



ADVANCED INTERNATIONAL JOURNAL
OF BUSINESS, ENTREPRENEURSHIP
AND SMES
(AIJBES)

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FINANCIAL STATEMENT FRAUD RISK: A MECHANISM-BASED SYSTEMATIC LITERATURE REVIEW

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Article Info:

Article history:

Received date: 15.07.2026

Revised date: 27.07.2026

Accepted date: 18.08.2026

Published date: 17.09.2027

To cite this document:

Ishak, H. S., Zakaria, N. B., & Mustaffa, A. H. (2026). Financial Statement Fraud Risk: A Mechanism-Based Systematic Literature Review. *Advanced International Journal of Business Entrepreneurship and SMEs*, 8 (29), 1230-1250.

Abstract:

Financial statement fraud remains a critical issue as it has a significant impact on the credibility of corporate financial reporting. Its existence has undermined users' confidence and reduced their reliance on reported financial information. Although prior studies have examined financial statement fraud risk from governance, audit, ownership, fraud-theory, and behavioural perspectives, existing evidence remains conceptually fragmented because most studies analyse isolated determinants rather than the mechanisms through which these determinants shape fraud risk. Thus, this systematic literature review aggregates 22 recent empirical studies to examine how these determinants influence financial statement fraud risk among firms. Through the analysis, five refined themes were developed: Governance-Based Monitoring, Audit Quality Mechanisms, Ownership and Institutional Monitoring, Fraud-Theory Predictors, and Executive Behavioural Traits. The evidence regarding fraud risk cannot be explained by referring to a single dominant factor. Instead, the evidence suggests that financial statement fraud risk should be understood as a multifaceted and context-sensitive issue, with overall findings depending on how different monitoring, assurance, ownership, financial reporting, and behavioural mechanisms interact across firm settings. This review contributes to the financial statement fraud discussion by reorganising fragmented empirical evidence into a mechanism-based structure that explains how monitoring, assurance, ownership, pressure, reporting discretion, and executive behaviour jointly shape fraud risk. The streamlined structure further highlights on the importance of

focusing on measurement choices, contextual differences, and mechanism-based explanations in future research.

DOI:10.35631/AJBES.829070

Keyword:

Audit Quality; Executive Behavioural Traits; Financial Statement Fraud Risk; Fraud Theory; Governance Monitoring; Ownership Monitoring; Ownership Structure; Systematic Literature Review



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Introduction

Financial statement fraud remains a pressing issue as its occurrence affects the reliability of corporate reporting and reduces users' confidence in relying on reported financial information, especially for key decision making and analysis. Prior research has consistently shown that financial statement fraud is not merely an accounting irregularity, but a serious reporting failure that can damage market confidence, mislead users of financial statements, and weaken the credibility of corporate governance and audit systems (Dechow et al., 2011; Wang et al., 2024). The broader fraud literature has also examined fraud risk from multiple analytical perspectives, including governance failure, audit quality, managerial incentives, financial pressure, opportunity structures, behavioural judgement, and fraud-risk assessment (Harman & Bernawati, 2021; Kaituko et al, 2023; Yousefi Nejad et al, 2024). The wide range of approaches provides a clear indication that the topic is not only critical, but also difficult to synthesise. When fraud-risk determinants are examined separately, the literature risks producing a fragmented understanding of financial statement fraud. This fragmentation limits theory development because it remains unclear whether mixed findings arise from weak determinants, different fraud-risk measurements, contextual differences, or different underlying mechanisms. A synthesis is therefore necessary to identify the main patterns and provide a clearer explanation of how financial statement fraud risk emerges across different firm settings.

The need for this review is reinforced by the continuing practical significance of fraud at the global level. The Association of Certified Fraud Examiners reported that its 2024 global study analysed 1,921 actual fraud cases from 138 countries and territories, with total losses of approximately US\$3.1 billion and an estimated annual organisational revenue loss of 5% due to fraud (ACFE, 2024). Regulatory evidence also shows that misstatements, disclosure failures,

internal control weaknesses, and gatekeeper failures remain active enforcement concerns. In fiscal year 2024, the United States Securities and Exchange Commission filed 583 enforcement actions and obtained US\$8.2 billion in financial remedies, while continuing to highlight material misstatements, deficient internal controls, and public company reporting failures as areas of concern (SEC, 2024). Similarly, PwC's Global Economic Crime Survey emphasised that fraud remains a persistent challenge for companies globally, with increasing expectations for corporate compliance, fraud-risk assessment, board oversight, and data-driven monitoring (PwC, 2024). These developments indicate that financial statement fraud is not only a theoretical accounting issue, but also a continuing governance, assurance, regulatory, and investor-protection problem. Therefore, a systematic synthesis of fraud-risk determinants is needed to clarify which mechanisms explain fraud risk and how these mechanisms operate across different firm and institutional settings.

Beyond its implications for corporate reporting, understanding the mechanisms that influence financial statement fraud risk is also relevant to **SDG 16 (Peace, Justice and Strong Institutions)** and **SDG 8 (Decent Work and Economic Growth)**, as stronger governance, effective monitoring, and transparent financial reporting support institutional accountability, investor confidence, and sustainable economic development (United Nations, 2015). Previous studies have similarly emphasised that high-quality financial reporting enhances decision usefulness, improve transparency, and strengthens stakeholder confidence in financial information (Karunananda et al., 2025b).

