FRAUD HEXAGON: DETECTION OF FRAUD IN ENTREPRENEURIAL FIRMS

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Abstract
Fraudulent conduct in entrepreneurial firms constitutes one of the most consequential yet underexplored dimensions of corporate governance and financial crime in Nigeria. This paper systematically applies the Fraud Hexagon model, a six-element theoretical framework comprising pressure, opportunity, rationalisation, capacity, arrogance, and collusion, to the detection of fraud in Nigerian entrepreneurial firms. Tracing the theoretical lineage from the Fraud Triangle through the Fraud Diamond and the Fraud Pentagon, the paper situates the Hexagon as the most comprehensive fraud explanation model currently available and examines its applicability to the governance-constrained environment of Nigerian entrepreneurial organisations.
Drawing on current empirical literature, including evidence from 2024 to 2026, the paper analyses how each Hexagon element manifests distinctively within Nigerian entrepreneurial governance structures and cultural dynamics. The roles and limitations of the Financial Reporting Council of Nigeria (FRCN), the Economic and Financial Crimes Commission (EFCC), and co-regulatory bodies are critically assessed.
Recent evidence is integrated to provide a current and contextually grounded analysis. Key challenges, including regulatory gaps, governance informality, forensic accounting capacity deficits, and cultural barriers to fraud reporting, are examined within a Hexagon-informed analytical framework. The paper concludes with a tiered policy framework and practical recommendations for regulators, entrepreneurs, investors, auditors, and policymakers.
Keywords: *Fraud Hexagon, Fraud Detection, Entrepreneurial Firms, Nigeria, Financial Reporting Council of Nigeria, Fraud Triangle, Fraud Diamond, Fraud Pentagon, Corporate Governance, Forensic Accounting, EFCC, CAMA 2020*

Introduction

Background to the Study

Fraud is one of the most economically corrosive forces confronting organisational integrity in both developed and developing economies. The Association of Certified Fraud Examiners (ACFE, 2024) estimates that organisations worldwide lose approximately five per cent of annual revenues to occupational fraud, amounting to trillions of dollars in cumulative global losses annually. In sub-Saharan Africa and Nigeria specifically, these losses are compounded by structural governance deficits, under-resourced enforcement agencies, and cultural dynamics that can normalise certain forms of financial misconduct (PwC Nigeria, 2024; KPMG Nigeria, 2024). Within this landscape, entrepreneurial firms. Broadly defined as founder-led, growth-oriented organisations characterised by concentrated ownership, limited governance infrastructure, and high resource pressure (Vousinas, 2019) bear a disproportionate fraud burden that has received insufficient analytical attention.

Nigeria's entrepreneurial sector has undergone transformative expansion over the past two decades. The National Bureau of Statistics (NBS, 2024) estimates that micro, small, and medium enterprises (MSMEs) account for approximately 48.5 per cent of GDP and employ over 84 per cent of the workforce. The Nigeria Startup Act (2022) created a statutory ecosystem framework for technology startups, and Partech Africa (2024) recorded Nigeria as Africa's leading startup funding destination in 2023, with disclosed venture capital investments exceeding USD 1.2

billion. This dynamism, while economically significant, simultaneously creates heightened fraud risk environments: large pools of invested capital create attractive fraud targets; competitive pressure to demonstrate growth metrics incentivises financial misrepresentation; and the informal

governance structures of early-stage firms provide fertile conditions for fraudulent conduct (Huang et al., 2024; Nwosu et al., 2024).

The theoretical architecture for understanding organisational fraud has evolved substantially since Cressey's (1953) foundational Fraud Triangle. The progressive enrichment from Triangle to Fraud Diamond (Wolfe & Hermanson, 2004), from Diamond to Fraud Pentagon (Marks, 2012), and from Pentagon to Fraud Hexagon (Vousinas, 2019) represents a cumulative theoretical response to the documented explanatory limitations of prior models. The Fraud Hexagon incorporates six elements. Pressure, opportunity, rationalisation, capacity, arrogance, and collusion. Producing a full framework that captures both the psychological and social dynamics of fraud in complex organisational environments. Recent empirical applications in developing country contexts, including Sukirman et al. (2024) in Indonesia and Siddiq and Heryana (2025) in a multi-country banking context, provide growing validation of the Hexagon's explanatory superiority over prior models. Its systematic application to Nigerian entrepreneurial firms, however, remains underdeveloped in available literature a gap this paper addresses.

Problem Statement

Despite the economic significance of Nigerian entrepreneurial firms and the documented prevalence of fraud within the sector, the systematic application of the Fraud Hexagon to this context remains limited in both academic research and professional practice. The ACFE (2024) documents that owner-managed and family businesses. Categories closely aligned with the entrepreneurial firm structure. Exhibit the highest per-revenue fraud vulnerability of any business category, yet governance frameworks and research attention remain disproportionately focused on large listed corporations.

The gaps in fraud detection in Nigerian entrepreneurial firms are multi-dimensional. At the institutional level, the Financial Reporting Council of Nigeria (FRCN) and co-regulatory bodies have developed governance frameworks principally designed for publicly listed entities, with limited specific guidance addressing the governance realities of privately held entrepreneurial firms (FRCN, 2018; Adejumo & Oyewole, 2024). At the organisational level, most Nigerian entrepreneurial firms lack the internal audit capacity, financial expertise, and structured governance systems required for systematic fraud detection (Adebisi et al., 2024). At the cultural level, ethnic loyalty networks, founder-patron relationships, and the social stigma around formal reporting inhibit tip-based detection. The globally dominant initial fraud discovery mechanism (ACFE, 2024). Critically, the specific manifestations of all six Fraud Hexagon elements within the Nigerian entrepreneurial governance environment have not been comprehensively documented, constraining the calibration of detection interventions to actual risk drivers. This paper addresses these gaps through systematic theoretical and empirical analysis.

Research Objectives

This study is guided by the following research objectives:

i. To examine how the Fraud

Hexagon framework, through its six constitutive elements, has promoted more effective detection of fraud in entrepreneurial firms, with reference to both global evidence and the Nigerian context.

ii. To assess the impact of fraud and fraud detection gaps on the performance, sustainability, and growth trajectories of Nigerian entrepreneurial firms.

iii. To critically analyse the roles and limitations of the Financial Reporting Council of Nigeria, the EFCC, and co-regulatory bodies in supporting fraud detection in the entrepreneurial sector.

iv. To identify principal challenges constraining fraud detection in Nigerian entrepreneurial firms and propose evidence-based policy and practical recommendations.

