].

Phase 5: Monitoring and Reporting: Utilize forward-looking scenario analysis and align reporting with standards like IFRS S1 and S2 [13], [18].

Phase 6: Continuous Learning: Establish a continuous decision loop where risk information informs strategy and capital allocation [1], [3].

13. CONCLUSION

The future of risk professional excellence lies at the intersection of ERM and ESG. Integrating these domains is not just about avoiding fines or meeting regulatory requirements; it is about building resilient organizations that can thrive in a volatile and uncertain world [7], [39].

For the Nigerian risk professional, the challenge is to lead this integration by bridging the gap between global standards and local realities [26]. By leveraging robust governance frameworks, forward-looking assessment tools, and a culture of transparency, organizations can turn ESG risks into opportunities for value creation and sustainable development [10], [15], [48]. The roadmap is defined, the tools are available, and the time for action is now.

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