A recurring pattern in this literature is that fraud-risk determinants do not function effectively in isolation. Governance variables such as board independence, audit committee expertise, and internal audit effectiveness are often expected to reduce fraud because they represent monitoring capacity. However, formal governance structures may not always reduce fraud risk if they operate as symbolic compliance rather than substantive monitoring. Audit quality variables may also produce inconsistent findings because audit tenure, audit fees, auditor reputation, and audit firm size reflect different aspects of assurance rather than a single uniform audit-quality mechanism. Ownership structure is expected to strengthen monitoring, but it can also create influence, protection, or lower detection probability depending on the ownership context. Similarly, fraud-theory variables such as pressure, opportunity, rationalisation, capability, and arrogance are useful conceptually, but the use of different proxies to measure them often leads to mixed findings. This issue is consistent with broader fraud research, which shows that fraud-risk assessment depends heavily on how researchers define fraud, operationalise red flags, and interpret the relationship between risk indicators and fraudulent reporting outcomes (Harman & Bernawati, 2021; Wang et al, 2024; Yousefi Nejad et al. 2024).

Despite the growing number of empirical studies, limited review evidence has systematically reorganised these determinants into mechanism-based explanations. Existing studies often identify whether a determinant is significant, but provide less clarity on how governance, audit quality, ownership, fraud-theory conditions, and executive behaviour interact to shape fraud risk. This limitation is important because systematic reviews should not merely list prior findings; they should synthesise fragmented evidence, clarify conceptual patterns, and identify how knowledge in a field can be reorganised more coherently (Kraus et al., 2020; Popa et al, 2024). This review therefore develops a refined thematic structure that captures multiple dimensions of fraud risk. Rather than treating the themes as isolated categories, the review interprets them as interrelated mechanisms through which financial statement fraud risk can be better explained and understood.

Therefore, this review aims to synthesise recent empirical evidence on the determinants of financial statement fraud risk among firms and develop a mechanism-based thematic framework that explains how these determinants operate across different settings. The scope of the review is limited to recent firm-level empirical studies investigating on antecedents of financial statement fraud risk. Accordingly, studies focusing on other forms of fraud, such as occupational fraud, corruption, or asset misappropriation, as well as conceptual and non-empirical discussions, fall outside the scope of this review. The review argues that financial statement fraud risk should not be understood through isolated variables alone, but through the interaction of monitoring, assurance, ownership influence, fraud-theory predictors, reporting discretion, and executive behavioural traits. In doing so, this review provides a clearer basis for interpreting mixed empirical findings and guiding future research toward more mechanism-based explanations of financial statement fraud risk.

Methodology

Review Protocol and Research Question

This study adopts a systematic literature review approach, in which recent empirical studies related to the research questions were gathered and analysed. This approach is deemed appropriate because the topic has been studied across various theoretical perspectives, countries, sectors, fraud-risk proxies, and empirical models. A structured review process further contributes to making the selection and synthesis of studies more transparent while also supporting a clearer interpretation of findings that initially appeared fragmented. The review is guided by the following research question: What are the determinants of financial statement fraud risk among firms? This question focuses on three main elements: (1) firms as the unit of analysis; (2) determinants, risk factors, predictors, antecedents, or influencing factors as the area of interest; and (3) financial statement fraud risk, including related terms such as financial reporting fraud, accounting fraud, and financial fraud, as the phenomenon being reviewed.

Database Selection and Search Strategy

The literature search was conducted using the Scopus database. The Scopus search was conducted on 1st May 2026. The search date is reported to support transparency and replicability, as database coverage and article indexing may change over time. Scopus was selected as the primary database because it provides extensive and reliable coverage of peer-reviewed journals. This ensures the inclusion of high-quality and relevant studies for systematic literature review. It also allows searches by title, abstract, and keywords, which supports a more controlled and replicable search process.

The search strategy was developed using three keyword clusters: determinants or risk factors, financial statement fraud or related reporting fraud terms, and firm-level contexts. The search string used in Scopus was:

TITLE-ABS-KEY (("determinant*" OR "risk factor*" OR "influenc*" OR "predictor*" OR "antecedent*") AND ("financial statement fraud" OR "financial fraud" OR "accounting fraud" OR "financial reporting fraud") AND (firm* OR compan* OR "business organization" OR "corporate")) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE,

"English")) AND (LIMIT-TO (SRCTYPE, "j")) AND (LIMIT-TO (PUBSTAGE, "final")) AND PUBYEAR > 2021 AND PUBYEAR < 2026

The search was limited to English-language journal articles published at the final publication stage. Based on the search strings and condition selected during the initial stage, 86 articles were identified for next screening process. As the articles were sourced only from Scopus, the interpretation and discussion of findings should be limited within the context of the database produced output. Articles which are indexed in other databases will not be captured in this study findings.

Screening and Eligibility Assessment

All 86 articles sourced from Scopus were screened by referring to their titles, abstracts, and documented bibliographic data. This screening stage included studies that examine the determinants, risk factors, predictors, antecedents, or influencing factors related to financial statement fraud risk, financial reporting fraud, accounting fraud, or financial fraud in firm-level contexts. If the articles centred their discussion on general fraud without a financial statement or reporting related focus, the articles were excluded.

The inclusion criteria were: (1) empirical studies examining firm-level financial statement fraud risk; (2) studies analysing determinants, risk factors, predictors, antecedents, or influencing factors; (3) journal articles indexed in Scopus; (4) English-language articles; and (5) studies directly related to financial statement fraud, financial reporting fraud, accounting fraud, or financial fraud. The exclusion criteria were: (1) studies focusing only on asset misappropriation, corruption, employee theft, or general fraud; (2) studies without firm-level analysis; (3) conceptual papers, reviews, conference papers, book chapters, or working papers; and (4) studies without clear fraud-risk variables or determinants.