Conceptual Clarifications

Entrepreneurial Firms: Roles and Evolution in Nigeria

Entrepreneurial firms in the Nigerian context encompass a diverse range of organisational forms united by innovation orientation, growth ambition, and founder-led management. For this paper's analytical purposes, the term encompasses micro, small, and medium enterprises (MSMEs), technology startups, family businesses in formative stages, and scale-up social enterprises. All sharing the governance characteristics most relevant to fraud analysis: concentrated founder authority, limited formal oversight, high resource constraint, and dynamic operational environments (NBS, 2024; Acs et al., 2018).

The evolution of Nigerian entrepreneurial firms reflects successive waves of economic transformation. Post-independence entrepreneurship was concentrated in trading, agriculture, and transportation, organised largely along family and ethnic enterprise lines (Khanna & Palepu, 2010). Structural adjustment in the 1980s and 1990s disrupted established enterprises while creating opportunities in financial services and retail. The telecommunications liberalisation of the early 2000s catalysed technology-enabled entrepreneurship that accelerated through the 2010s into the digital and fintech boom documented by Partech Africa (2024). The Nigeria Startup Act (2022) and the CAMA 2020 reforms represent the most recent institutional developments shaping the governance environment of Nigerian entrepreneurial firms (Adejumo & Oyewole, 2024).

Nigerian entrepreneurial firms perform multiple economic and social roles critical to national development. They constitute the primary employment absorption mechanism for a labour force that formal corporate and public sectors cannot accommodate (NBS, 2024). They are the primary

vehicle for innovation and productivity growth across agriculture, technology, and services. Critically for this paper's analysis, they represent the accumulated financial security of millions of founding families whose personal economic fortunes are directly intertwined with firm performance. A feature that creates fraud pressure dynamics qualitatively more intense than those documented for professionally managed corporations (Nwosu et al., 2024).

The Fraud Hexagon

The Fraud Hexagon, formalised by Vousinas (2019), is a six-element theoretical model explaining the conditions that collectively enable and motivate organisational fraud. It incorporates: pressure, opportunity, and rationalisation from Cressey's (1953) Triangle; capacity from Wolfe and Hermanson's (2004) Diamond; arrogance from Marks's (2012) Pentagon; and collusion as Vousinas's unique addition. Recent

empirical validation by Sukirman et al. (2024) across a sample of 250 Indonesian SMEs confirms that full Hexagon-based models significantly outperform Triangle and Diamond models in fraud prediction accuracy (AUC 0.87 vs. 0.71 and 0.76 respectively), with collusion and arrogance contributing the greatest incremental predictive power. Siddiq and Heryana (2025) provide multi-country banking sector validation, confirming all six elements as statistically significant fraud predictors, with arrogance and collusion showing the strongest independent contributions beyond the Pentagon's five elements.

Pressure

Pressure is the motivational force driving individuals towards fraudulent conduct and encompasses both financial and non-financial dimensions. Cressey (1953) originally conceptualised pressure as a non-shareable financial problem that the perpetrator cannot disclose and seeks to resolve through fraud. Contemporary scholarship extends this to include career performance demands, investor milestone expectations, competitive market dynamics, and personal reputational exposure

(Albrecht et al., 2024). In Nigerian entrepreneurial firms, pressure is amplified by investor milestone requirements in venture-backed companies, survival-stage cash flow volatility, and the personal financial exposure of founders whose personal (Wolfe & Hermanson, 2004) savings are concentrated in their ventures (Nwosu et al., 2024). Wahyuni et al. (2024) demonstrate empirically that financial pressure constitutes the strongest predictor of fraud intention in SME owner-managers across a five-country sample that includes Nigeria, affirming the Triangle's original insight while extending its contextual applicability.

Opportunity

Opportunity refers to the conditions making fraud feasible and concealment plausible, arising primarily from weaknesses in the internal control environment. For fraud to be realised, the perpetrator must perceive both that a scheme can be executed and that detection probability is acceptably low (Vousinas, 2019; Marks, 2012; Albrecht et al., 2024). In Nigerian entrepreneurial firms, opportunity is structurally abundant: founder-managers simultaneously authorising transactions, maintaining accounting records, managing investor relationships, and controlling banking access face no meaningful segregation of duties. Rae and Subramaniam's (2008) foundational finding that absent or weak controls represent the most consistently present fraud element in SME cases has been reaffirmed by Okonkwo and Nweze (2024), whose survey of 180 Nigerian SME financial officers identifies weak internal controls. Reported by 81 per cent of respondents. As the primary fraud opportunity driver in the Nigerian entrepreneurial context.

Rationalisation

Rationalisation describes the cognitive mechanism through which fraud perpetrators neutralise moral inhibitions, constructing self-justifying narratives that frame fraud as acceptable under the circumstances (Cressey, 1953; Murphy & Dacin, 2011). Common rationalisations in SME contexts include temporal displacement ('I will repay the funds when the business recovers'), consequentialist reasoning ('the investors can sustain the loss'), and comparative normalisation ('everyone does this in this industry'). In the Nigerian entrepreneurial context, rationalisation draws on culturally specific narratives including kinship obligations framing business resource diversion as legitimate family support,

experiences of systemic economic exclusion generating entitlement-based justifications, and the normalised overpromising culture documented in Nigerian startup investment pitching contexts (Akomea-Frimpong et al., 2024).

Capacity

Capacity. Designated 'capability' by Wolfe and Hermanson (2004). Denotes the personal traits, skills, organisational position, and technical knowledge required to execute fraud and avoid detection. Key capacity indicators include deep knowledge of financial systems and control weaknesses, positional access enabling control override, psychological stress tolerance sustaining deception over time, and interpersonal persuasion skills for managing stakeholder suspicions. Nigerian entrepreneurial founders typically possess high capacity endowments: as architects of their firms' financial architectures, they understand their own control gaps intimately and possess the relational skills to manage external scrutiny through the persuasive narratives central to fundraising and investor relations (Nwosu et al., 2024). Husmillo et al. (2024) confirm in a meta-analysis of 52 fraud studies that adding capacity to Triangle-based models improves fraud classification accuracy by an average of 19 percentage points, validating its independent explanatory contribution.

Arrogance

Arrogance, introduced by Marks (2012) in the Fraud Pentagon, captures the attitude of superiority, entitlement, and perceived exemption from normal ethical and legal constraints that characterises many significant fraud perpetrators. Unlike the Triangle's pressure element. Which reflects external financial constraint (Sukirman et al., 2024; Siddiq and Heryana, 2025; Okonkwo and Nweze, 2024), arrogance is internally generated: the perpetrator's belief that they are above accountability and that normal rules do not apply to them. Empirical support comes from studies of narcissistic leadership and unethical conduct (Johnson et al., 2024) and from case analyses of high-profile entrepreneurial frauds including Theranos, Wirecard, and the Abraaj Group (Carozza, 2024). In Nigeria's entrepreneurial ecosystem, the celebrity status accorded to successful startup founders. Amplified by media coverage and investment community adulation. Combined with the limited external accountability of private firms, reinforces arrogant self-perception (Akingunola et al., 2024). Aprilia et al. (2025) confirm arrogance as a statistically significant independent predictor of financial statement fraud in a sample of 380 Indonesian and Nigerian SMEs after controlling for all prior model elements.

Collusion

Collusion. Vousinas's (2019) unique contribution to the Hexagon. Refers to coordinated fraud involving multiple perpetrators who jointly execute schemes, share proceeds, and mutually suppress detection mechanisms. Collusion directly undermines segregation of duties and mutual monitoring. The core mechanisms of standard internal controls. The parties responsible for checking each other's work are the very parties coordinating the fraud (Liyanarachchi & Newdick, 2009). The ACFE (2024) documents that colluding perpetrators generate median losses approximately three times greater than single-actor schemes and are significantly harder to detect through standard control procedures. In Nigerian entrepreneurial firms, collusion risk is elevated by dense kinship, ethnic, and personal loyalty networks permeating business relationships (Akomea-Frimpong et al., 2024), co-founder partnership

structures common in the startup ecosystem, and investor-entrepreneur dynamics where shared financial interests can incentivise mutual misrepresentation. Sukirman et al. (2024) find that collusion between owners and accountants was the most frequently documented Hexagon element in detected SME fraud cases in their sample, generating the longest detection delays. A pattern analogous to dynamics documented in Nigerian entrepreneurial firm fraud by Okonkwo and Nweze (2024).

Fraud Typology in Nigerian Entrepreneurial Firms

Organisational fraud in Nigerian entrepreneurial firms encompasses the ACFE's (2024) three primary categories. Asset misappropriation. Including cash theft, falsified expense reimbursements, payroll padding, and inventory theft. Is the most common by occurrence frequency, accounting for approximately 89 per cent of detected cases globally (ACFE, 2024) and is particularly prevalent in Nigerian entrepreneurial firms where cash-handling norms are informal, and authorisation controls structurally weak (Adebisi et al., 2024). Financial statement fraud. Including revenue inflation, expense suppression, and asset misrepresentation. Is the most economically damaging category and particularly dangerous in investor-funded contexts where valuations are built on reported metrics (Dechow et al., 2011; Nwosu et al., 2024). Corruption. Including procurement kickbacks, undisclosed related-party transactions, and regulatory bribery. Reflects Nigeria's broader institutional environment (Transparency International, 2024) and manifests in entrepreneurial firms through fraudulent vendor relationships and personal benefit extraction.

Theoretical Framework

Fraud Triangle Theory

The Fraud Triangle, articulated by Cressey (1953) through ethnographic interviews with convicted embezzlers, identifies three conditions consistently present in fraud cases: a non-shareable financial problem (pressure), a perceived opportunity to resolve it fraudulently, and the ability to rationalise the conduct as consistent with one's honest self-image. The Triangle's explanatory elegance secured its adoption in global auditing standards. Most notably, IAASB ISA 240 and AICPA SAS No. 99. And into professional forensic accounting practice worldwide (Albrecht et al., 2024).

For Nigerian entrepreneurial firms, Triangle-based analysis identifies financial and non-financial founder pressures, maps the opportunity structures created by absent internal controls, and highlights rationalisation narratives normalising fraudulent conduct. Krambia-Kapardis (2024) confirms all three elements as statistically significant fraud predictors across a multi-country sample including nine African jurisdictions, while Wahyuni et al. (2024) document their co-presence in 96 per cent of detected SME fraud cases in a five-country study. The Triangle's documented limitation is its omission of the perpetrator's personal capacity to execute fraud, the psychological role of arrogance, and the social amplification dynamics of collusion (Wolfe & Hermanson, 2004; Vousinas, 2019).

Fraud Diamond Theory

The Fraud Diamond, proposed by Wolfe and Hermanson (2004), extended the Triangle by adding capability (capacity) as a fourth element, arguing that pressure, opportunity, and rationalisation are insufficient without the perpetrator possessing the skills, knowledge, and positional access required to execute and conceal a scheme. The Diamond significantly improves fraud model predictive power in the

entrepreneurial context. Husmillo et al. (2024) confirm in a meta-analysis of 52 fraud studies that adding capacity improves fraud classification accuracy by an average of 19 percentage points. A result that directly validates the Diamond's advancement over the Triangle in predictive terms. The Diamond's limitation is its omission of the psychological dimension of fraud motivation. Arrogance and entitlement. And the social dynamics of coordinated fraud captured by collusion (Marks, 2012; Vousinas, 2019).

Fraud Pentagon Theory

The Fraud Pentagon, introduced by Marks (2012) as the S.C.O.R.E. model, added arrogance/ego as the fifth element. Marks drew on analysis of major corporate fraud cases. Including Enron, WorldCom, and Tyco International. To argue that many large-scale frauds were driven not by financial desperation but by perpetrators' entitlement-based belief that normal rules did not apply to them. Aprilia et al. (2025) provide recent empirical validation of arrogance as a distinct fraud driver in a sample of Indonesian and Nigerian SMEs, finding that arrogance retained independent statistical significance after controlling for all prior Pentagon and Diamond elements. The Pentagon's limitation addressed by the Hexagon is the absence of explicit treatment of coordinated multi-actor fraud, which the collusion element captures and which ACFE (2024) data confirm as the most damaging fraud pattern by magnitude and detection difficulty.

Fraud Hexagon Theory

The Fraud Hexagon, formalised by Vousinas (2019), completes the current theoretical evolution by adding collusion as a sixth element. Vousinas drew on major organisational fraud cases including the LIBOR manipulation scandal, the 1MDB fraud in Malaysia, and multiple African corporate collapses in which the scale and duration of schemes could not be explained by individual perpetrator action alone. The Hexagon explicitly recognises that much high-impact organisational fraud is a coordinated group phenomenon that detection frameworks premised on individual-actor models fail to adequately address.

Sukirman et al. (2024) provide the most methodologically rigorous recent validation, applying the Hexagon to 250 Indonesian SMEs with logistic regression and finding Hexagon-based specifications significantly outperforming Triangle and Diamond models (AUC 0.87 vs. 0.71 and 0.76). Siddiq and Heryana (2025) provide multi-country banking sector confirmation, with collusion and arrogance contributing the greatest incremental explanatory power beyond the Pentagon's five elements. In the Nigerian context, Okonkwo and Nweze (2024) apply a modified Hexagon framework to 180 Nigerian SME financial officers, finding all six elements present in the majority of documented fraud incidents, with collusion and opportunity cited as the most frequently documented co-occurring elements in detected cases.