Following the screening and eligibility assessment shown in Table 1, 22 articles were included in the final synthesis. These articles formed the basis for the descriptive analysis, data extraction, and thematic synthesis. Of the 86 records identified, 64 articles were excluded because they did not directly examine firm-level financial statement fraud risk, focused on other fraud types, lacked determinant-based analysis, were not empirical studies, or did not meet the final article eligibility criteria.

Table 1 Screening and Eligibility Process of the Reviewed Articles

Stage	Description	Number of Articles
Identification	Articles identified through Scopus search after applying database filters	86
Screening	Titles and abstracts reviewed for relevance to the review question Excluded after title and abstract screening	86 -64

Stage	Description	Number of Articles
Eligibility	Articles assessed based on direct relevance to determinants or risk factors of financial statement fraud risk	22
Included	Articles included in the final thematic synthesis	22

The included articles were assessed using basic quality criteria: clarity of research objective, relevance to financial statement fraud risk, appropriateness of fraud-risk proxy, transparency of method, clarity of findings, and contribution to the review question to strengthen the reliability of the review. Articles that met the eligibility criteria but had limitations were retained only when their findings contributed directly to the thematic synthesis.

Data Extraction and Thematic Synthesis

Data from the selected articles were extracted using a structured extraction matrix. The matrix captured author and year, article title, country or region, sector, sample, study period, research design, theory or framework, fraud-risk proxy, independent variables, moderating or mediating variables, method, significant and non-significant findings, limitations, and thematic contribution.

The thematic synthesis followed three stages. First, determinants reported in each study were coded according to their conceptual meaning. Second, overlapping codes were grouped into broader determinant categories. Third, these categories were refined into mechanism-based themes by identifying the underlying fraud-risk logic represented by each determinant, such as monitoring, assurance, ownership influence, pressure, reporting discretion, institutional oversight, and executive behaviour. Where a variable could fit more than one theme, it was assigned based on its dominant mechanism in the original study. For example, audit committee expertise was treated as part of governance when it reflected internal monitoring, but as part of audit quality when the study positioned it as an audit-related assurance mechanism.

The synthesis was guided by three analytical lenses: (1) measurement sensitivity, (2) context sensitivity, and (3) mechanism-based interpretation. Measurement sensitivity was applied to examine how different measurements of fraud proxies may produce different findings across studies. Context sensitivity was used to consider how differences in country, sector, governance system, ownership environment, and institutional setting may influence the outcomes of fraud studies. Mechanism-based interpretation shifted the review beyond variable listing by exploring the underlying logic and justification through which determinants may influence fraud risk, including monitoring, assurance, ownership influence, financial pressure, reporting discretion, institutional oversight, and executive behaviour.

Results

Background of Selected Articles

The 22 reviewed studies were conducted across a range of institutional and sectoral settings, including Japan, Vietnam, East Africa, Indonesia, China, Thailand, Romania, Jordan, and the United States. The studies also covered various types of firms namely listed firms, non-financial firms, manufacturing firms, financial services firms, banks, Islamic banks, mining firms, and firms under special monitoring (Arum et al., 2023; Chahine et al., 2021; Mukhibad et al., 2021; Sakawa & Watanabe, 2022; Shanikat & Aldabbas, 2025; Wang et al., 2024; Yarana, 2023). This wide range of settings indicates that financial statement fraud risk is not an isolated issue confined to specific country, sector, or governance system. This wide range of settings indicates that financial statement fraud risk is studied across different country, sectoral, and governance contexts, reinforcing the need to interpret mixed findings carefully.

The reviewed studies also measured financial statement fraud risk using various proxies. Some studies utilised Beneish M-score (Ho et al., 2026; Khamainy et al., 2022; Popa et al., 2024; Shanikat & Aldabbas, 2025; Suryani et al., 2023; Kaituko et al., 2023; Maulidiyah et al., 2025; Karundeng et al., 2025), while others applied Dechow F-score or F-value approaches (Arum et al., 2023; Chahine et al., 2021; Tarjo et al., 2022; Yousefi Nejad et al., 2024; Indiraswari et al., 2025; Yarana, 2023). Other studies relied on discretionary accruals, regulatory fraud data, or earnings-management-based measures (Harman & Bernawati, 2021; Li, 2024; Rahman et al., 2025; Wang et al., 2024; Yazid et al., 2025). When the reviewed studies apply diverse sets of measurement of fraud proxies, the same determinants may produce inconsistent results. One study may report significant results, while another may produce contradictory findings. When reviewed studies apply different fraud-risk proxies, the same determinant may produce different results because each proxy captures a different aspect of fraud risk, manipulation risk, earnings management, or regulatory detection. Therefore, proxy choice should be treated as a methodological condition that shapes the interpretation of findings.

The reviewed studies also rely on different theoretical perspectives. Agency theory appears most often and is mainly used to explain how governance, audit, ownership, and monitoring mechanisms may reduce managerial opportunism and information asymmetry (Thu, 2025; Kaituko et al., 2023; Indiraswari et al., 2025; Yazid et al., 2025). Fraud-based frameworks, such as the fraud triangle, fraud diamond, fraud pentagon, and new fraud diamond, are used to explain pressure, opportunity, rationalisation, capability, arrogance, and other fraud-risk conditions (Harman & Bernawati, 2021; Yarana, 2023; Rahman et al., 2025; Khamainy et al., 2022; Ho et al., 2026). Several studies also extend the discussion beyond these common theories by using delegated monitoring, institutional theory, stakeholder theory, stewardship theory, social network theory, groupthink, upper echelons theory, and audit-related perspectives such as Policeman Theory (Sakawa & Watanabe, 2022; Wang et al., 2024; Chahine et al., 2021; Li, 2024; Karundeng & Szelés, 2025; Yousefi Nejad et al., 2024). This range of theories shows that financial statement fraud risk cannot be explained through one theoretical lens only. Agency and monitoring theories explain oversight and control mechanisms; fraud triangle, diamond, and pentagon frameworks explain pressure, opportunity, rationalisation, capability, and arrogance; while behavioural and social theories explain executive judgement, social influence, and decision-making dynamics.

These theories also explain why the five themes in this review should be read as overlapping mechanisms. Agency-based and monitoring theories fit mainly with the governance, audit, and ownership themes because they explain how oversight can reduce opportunistic reporting. Fraud-based frameworks support the Fraud-Theory Predictors theme by showing how pressure, opportunity, rationalisation, capability, and arrogance create conditions for fraud. Behavioural and social theories add another layer by showing that fraud risk also depends on executive judgement, reputation, social ties, and group dynamics.

Summary of Reviewed Studies and Thematic Contribution

Table 2 provides an article-by-article mapping of the reviewed studies based on their synthesised contribution and thematic contribution. The purpose of the table is not to replace the thematic synthesis, but to show how each study contributes to the five refined themes developed in this review.

Table 2 Summary of Reviewed Studies and Thematic Contribution

No.	Paper	Synthesised contribution	Theme contribution
1	Sakawa & Watanabe (2022)	Main-bank relationships reduce accounting fraud and show that external monitoring may substitute for audit monitoring in bank-dominated governance settings.	Ownership and Institutional Monitoring; Audit Quality Mechanisms
2	Thu (2025)	Board independence, board size, gender diversity, and board meetings show that board characteristics become more meaningful when interpreted together with audit committee oversight.	Governance-Based Monitoring
3	Kaituko et al. (2023)	Board structure and audit fee evidence show that governance effects on financial statement fraud risk may depend on audit-related conditions, especially audit fee as a moderating mechanism.	Governance-Based Monitoring; Audit Quality Mechanisms
4	Harman & Bernawati (2021)	Fraud pentagon evidence is only partially supported, with financial target and auditor change standing out, suggesting that fraud-theory frameworks require careful proxy selection.	Fraud-Theory Predictors
5	Indiraswari et al. (2025)	Corporate governance reduces financial statement fraud, financial distress increases fraud risk. Financial distress moderates the governance fraud relationship. Indicating that	Governance-Based Monitoring; Fraud-Theory Predictors

No.	Paper	Synthesised contribution	Theme contribution
		governance effectiveness depends on firm conditions.	
6	Yarana (2023)	Only selected fraud diamond indicators, particularly ROA, accruals, and industry risk, explain fraud risk, reinforcing that fraud-theory variables are context-sensitive.	Fraud-Theory Predictors
7	Wang et al. (2024)	State ownership and political connections influence both fraud commission and fraud detection, showing that ownership identity and detection bias are central to fraud-risk research.	Ownership and Institutional Monitoring
8	Arum et al. (2023)	Governance findings differ between Z-score and F-score models, showing that fraud-risk conclusions are sensitive to the proxy used.	Governance-Based Monitoring; Fraud-Theory Predictors
9	Mukhibad et al. (2021)	Islamic corporate governance evidence shows that expertise-based Sharia supervision, audit committee size, and auditor reputation can reduce fraud risk in sector-specific governance settings.	Governance-Based Monitoring; Audit Quality Mechanisms
10	Maulidiyah & Harto (2025)	Social control through negative press coverage reduces the likelihood of fraudulent financial statements. Debt structure problems suggest that external scrutiny and financial pressure jointly shape fraud risk.	Ownership and Institutional Monitoring, Fraud-Theory Predictors
11	Rahman et al. (2025)	Fraud diamond predictors differ across Main Board and Development Board firms, suggesting that firm category and institutional maturity shape which fraud mechanisms matter.	Fraud-Theory Predictors
12	Li (2024)	Top management team interconnectedness increases fraud risk through groupthink, coordination, and weaker independent challenge, showing why formal governance may fail in high-risk firms.	Executive Behavioural Traits
13	Khamainy et al. (2022)	New fraud diamond evidence is partial, but personal financial need, industry-related	Fraud-Theory Predictors;

No.	Paper	Synthesised contribution	Theme contribution
		opportunity, sales history, and effective monitoring show how incentive, opportunity, and monitoring mechanisms interact.	Governance-Based Monitoring
14	Yousefi Nejad et al. (2024)	Audit tenure is negatively associated with fraud, while audit fees and Big-5 results are mixed, showing that audit quality indicators do not behave uniformly	Audit Quality Mechanisms
15	Popa et al. (2024)	Governance score, audit committee, board independence, and board equilibrium evidence support viewing governance quality as an integrated monitoring construct rather than isolated governance components.	Governance-Based Monitoring
16	Chahine et al. (2021)	CEO network centrality reduces fraud likelihood through reputation and visibility mechanisms, while also showing that social network effects can differ from groupthink-based fraud mechanisms.	Executive Behavioural Traits
17	Karundeng & Szelés (2025)	CEO masculinity increases fraud likelihood, while religiosity has mixed direct and moderating effects, showing that behavioural variables require cautious interpretation.	Executive Behavioural Traits
18	Ho et al. (2026)	Financial distress, earnings management, receivables intensity, and ownership effects show how pressure, manipulation, and monitoring interact in shaping fraud risk.	Fraud-Theory Predictors; Ownership and Institutional Monitoring
19	Yazid et al. (2025)	Audit committee activity, board independence, internal audit effectiveness, and ethics disclosure suggest that anti-fraud governance works through both monitoring strength and disclosure culture.	Governance-Based Monitoring
20	Shanikat & Aldabbas (2025)	Selected governance mechanisms, especially board independence, board diversity, audit committee accounting background, and audit committee meetings, suggest that fraud mitigation depends on substantive monitoring quality rather than formal structure alone.	Governance-Based Monitoring