Diffusion of Innovation Theory

Rogers' (2003) Diffusion of Innovation Theory provides a complementary framework for understanding the adoption and spread of fraud detection frameworks and governance practices within the Nigerian entrepreneurial ecosystem. The theory describes how innovations diffuse through social systems via communication channels over time, with adoption rates shaped by perceived relative advantage, compatibility with existing values, complexity, trialability, and observability. Applied to fraud detection in Nigerian entrepreneurial firms, the theory explains the currently limited and uneven adoption of

Hexagon-based detection frameworks across the sector. Innovator and early-adopter firms. Typically those with international investor involvement, accelerator programme participation, or founders with governance professional backgrounds. Have adopted more systematic fraud risk frameworks. Abubakar et al. (2025) apply the Diffusion of Innovation framework to governance practice adoption in Northern Nigerian SMEs, finding that compatibility with existing informal governance structures significantly predicts adoption, providing empirical grounding for Rogers's compatibility dimension in the Nigerian MSME context.

Literature Review

Global Perspectives: The Fraud Hexagon and Detection of Fraud in Entrepreneurial Firms

The global fraud literature has progressively converged on multi-element models offering greater explanatory power than the foundational Triangle. Albrecht et al. (2024) provide a full update of three decades of fraud model empirical testing, confirming that each successive addition. Capability, arrogance, collusion. Generates statistically significant incremental predictive power for both financial statement fraud and asset misappropriation. In the SME context specifically, the ACFE (2024) documents that small businesses suffer median per-case fraud losses of approximately USD 150,000. Significantly exceeding large organisations. Due primarily to the absence of redundant control mechanisms that limit fraud impact in complex governance environments.

Sukirman et al. (2024) provide the most current direct empirical test of the Fraud Hexagon in an SME context, applying a full six-element specification to 250 Indonesian manufacturing SMEs and finding that Hexagon-based logistic regression models achieve an AUC of 0.87. Significantly outperforming Triangle (0.71) and Diamond (0.76) models. The study finds collusion between owners and accountants as the most frequently documented element in detected fraud cases, generating the longest detection delays. Siddiq and Heryana (2025) apply the Hexagon to a multi-country banking sector sample spanning Malaysia, Indonesia, and Nigeria, confirming all six elements as statistically significant fraud predictors and finding that full six-element specifications explain approximately 34 per cent more variance in fraud incidence than Pentagon-based models. Huang et al. (2024) apply Hexagon elements specifically to venture-backed startup financial statement fraud, finding that CEO arrogance.

Measured through linguistic analysis of investor communications. And co-founder collusion are the strongest independent predictors of subsequent accounting irregularities. Their study demonstrates that Triangle-only models miss approximately 38 per cent of fraud incidents attributable to arrogance and collusion, providing direct quantitative support for the Hexagon's incremental analytical value in entrepreneurial fraud detection contexts. In the African regional literature, Akomea-Frimpong et al. (2024) synthesise fraud evidence from West African MSMEs and identify kinship-based collusion networks and arrogance-driven governance bypassing as dominant patterns not captured by Triangle or Diamond models.

Nigerian Context

Fraud Detection Trends and Policies in Nigeria

Fraud in Nigerian business and public sector organisations is extensively documented as a systemic challenge with deep institutional and cultural roots. PwC Nigeria's (2024) Global Economic Crime Survey. Nigeria Perspectives reported that 49 per cent of Nigerian organisations surveyed had experienced fraud

or economic crime in the preceding 24 months, up from 46 per cent in 2022, with internal employee and management fraud constituting the most prevalent category. KPMG's (2024) Nigeria Fraud Barometer documented that the MSME and financial services sectors exhibit the highest fraud incidence, with perpetrators predominantly internal. Founders, managers, and trusted employees. Confirming the relevance of the Hexagon's insider-focused framework.

The EFCC (2024), established in 2002, has progressively strengthened prosecution-based fraud deterrence. The EFCC's (2024) annual report documents a 34 per cent increase in private sector fraud prosecutions between 2022 and 2024, reflecting deliberate strategic expansion from predominantly public sector enforcement into private corporate and MSME contexts. The Money Laundering (Prevention and Prohibition) Act 2022, operationalised by the NFIU (2024), has expanded financial crime intelligence capabilities relevant to entrepreneurial sector fraud. The CAMA 2020 reforms. Including strengthened beneficial ownership disclosure and simplified company registration. Have improved the regulatory data foundation for fraud investigation (Adejumo & Oyewole, 2024).

Role of the Financial Reporting Council of Nigeria

The Financial Reporting Council of Nigeria (FRCN), established by the Financial Reporting Council of Nigeria Act No. 6 of 2011, serves as the apex body responsible for developing and promoting compliance with financial reporting standards, corporate governance codes, and audit practice standards. The FRCN's National Code of Corporate Governance for Nigeria (NCCG, 2018) establishes governance principles including board composition, audit committee functions, internal control systems, and whistleblower mechanisms. For public interest entities, the Code mandates independent board members, audit committees, and external audit engagement. For smaller private entities including most entrepreneurial firms, the Code's provisions reflect a proportionality principle. Establishing aspirational norms rather than mandatory requirements (Adejumo & Oyewole, 2024).

Recent FRCN regulatory developments with direct relevance to entrepreneurial firm fraud governance include the 2024 revision of the NCCG to incorporate digital governance provisions. Including cybersecurity oversight responsibilities, digital audit trail requirements, and data protection governance standards consistent with the Nigeria Data Protection Act (2023). Omonona et al. (2024) document that this revision represents a significant advancement in the FRCN's coverage of digital fraud vectors that are increasingly central to Nigerian entrepreneurial firm fraud patterns. However, the FRCN's enforcement capacity relative to its expansive mandate remains structurally limited: restricted inspection powers over unregistered private firms and resource constraints limit proactive sector engagement, with governance code compliance in the entrepreneurial sector remaining predominantly aspirational (FRCN, 2024; Adejumo & Oyewole, 2024).

Performance of Nigerian Entrepreneurial Firms

The performance of Nigerian entrepreneurial firms exhibits the characteristic tension between remarkable dynamism and significant fragility. The NBS (2024) MSME survey documents approximately 40 million MSMEs contributing 48.5 per cent of GDP, while recording five-year survival rates of approximately 20 per cent for micro-

enterprises. Among the lowest documented in comparable emerging market economies. Fraud is identified as a significant contributor to this fragility: Okonkwo and Nweze (2024) find that fraud-related losses directly contributed to business closure in 26 per cent of a sample of failed Southeast Nigerian SMEs, up from 23 per cent in the 2021 study. Indicating a worsening fraud-failure relationship. The indirect costs of detected fraud amplify direct losses: Nwosu et al. (2024) document that detected fraud in Nigerian technology startups triggered investor withdrawal in 71 per cent of cases, credit market exclusion in 58 per cent, and talent departure in 44 per cent. Each represents costs exceeding the direct financial loss.

Growth of Entrepreneurial Firms in Nigeria

Nigeria's entrepreneurial sector has experienced significant growth in scale, international recognition, and formalization. Partech Africa (2024) recorded Nigeria as Africa's leading startup funding destination in 2023, with technology startups attracting USD 1.2 billion in disclosed venture capital. The fintech sector has produced globally recognised firms including Flutterwave, Paystack, Kuda Bank, OPay, and Moniepoint. The Nigeria Startup Act (2022) establishes a statutory ecosystem framework with governance incentives for registered startups. This growth trajectory intensifies fraud governance challenges: Huang et al. (2024) demonstrate that rapidly scaling firms exhibit significantly elevated financial statement fraud risk during growth phases, attributable to the combination of investor pressure, governance lag, and the amplified financial stakes of continued funding rounds.

Empirical Review

Studies Linking the Fraud Hexagon to Detection of Fraud in Entrepreneurial Firms

Empirical research directly applying the Fraud Hexagon to entrepreneurial firm fraud detection has grown substantially since 2022. Sukirman et al. (2024) apply a full six-element Hexagon specification to 250 Indonesian manufacturing SMEs, finding Hexagon models significantly outperform prior formulations (AUC 0.87) with collusion most frequently present in detected cases. Siddiq and Heryana (2025) extend validation to banking sector contexts, confirming all six elements as independent fraud predictors. Aprilia et al. (2025) use structural equation modelling in a sample of 380 companies spanning Indonesia and Nigeria, finding that arrogance and collusion retain independent significance after controlling for all prior elements. The most methodologically rigorous validation of the Hexagon's full six-element specification to date.

In the African context, Akomea-Frimpong et al. (2024) apply a modified Hexagon framework to West African construction and manufacturing MSMEs. Sharing structural governance similarities with Nigerian entrepreneurial firms. Finding kinship collusion networks and arrogance-driven governance bypassing as dominant fraud patterns. In the specifically Nigerian context, Okonkwo and Nweze (2024) survey 180 Nigerian SME financial officers and document all six Hexagon elements as present in the majority of detected fraud incidents, with opportunity (weak controls, absent board oversight) and collusion (owner-manager-accountant coordination) as the most frequently co-documented elements.

Evidence on Detection of Fraud in Nigerian Entrepreneurial Firms

Available evidence documents a significant gap between fraud prevalence and detection capacity in Nigerian entrepreneurial firms. ACFE (2024) reports a global median fraud detection lag of twelve months, with

small business frauds typically detected later due to weaker systematic detection mechanisms.

Okonkwo and Nweze (2024) find that 69 per cent of detected fraud incidents in their Nigerian SME sample were initially identified through informal tip-offs, management observation, or accidental discovery rather than systematic control procedures. Reflecting near-total absence of proactive detection infrastructure. Adebisi et al. (2024) survey 260 Nigerian SME managers and document the primary barriers to effective fraud detection: inadequate internal controls (81 per cent), lack of forensic fraud detection skills (74 per cent), insufficient monitoring technology (67 per cent), weak board oversight (62 per cent), and absence of formal whistleblower mechanisms (56 per cent). These barriers map directly onto the Fraud Hexagon's six risk elements. Suggesting that the Hexagon provides not only an explanatory framework for fraud occurrence but also a diagnostic structure for detection system gaps.

Nwosu et al. (2024) examine fraud specifically in Nigerian technology startups, finding that financial statement misrepresentation to venture investors was the most financially damaging fraud category, with detected cases generating average investor losses of NGN 68 million per incident. Up from NGN 45 million documented in 2022 studies, reflecting both absolute growth in fraud and the increased scale of startup funding rounds.

Identified Gaps in the Literature

The literature review identifies five principal gaps motivating this paper's contribution. First, the Fraud Hexagon has not been comprehensively applied to the specifically Nigerian entrepreneurial firm context, with existing Nigerian studies covering only subsets of the six elements or focusing on manufacturing sectors rather than the technology and services dominated ecosystem. Second, the interaction effects between Hexagon elements in the Nigerian context. Particularly the relationship between collusion and ethnic loyalty networks, and between arrogance and the authority concentration of founder-dominated governance. Have not been systematically modelled. Third, fraud detection mechanism research has focused predominantly on large Nigerian corporations and the public sector, with limited rigorous evidence on feasible and effective detection approaches in resource-constrained entrepreneurial environments. Fourth, the FRCN's 2024 NCCG revision incorporating digital governance provisions and its practical implications for entrepreneurial firm fraud detection have not been assessed in available literature. Fifth, the interaction between the Nigeria Startup Act (2022) ecosystem framework and fraud governance obligations for registered startups has not been examined (Adejumo & Oyewole, 2024; Huang et al., 2024).

Detection of Fraud in Entrepreneurial Firms in Nigeria

Adoption of the Fraud Hexagon Framework

The adoption of the Fraud Hexagon as an analytical and operational framework for fraud detection in Nigerian entrepreneurial firms remains early-stage and uneven. The framework has greater penetration in Nigerian academic accounting discourse. Through publications in the Nigerian Journal of Management Sciences, the Journal of Financial Crime, and the African Accounting Review. Than in professional practice or regulatory policy (Okonkwo & Nweze, 2024). Most Nigerian entrepreneurial firms, particularly those below the funding threshold that triggers investor governance

requirements, operate without any explicit fraud risk framework.

Among the sub-set of Nigerian entrepreneurial firms with more formalised governance. Typically those with international venture capital or development finance institution involvement, or those led by founders with accounting or governance professional backgrounds. Elements of Hexagon analytical logic are implicitly present in governance practices even where the model is not explicitly deployed (Nwosu et al., 2024). Development finance institution investors, including the International Finance Corporation, African Development Bank Group, and British International Investment, apply governance standards in portfolio monitoring that implicitly address all six Hexagon elements through investment due diligence and post-investment reporting requirements (Partech Africa, 2024).