No.	Paper	Synthesised contribution	Theme contribution
21	Tarjo et al. (2022)	Readability evidence is weak, while real earnings management is a stronger fraud-risk signal, showing that red flags and earnings-management proxies do not operate uniformly.	Fraud-Theory Predictors
22	Suryani et al. (2023)	Audit firm size and audit tenure are mostly insignificant for Beneish indicators and M-score, reinforcing that audit tenure should not be treated as a universally protective mechanism.	Audit Quality Mechanisms

Thematic Findings: Refined Mechanism-Based Themes

The thematic synthesis produced five refined themes. These themes are best understood as overlapping mechanisms rather than separate categories. To show how the reviewed determinants were grouped into these themes, Table 3 summarises the mechanism-based thematic groupings used in this review.

Table 3 Mechanism-Based Thematic Determinants of Financial Statement Fraud Risk

Theme	Determinant groupings included	Examples of variables	Supporting studies
Governance-Based Monitoring	Board governance effectiveness; corporate governance compliance; Islamic governance mechanism; governance-related disclosure transparency	Board independence, board size, board diversity, board financial expertise, board meetings, CEO-chair duality, governance score, internal audit effectiveness, Sharia Supervisory Board attributes, ethics disclosure	Thu (2025); Kaituko et al. (2023); Arum et al. (2023); Mukhibad et al. (2021); Popa et al. (2024); Yazid et al. (2025); Shanikat and Aldabbas (2025)
Audit Quality Mechanisms	Audit governance quality; external audit-related assurance indicators	Audit fee, audit firm size, Big audit firm, Big-5 auditor, auditor reputation, audit tenure, auditor quality, audit committee expertise, audit committee independence, audit committee meetings, audit committee size, external auditor reputation	Sakawa and Watanabe (2022); Kaituko et al. (2023); Yousefi Nejad et al. (2024); Suryani et al. (2023); Shanikat and Aldabbas (2025), Mukhibad et al. (2021)

Theme	Determinant groupings included	Examples of variables	Supporting studies
Ownership and Institutional Monitoring	Ownership structure; external monitoring mechanism	State ownership, foreign ownership, institutional ownership, private ownership, political connection, central SOE, local SOE, main-bank monitoring, press monitoring, social control, external stakeholder monitoring	Sakawa and Watanabe (2022); Wang et al. (2024); Maulidiyah and Harto (2025); Ho et al. (2026); Popa et al. (2024); Shanikat and Aldabbas (2025)
Fraud-Theory Predictors	Financial pressure; fraud opportunity; reporting discretion; manipulation-related indicators	Financial distress, financial stability, external pressure, debt pressure, leverage pressure, liquidity pressure, financial target, ROA, ineffective monitoring, receivables intensity, accruals, discretionary accruals, real earnings management, abusive earnings management, earnings manipulation	Harman and Bernawati (2021); Yarana (2023); Rahman et al. (2025); Khamainy et al. (2022); Ho et al. (2026); Tarjo et al. (2022); Indiraswari et al. (2025); Maulidiyah and Harto (2025)
Executive Behavioural Traits	Executive behavioural attributes	Capability, competence, arrogance, CEO picture frequency, CEO masculinity, CEO network centrality, top management team interconnectedness, CEO power, executive portfolio vega, executive behavioural traits	Harman and Bernawati (2021); Yarana (2023); Khamainy et al. (2022); Li (2024); Chahine et al. (2021); Karundeng and Szelés (2025)

Governance-Based Monitoring

The governance-based evidence from the reviewed articles indicates that financial statement fraud risk is closely related to the quality of governance monitoring. Governance variables are generally expected to curb fraud by limiting managerial discretion and enhancing accountability (Popa et al., 2024; Shanikat & Aldabbas, 2025; Thu, 2025; Yazid et al., 2025). The evidence suggests that governance reduces fraud risk only when it reflects substantive monitoring capacity, not merely formal compliance with board or committee requirements. Board independence, board size, audit committee expertise, audit committee meetings, and governance scores strengthen their role as substantive governance variables only when they

indicate active oversight, financial literacy, and the capacity to challenge management (Popa et al., 2024; Shanikat & Aldabbas, 2025).

The consistent underlying pattern in this theme is that the application of governance variables offers stronger explanatory power when viewed in combination rather than in isolation. Studies on board structure, audit committees, internal audit, and governance scores reveal a common mechanism: fraud risk may be mitigated when firms have strong monitoring structures (Khamainy et al., 2022; Popa et al., 2024; Thu, 2025; Yazid et al., 2025). Nevertheless, mixed findings suggest caution in assuming that the mere existence of governance structures is sufficient. The effectiveness of these mechanisms may differ across fraud risk measurements, as shown by differences between Z-score and F-score findings. (Arum et al., 2023).