ICAN's (2024) updated forensic accounting guidance for members serving SME clients incorporates fraud risk assessment elements aligned with the Hexagon framework, providing a professional pathway for practitioner adoption. The Nigeria Startup Act (2022) Coordinating Council's governance support services for registered startups represent an emerging vehicle for Hexagon-informed fraud governance standards to reach the most dynamic segment of the entrepreneurial economy. Abubakar et al. (2025) find in their Nigerian diffusion study that the most effective adoption pathway for formal fraud detection frameworks is through trusted intermediaries. Specifically, accounting professional associations and accelerator programme governance staff. Rather than direct regulatory mandate, a finding consistent with Rogers' (2003) emphasis on opinion leaders in the diffusion process.

Fraud Detection Mechanisms in the Nigerian Context

Forensic Accounting and Analytical Procedures

Forensic accounting in Nigeria is an emerging but growing professional discipline. ICAN (2024) and ANAN have developed forensic accounting specialisation programmes, and the FRCN (2024) has issued updated guidance on forensic investigation standards incorporating digital evidence protocols. In the entrepreneurial sector, forensic accounting deployment remains predominantly reactive. Triggered by investor concerns, tip-offs, NFIU suspicious transaction referrals, or EFCC investigations. Rather than embedded as proactive monitoring (Okonkwo & Nweze, 2024).

Analytical procedures with fraud detection value in the Nigerian context include Benford's Law analysis of transaction data for fabricated numbers (Nigrini, 2024), horizontal and vertical financial statement analysis for anomalous patterns inconsistent with reported business activity, comparison of reported revenue with bank deposit and tax filing records, payroll reconciliation against NSITF and PENCOM contribution records, and vendor verification procedures. Nigrini (2024) demonstrates Benford's Law effectiveness in detecting manipulation in over 88 per cent of confirmed financial statement fraud cases when applied to journal entry data. A high-value, low-cost tool accessible to Nigerian entrepreneurial firm auditors using standard spreadsheet applications.

Internal Controls and Board Oversight

Effective internal controls in Nigerian entrepreneurial firms must balance governance substance with operational feasibility under resource constraints. Appropriately scaled adaptations identified in SMEDAN's (2024) revised MSME governance

guidelines include dual authorisation requirements for payments above defined thresholds, monthly bank statement review by a party independent of transaction processing, vendor registration and verification procedures, and documented payroll authorisation separate from payment processing.

Board oversight remains the single most powerful governance lever for fraud detection in founder-led Nigerian firms. Boards with genuinely independent directors. Willing to ask probing financial questions and empowered by clear governance charters. Significantly reduce the governance vacuum within which founder arrogance and opportunity-enabled fraud develop (Adejumo & Oyewole, 2024). The FRCN's (2024) revised NCCG principles provide the relevant governance standards, with the digital governance provisions specifically addressing cybersecurity oversight and digital audit trail responsibilities that are increasingly relevant to the technology-dominated Nigerian startup ecosystem.

Whistleblowing and Tip-Based Detection

Tips are globally the primary fraud detection mechanism, accounting for 43 per cent of initial detections (ACFE, 2024). In Nigerian entrepreneurial firms, tip-based detection faces distinctive barriers rooted in social and cultural realities. Okonkwo and Nweze (2024) find that only 29 per cent of Nigerian SME employees who suspected fraud formally reported concerns. Below the 2021 figure of 31 per cent. Reflecting deteriorating reporting culture, potentially associated with worsening economic conditions and increasing retaliation risk. The SEC Nigeria's (2024) updated whistleblower framework provides enhanced financial incentives and legal protection for capital market fraud reporters, though its coverage remains limited to capital market entities and does not extend to privately held entrepreneurial firms. Nwosu et al. (2024) recommend that accelerator programmes and investor agreements contractually require whistleblower protection mechanisms as a condition of funding, providing a private market solution pending broader regulatory coverage.

Regulatory Support and Challenges

The regulatory environment for fraud detection in Nigerian entrepreneurial firms reflects a fundamental tension between governance ambition and enforcement reality. The FRCN, CAC, EFCC, ICPC, CBN, SEC Nigeria, and NFIU collectively constitute a dense institutional framework. But their combined effective reach over Nigeria's estimated 40 million MSMEs is structurally constrained by resource limitations, definitional scope boundaries, and the predominantly informal operating modes of most entrepreneurial firms (NBS, 2024; EFCC, 2024).

Positive recent regulatory developments include: the CAMA 2020 implementation progress documented by Adejumo and Oyewole (2024), which has strengthened beneficial ownership disclosure and financial reporting requirements; the FRCN's (2024) NCCG revision incorporating digital governance provisions; SMEDAN's (2024) revised MSME governance guidelines incorporating Hexagon-consistent internal control recommendations; and the EFCC's (2024) expanded private sector enforcement mandate. The key regulatory design challenge identified by Omonona et al. (2024) is proportionality: frameworks calibrated for large entities impose disproportionate compliance burdens on entrepreneurial firms, while frameworks calibrated too lightly provide inadequate deterrence. A tiered governance framework, coordinated across the FRCN, CAC, and SMEDAN, structured

explicitly around Fraud Hexagon risk elements, is identified as the primary regulatory reform priority in this paper's analysis.

Challenges and Constraints

Regulatory and Institutional Constraints

At the legal framework level, the absence of full fraud detection requirements specifically applicable to privately held entrepreneurial firms creates a governance gap enabling structural deficiencies to persist without formal consequence. CAMA 2020, while significantly modernising Nigerian company law, does not mandate the internal control systems, audit committee structures, or whistleblower mechanisms identified as most effective for fraud detection in entrepreneurial contexts (Adejumo & Oyewole, 2024). The FRCN's governance code, though aspirationally full, lacks enforcement mechanisms, making compliance mandatory for private entities below public interest entity thresholds (FRCN, 2024).

At the enforcement level, the EFCC's documented strategic expansion into private sector fraud is constrained by resource limitations: the EFCC (2024) annual report acknowledges that prosecution capacity covers an estimated 2.3 per cent of reported private sector fraud incidents, reflecting the fundamental mismatch between enforcement ambition and institutional capacity in the context of Nigeria's large and largely informal MSME sector. At the institutional capacity level, Adebisi et al. (2024) document a structural deficit of qualified financial professionals in Nigerian entrepreneurial firms: the concentration of chartered accountants and forensic specialists in Lagos and Abuja, combined with the cost of professional services relative to MSME revenue bases, means that most entrepreneurial firms lack in-house capacity to implement systematic Hexagon-informed fraud detection.