Audit Quality Mechanisms

Audit quality provides an external layer of assurance in the fraud risk discussion. Audit tenure, audit fees, audit firm size, and auditor reputation are commonly used as indicators of audit quality, yet they do not necessarily operate through the same mechanism (Suryani et al., 2023; Yousefi Nejad et al., 2024). For instance, longer audit tenure may reflect accumulated client-specific knowledge, but it can also raise concerns about familiarity. Similarly, audit fees can signal greater effort, although they may also capture client complexity, risk, or economic bonding. In the same vein, Big 4 or Big 5 classifications may indicate stronger reputation and resources, but this does not automatically translate into effective fraud prevention across all institutional settings (Sakawa & Watanabe, 2022; Yousefi Nejad et al., 2024). These indicators should not be treated as interchangeable measures of audit quality, as each may reflect a distinct assurance mechanism. Therefore, audit quality should not be interpreted as a single uniform construct as audit tenure, audit fees, auditor reputation, and audit firm size represent different assurance mechanisms and may produce different fraud-risk implications.

The synthesis therefore frames audit quality as a conditional mechanism rather than a universally protective factor. Evidence that audit tenure is negatively associated with fraud suggests that longer auditor-client relationships may improve client understanding and detection capability (Yousefi Nejad et al., 2024). However, evidence that audit tenure is mostly insignificant in another setting suggests that tenure alone may not be sufficient to reduce fraud risk (Suryani et al., 2023). The role of audit quality tends to depend on auditor independence, client reporting complexity, regulatory enforcement, and the presence of alternative monitors.

Ownership and Institutional Monitoring

Ownership and institutional monitoring extend the fraud-risk discussion beyond boards and auditors. The reviewed studies suggest that ownership identity may influence fraud risk through monitoring incentives, access to information, political influence, and exposure to enforcement (Ho et al., 2026; Sakawa & Watanabe, 2022; Wang et al., 2024). Ownership does not produce one uniform effect. In some settings, owners may strengthen monitoring and reduce fraud risk. In other settings, ownership can create protection, entrenchment, or lower detection probability (Ho et al., 2026; Wang et al., 2024).

The synthesis points to two competing ownership logics. The first is a monitoring logic, where owners with stronger incentives or resources discipline managers, demand transparency, and reduce fraudulent reporting. This logic appears in evidence on foreign ownership, state

ownership in some contexts, main-bank monitoring, and social control (Ho et al., 2026; Maulidiyah & Harto, 2025; Sakawa & Watanabe, 2022). The second is a protection or concealment logic, where ownership connected to political power, local state influence, or insider incentives may reduce external discipline or affect fraud detection (Khamainy et al., 2022; Wang et al., 2024).

Fraud-Theory Predictors

Fraud-Theory Predictors include studies that use the fraud triangle, fraud diamond, fraud pentagon, or related frameworks. These frameworks remain useful because they provide a language for explaining why fraud may occur: pressure creates motivation, opportunity enables manipulation, rationalisation justifies misconduct, capability allows execution, and arrogance may reduce restraint (Harman & Bernawati, 2021; Khamainy et al., 2022; Rahman et al., 2025; Yarana, 2023). However, the empirical support is often partial. Many studies test several fraud-theory proxies, but only selected variables become significant (Harman & Bernawati, 2021; Rahman et al., 2025; Yarana, 2023).

One reason for this mixed evidence is proxy quality. Financial targets, leverage, receivables, auditor change, board independence, director change, accruals, and audit opinions may each be used to represent fraud-theory elements, but not all proxies capture the intended construct equally well (Harman & Bernawati, 2021; Khamainy et al., 2022; Rahman et al., 2025). Accruals and earnings management may indicate manipulation risk, but they can also be used as fraud proxies, creating conceptual overlap between determinant and outcome (Ho et al., 2026; Tarjo et al., 2022). Accruals and earnings management may indicate manipulation risk, but they may also be used as fraud risk proxies. This creates a risk of conceptual overlap, where the same construct may be treated as both a determinant and an outcome across different studies.

Executive Behavioural Traits

Executive behavioural traits are important because they explain why fraud risk may persist even when formal governance structures exist. This theme shifts the explanation from structural control alone to the judgement, incentives, reputation concerns, and social dynamics of senior decision-makers. It is also influenced by the people who interpret pressures, make reporting decisions, and shape the culture around financial reporting (Chahine et al., 2021; Karundeng & Szelés, 2025; Li, 2024). Executive social networks, top management team connectedness, groupthink, reputation, religiosity, masculinity, and other traits help explain why fraud may still occur even when formal governance structures are present.

The synthesis within this theme is built around two contrasting behavioural mechanisms. The first is groupthink or coordination, where highly connected top management teams may be less willing to challenge each other and more able to rationalise questionable reporting decisions (Li, 2024). The second is reputation or visibility, where a highly central CEO may face greater reputational costs if fraud is detected, which can discourage fraudulent reporting (Chahine et al., 2021). Behavioural findings therefore need careful interpretation, especially when executive traits produce mixed or indirect effects (Karundeng & Szelés, 2025).

Discussion: Cross-theme Synthesis

The cross-theme synthesis shows that financial statement fraud risk should be understood as a mechanism-based phenomenon rather than a variable-by-variable relationship. Taken together, the five themes show that financial statement fraud risk is not a simple or linear issue. It does not arise from one determinant alone, but from the way different governance, audit, ownership, financial, reporting, and behavioural factors interact with each other. Governance-Based Monitoring and Audit Quality Mechanisms provide the main oversight and assurance environment within the firm. Ownership and Institutional Monitoring add another layer because owners, banks, regulators, and external stakeholders may either strengthen monitoring or, in some cases, create protection and reduce detection. Fraud-Theory Predictors explain the pressure, opportunity, rationalisation, and reporting-discretion conditions that may increase fraud risk. Executive Behavioural Traits further show that fraud risk also depends on how decision-makers interpret pressure, justify reporting choices, resist misconduct, or coordinate fraudulent reporting.