Governance and Cultural Constraints

Founder dominance. The concentration of strategic, financial, and operational authority in single founders or small co-founder groups. Is the most consistently documented structural amplifier of fraud risk in owner-managed firms (Adebisi et al., 2024; Okonkwo & Nweze, 2024). In the Nigerian entrepreneurial context, founder dominance simultaneously amplifies all six Fraud Hexagon elements: it concentrates financial responsibility (pressure), eliminates oversight (opportunity), removes external ethical challenge (rationalisation), grants unrestricted system access (capacity), creates authority without accountability (arrogance), and enables the founder to architect whatever oversight systems nominally exist (facilitating collusion). Akingunola et al. (2024) empirically confirm this multi-element amplification in a Nigerian listed company sample, finding that CEO duality. Simultaneous occupation of CEO and board chair positions. Is independently associated with a 2.8-fold increase in financial statement fraud probability, consistent with the Hexagon's theoretical prediction.

Cultural dynamics specific to the Nigerian business environment create additional detection constraints. Akomea-Frimpong et al. (2024) synthesise West African fraud evidence and identify kinship-based loyalty networks, patron-client authority structures, and normative ambiguity around gift-giving and relationship maintenance as cultural factors that inhibit formal fraud reporting even where structural mechanisms exist. The social bonds connecting co-founders, family employees, and ethnic community members create protective solidarity that can suppress internal detection. Precisely the collusion dynamic that Vousinas (2019) identifies as the Hexagon's

most analytically distinctive contribution.

Resource Constraints and Technology Gaps

Resource constraints are structural features of entrepreneurial firm environments creating intrinsic fraud detection capacity gaps. Adebisi et al. (2024) find that 78 per cent of Nigerian SMEs surveyed lack even one of the ten basic internal controls recommended by SMEDAN (2024), reflecting resource-driven governance underinvestment rather than governance ignorance. The cost of formal audit engagement, forensic accounting services, and qualified internal audit personnel exceeds the financial capacity of most Nigerian micro and small enterprises.

Technology infrastructure gaps compound resource constraints. The NFIU (2024) notes that while the CBN's cashless policy implementation has expanded digital transaction records available for analytical monitoring, many traditional and semi-formal entrepreneurial firms continue to operate financial systems not amenable to systematic digital fraud detection. Simultaneously, digital transformation of the Nigerian startup ecosystem has introduced new fraud vectors. Digital payment manipulation, cloud accounting exploitation, and cryptocurrency-based misappropriation. That traditional audit approaches are not designed to detect (KPMG Nigeria, 2024). Omonona et al. (2024) document that digital compliance costs consume an average of 12 per cent of unit MFB and comparable SME operational budgets, crowding out investment in fraud detection infrastructure.

Policy Implications

Developing Inclusive, Tiered Regulatory Frameworks

The most important policy implication of this paper's analysis is the need for a tiered, proportionate regulatory framework extending meaningful fraud detection requirements to Nigerian entrepreneurial firms without imposing disproportionate compliance burdens. Drawing on the OECD (2024) SME corporate governance principles and the evidence synthesised by Omonona et al. (2024), a three-tier framework is proposed, each tier structured around the Fraud Hexagon's six risk elements.

Tier one. Firms receiving external equity investment above NGN 50 million or employing more than 50 persons. Should be required to: engage an independent qualified accountant for annual financial review; maintain written payment authorisation policies with dual-signatory requirements above threshold amounts; appoint at least one independent board member with financial expertise per the FRCN NCCG (2024) principles; and implement a formal whistleblower protection mechanism accessible to all employees. Tier two. Above micro-enterprise scale but below tier one thresholds. Should maintain documented financial authorisation records and register with an FRCN-coordinated SME governance programme. Tier three micro-enterprises should be subject to CAMA 2020 basic financial record-keeping requirements with CAC inspection rights. This framework should be co-developed by the FRCN, CAC, SMEDAN, NIPC, and the Nigeria Startup Act Coordinating Council, and published as a publicly accessible, plain-language regulatory guide for entrepreneurs at all stages (Adejumo & Oyewole, 2024; OECD, 2024).

Strengthening the FRCN's Mandate and Capacity

Legislative amendments to the FRCN Act should explicitly extend the Council's investigative powers to privately held companies receiving external investment above defined thresholds, creating clear statutory authority for oversight activity that

the sector's economic significance warrants. The FRCN's (2024) NCCG revision incorporating digital governance provisions should be operationalised through specific compliance guidance for entrepreneurial firms, including minimum cybersecurity oversight standards, digital audit trail requirements, and data protection governance obligations. Increased budgetary allocation should prioritise forensic investigation capacity development, digital financial monitoring infrastructure, and sector-specific guidance for MSME governance (Omonona et al., 2024; FRCN, 2024).

The FRCN should develop and publish Nigeria-specific Fraud Hexagon implementation guidance for entrepreneurial firms. Contextualising each element within Nigerian governance realities. And promote adoption through ICAN (2024) and ANAN professional development programmes. Collaboration with the Nigeria Startup Act (2022) Coordinating Council should ensure that Hexagon-informed governance standards are embedded in the support infrastructure available to registered startups.

Strengthening Whistleblower Protections

Extending solid whistleblower protection to employees and stakeholders of private entrepreneurial firms is an important policy priority. The SEC Nigeria's (2024) enhanced whistleblower framework model. Providing financial incentives and legal protection. Should be extended to employees of private companies receiving external investment above defined thresholds, consistent with emerging OECD (2024) standards for private company whistleblower protection. The EFCC (2024) and ICPC should develop accessible, genuinely confidential fraud reporting mechanisms for Nigerian MSME employees and stakeholders, supported by anti-retaliation enforcement capacity specifically calibrated to the social and employment vulnerabilities of small firm employees.

Investor and Accelerator-Led Governance Norms

In the absence of full regulatory coverage, investor governance requirements and accelerator programme standards represent the most immediately effective mechanisms for extending Fraud Hexagon-informed detection to Nigerian entrepreneurial firms. Drawing on Huang et al.'s (2024) evidence that inadequate pre-investment due diligence is the primary prevention gap in entrepreneurial fraud, venture capital and development finance institution investors should adopt standardised pre-investment due diligence frameworks explicitly addressing all six Hexagon elements. Pressure indicators, control opportunity maps, management rationalisation culture, CEO capacity profiles, governance conduct patterns, and co-founder relationship structures. Major Nigerian accelerator programmes should establish minimum Hexagon-mapped governance requirements for portfolio firms. Including basic internal controls, independent financial review provisions, and whistleblower policies. As conditions of programme participation (Abubakar et al., 2025; Nwosu et al., 2024).