This means that fraud risk is best understood as a set of interacting conditions, where one mechanism may strengthen or weaken another. For example, governance may be less effective when ownership structures create protection, audit quality can become more important when internal monitoring is weak, and financial pressure may become more significant when executive behaviour allows rationalisation (Ho et al., 2026; Li, 2024; Sakawa & Watanabe, 2022; Wang et al., 2024).

The cross-theme synthesis also helps explain why prior findings on financial statement fraud risk remain mixed. The mixed evidence does not necessarily mean that the literature is inconsistent without reason. Rather, it indicates that the effect of each determinant depends on how fraud risk is measured, where the study is conducted, and what aspect of the underlying explanation the variable is expected to represent. For instance, a governance variable may appear significant when fraud risk is measured using one proxy, but insignificant when another fraud-risk measure is used (Arum et al., 2023). Audit tenure may appear beneficial when it reflects client-specific knowledge, but less consistent when independence concerns or measurement limitations become more relevant (Suryani et al., 2023; Yousefi Nejad et al., 2024). Ownership may reduce fraud risk when it strengthens monitoring, but it can also contribute to concealment when ownership is politically embedded (Ho et al., 2026; Wang et al., 2024). Fraud-theory predictors may also produce weak or inconsistent findings when the selected proxies are too distant from the theoretical constructs, they are expected to capture (Harman & Bernawati, 2021; Yarana, 2023). Similarly, behavioural variables may operate differently depending on whether social connections create accountability and reputation discipline, or whether they encourage coordination and groupthink (Chahine et al., 2021; Li, 2024).

The contribution of this review is therefore not to identify one dominant determinant of financial statement fraud risk. Instead, it organises the reviewed determinants into a mechanism-based explanatory framework, as shown in Figure 1 to explain why prior findings are often mixed and how future studies can better theorise the interaction between monitoring, assurance, ownership, pressure, reporting discretion, and executive behaviour.

Figure 1 translates the five refined themes into a visual framework showing how fraud risks may emerge from the interaction of monitoring and assurance mechanisms, ownership influence, institutional oversight, financial pressure, reporting discretion and executive behavior. These elements are derived directly from the five themes discussed earlier. Governance represents monitoring quality, audit quality reflects assurance, ownership and institutional factors capture broader control and detection conditions, fraud-theory predictors represent pressure and reporting discretion, and executive behavioral traits explain how decision-makers respond to these conditions. Rather than functioning as a conventional IV-DV model, the framework illustrates the mechanisms through which multiple determinants jointly shape financial statement fraud risk. Monitoring and assurance may reduce fraud risk when supported by effective institutional oversight, whereas financial pressure and reporting discretion can become more harmful when executive behavior facilitates rationalization or opportunistic reporting. Accordingly, Figure 1 reinforces the central argument of this review that financial statement fraud risk is better understood as the outcome of interacting mechanisms rather than isolated determinants. This perspective provides a more coherent basis for interpreting mixed empirical findings and for guiding future fraud-risk research in a more theory-driven direction.

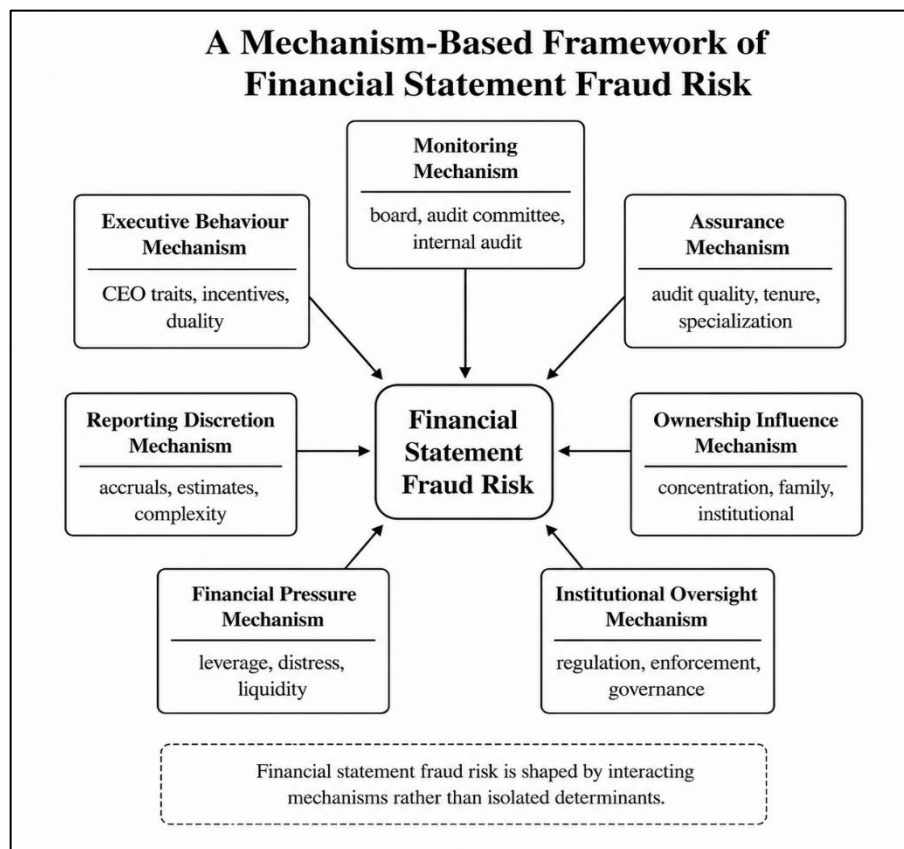


Figure 1 A Mechanism-Based Framework of Financial Statement Fraud Risk

Theoretically, this review shows that financial statement fraud risk cannot be sufficiently explained by a single theory. Agency theory explains monitoring and control, fraud theories explain motivational and opportunity conditions, while behavioural theories explain executive judgement and social influence. A mechanism-based approach therefore provides a more integrated theoretical basis for future fraud-risk research.