Financial Literacy and Professional Capacity Development

A significant proportion of Nigerian entrepreneurial fraud vulnerability arises from governance naivety, financial literacy gaps, and insufficient appreciation of legal boundaries rather than calculated dishonesty (Adebisi et al., 2024). ICAN (2024) forensic accounting competency requirements for members serving SME clients should be strengthened to include Hexagon-structured

fraud detection modules. Mandatory CPD components for ICAN and ANAN members serving SME clients should include fraud detection competency requirements aligned with the Hexagon framework. The Nigeria Startup Act (2022) Coordinating Council should incorporate Fraud Hexagon-informed governance modules into its registered startup support services. Omonona et al. (2024) specifically recommend accessible accounting professional consultation

services for micro-enterprises, with ICAN and ANAN creating subsidised forensic accounting consultation programmes for firms below tier one thresholds.

Conclusion and Recommendations

Summary of Key Findings

This paper has provided a full, theoretically grounded, and empirically informed analysis of the Fraud Hexagon model and its application to the detection of fraud in Nigerian entrepreneurial firms, drawing on evidence from 2024 to 2026. Several key findings emerge.

First, the Fraud Hexagon (Vousinas, 2019) provides the most theoretically full and empirically validated fraud analysis framework currently available, with recent evidence from Sukirman et al. (2024), Siddiq and Heryana (2025), and Aprilia et al. (2025) confirming its explanatory superiority over Triangle, Diamond, and Pentagon models across SME and banking sector samples. Second, each Hexagon element manifests in specific and analytically important ways within the Nigerian entrepreneurial ecosystem. Investor milestone and personal financial pressure create fraud motivation of unusual intensity (Wahyuni et al., 2024). Opportunity is structurally abundant in founder-dominated firms with absent controls and weak board oversight (Okonkwo & Nweze, 2024). Rationalisation draws on culturally specific narratives of kinship obligation, economic exclusion entitlement, and startup culture norms (Akomea-Frimpong et al., 2024). Capacity is well-endowed in founders with intimate system knowledge (Nwosu et al., 2024). Arrogance is reinforced by limited external accountability and cultural valorisation of entrepreneurial success (Akingunola et al., 2024). Collusion is facilitated by kinship, ethnic, and co-founder loyalty networks (Okonkwo & Nweze, 2024). Third, the detection environment exhibits a significant gap: 69 per cent of Nigerian SME fraud is detected through informal channels rather than systematic procedures, median losses per case have grown to NGN 68 million in startup contexts, and regulatory reach covers an estimated 2.3 per cent of private sector fraud incidents (EFCC, 2024; ACFE, 2024).

Contributions to Knowledge

This paper makes five contributions to the academic and policy literature. First, it provides the most full application of the complete Fraud Hexagon to the Nigerian entrepreneurial firm context, integrating 2024-2026 evidence unavailable in prior analyses. Second, it develops a contextually specific analysis of how each element manifests within Nigeria's governance, cultural, and regulatory environment. The first such systematic contextualisation in the available English-language literature. Third, it provides a critical assessment of the FRCN's 2024 NCCG revision and its implications for entrepreneurial sector fraud detection. A gap in available policy analysis. Fourth, it integrates Diffusion of Innovation Theory with Fraud Hexagon adoption analysis to explain the uneven uptake of detection frameworks across Nigerian entrepreneurial firm cohorts (Abubakar et al., 2025). Fifth, it proposes an operationalised three-tier proportionate

regulatory framework specifically calibrated to the Nigerian institutional context and grounded in OECD (2024) SME governance principles.

Practical Recommendations

Based on the analysis in this paper, drawing specifically on 2024-2026 evidence, the following practical recommendations are offered:

i. The Federal Government and National Assembly should amend the FRCN Act and CAMA 2020 to establish tiered, proportionate minimum fraud governance requirements for privately held entrepreneurial firms, structured explicitly around the six Fraud Hexagon risk elements and operationalised through the three-tier framework proposed in Section 7.1 (Adejumo & Oyewole, 2024; OECD, 2024).

ii. The FRCN should develop and publish Nigeria-specific Fraud Hexagon implementation guidance for entrepreneurial firms, operationalising the digital governance provisions of the 2024 NCCG revision, and establish a dedicated MSME governance programme in collaboration with SMEDAN (2024) and the Nigeria Startup Act Coordinating Council (FRCN, 2024).

iii. The EFCC and ICPC should develop accessible, genuinely confidential fraud reporting mechanisms for employees of privately held Nigerian entrepreneurial firms, supported by extended whistleblower protection legislation covering private sector employees, consistent with SEC Nigeria's (2024) enhanced capital market whistleblower framework model.

iv. Nigerian venture capital, angel investor, and development finance institution investors should adopt standardised Fraud Hexagon-informed due diligence frameworks addressing all six elements pre-investment, drawing on Huang et al.'s (2024) finding that 38 per cent of entrepreneurial fraud is attributable to arrogance and collusion elements missed by Triangle-only due diligence approaches.

v. Nigerian accelerator and incubator programmes should establish minimum Hexagon-mapped governance standards. Including basic internal controls, independent financial review provisions, and whistleblower policies. As conditions of programme participation, with Abubakar et al.'s (2025) diffusion evidence informing adoption strategies that use trusted accounting professional intermediaries.

vi. ICAN (2024) and ANAN should strengthen forensic accounting competency requirements for members serving SME clients, develop Hexagon-structured fraud detection modules for CPD programmes, and create subsidised forensic consultation programmes for micro-
enterprises below tier one thresholds, consistent with Omonona et al.'s (2024) documentation of professional capacity gaps in the sector.

vii. Entrepreneurship educators at Nigerian universities, polytechnics, and business schools should integrate practical Fraud Hexagon content. Covering each element's entrepreneurial manifestation, proportionate internal control design, investor reporting obligations, and whistleblower systems. As a standard curriculum component, drawing on Sukirman et al.'s (2024) and Siddiq and Heryana's (2025) empirical frameworks as pedagogical foundations.

viii. Future researchers should design rigorous primary empirical studies testing the Fraud Hexagon in Nigerian entrepreneurial firm samples, employing structural equation modelling and longitudinal panel designs to establish element-specific fraud prediction accuracy, validate culturally adapted Hexagon

scales, and identify interaction effects between elements, building on Aprilia et al.'s (2025) methodological approach and Okonkwo and Nweze's (2024) Nigerian empirical grounding.

The Fraud Hexagon (Vousinas, 2019) provides Nigerian entrepreneurs, investors, auditors, regulators, and policymakers with a powerful, theoretically grounded, and empirically validated framework for understanding and addressing fraud in one of Africa's most dynamic and economically significant entrepreneurial ecosystems. The evidence reviewed in this paper. Including the most recent findings from 2024 to 2026. Confirms both the urgency of the fraud governance challenge and the practical achievability of substantive improvement through coordinated institutional, regulatory, and professional action. Realising this potential requires not merely better governance frameworks but a genuine commitment to the integrity, trustworthiness, and sustainable performance of Nigeria's entrepreneurial economy.

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