Methodologically, the review highlights that fraud-risk proxies are not interchangeable. Beneish M-score, Dechow F-score, discretionary accruals, earnings management indicators, and regulatory fraud cases capture different dimensions of fraud risk. Future studies should justify proxy selection and consider whether findings remain stable across alternative fraud-risk measures.

Practically, the findings suggest that fraud prevention should not rely on isolated governance or audit indicators. Regulators, auditors, and corporate boards should evaluate whether monitoring structures are substantively active, whether audit quality reflects real assurance, whether ownership structures strengthen or weaken accountability, and whether executive behaviour creates conditions for rationalisation or collusion. Such efforts are important because high-quality financial reporting enhances the usefulness of information for decision-making and strengthens stakeholder confidence in corporate disclosures (Karunanda et al., 2025b)

Conclusion and Future Research Directions

This systematic literature review synthesised 22 recent empirical studies on the determinants of financial statement fraud risk among firms and developed a mechanism-based framework to explain how different fraud-risk determinants interact across governance, audit, ownership, fraud-theory, and behavioural domains. Taken together, the review highlights five interrelated areas shaping fraud risk, including governance monitoring, audit quality, ownership structures, fraud related pressures, and executive behavioural factors. The findings suggest that no single factor is sufficient to explain financial statement fraud risk. Instead, fraud risk becomes apparent through the interplay of multiple conditions, including monitoring quality, audit assurance, ownership influence, institutional setting, financial pressure, reporting discretion, and executive behaviour.

This review also contributes to the United Nations Sustainable Development Goals (SDGs) particularly **SDG 16 (Peace, Justice and Strong Institutions)** and **SDG 8 (Decent Work and Economic Growth)**. By synthesizing fragmented evidence into a mechanism-based framework encompassing governance monitoring, audit quality, ownership oversight, fraud-related pressures, and executive behavioural factors, the review highlights mechanisms that can strengthen corporate transparency, accountability, and institutional integrity while reducing financial statement fraud risk. Improved financial reporting quality supports investor confidence, efficient resource allocation, and sustainable economic development, thereby contributing to stronger institutions and more sustainable business environments. This is consistent with evidence that transparent and high-quality financial reporting can strengthen corporate governance, reduce information asymmetry, improve transparency, and enhance investor confidence, thereby supporting sustainable financial ecosystems (Karunananda et al., 2025a).

However, this review has several limitations. First, the review is limited to articles retrieved from Scopus, meaning relevant studies indexed in other databases may not have been captured. Second, the review focuses on English-language journal articles, which may exclude relevant non-English evidence. Third, the synthesis is based on 22 included studies, and the interpretation is therefore limited by the scope, methods, proxies, and contexts of these studies. Fourth, differences in fraud-risk proxies make direct comparison across studies difficult.

Future financial statement fraud research should refocus attention beyond variable listing and give greater emphasis to mechanism-based explanations. Rather than focusing solely on whether a governance, audit, ownership, or fraud-theory variable is statistically significant, researchers should prioritise understanding how, why, and under what conditions each determinant is expected to influence fraud risk. This requires distinguishing between monitoring and symbolic compliance, audit knowledge and independence, ownership monitoring and ownership protection, fraud pressure and fraud measurement, as well as behavioural accountability and collusion.

Future research should examine how combinations of governance mechanisms, audit quality, ownership structures, fraud-theory predictors, and executive behavioural traits jointly influence financial statement fraud risk. This may be explored through interaction models, moderation analysis, configurational approaches, or comparative studies across different institutional settings.

Future research should also give greater attention to measurement choices. The reviewed studies indicate that Beneish M-score, Dechow F-score, discretionary accruals, regulatory fraud cases, and other fraud-risk proxies do not necessarily capture the same underlying phenomenon (Arum et al., 2023; Ho et al., 2026; Li, 2024; Popa et al., 2024; Tarjo et al., 2022; Yousefi Nejad et al., 2024). Researchers should therefore justify their choice of fraud-risk proxy clearly and avoid treating different fraud measures as interchangeable. Comparative studies that examine whether determinants behave differently across fraud-risk proxies would be highly beneficial, as they can improve the comparability of findings and support more precise theory development in financial statement fraud research.

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- Acknowledgements:** The authors would like to express their sincere gratitude to Management and Science University (MSU Shah Alam) and Universiti Teknologi Mara (UITM) for providing the necessary resources and support throughout the course of this research. Special appreciation is extended to colleagues and peers who contributed valuable insights and constructive feedback, which greatly enhanced the quality of this paper.
- Funding Statement:** This research received financial support from Management and Science University (MSU). The funding body had no role in the design of the study, data collection, analysis, interpretation of results, or the decision to publish this manuscript.
- Conflict of Interest Statement:** The authors declare that there is no conflict of interest regarding the publication of this paper. All authors have contributed to this work and approved the final version of the manuscript for submission to the Advanced International Journal of Business Entrepreneurship and SME's (AIJBES).
- Ethics Statement:** This study did not involve any human participants, animals, or sensitive data requiring ethical approval. The authors confirm that the research was conducted in accordance with accepted academic integrity and ethical publishing standards.
- Author Contribution Statement:** All authors contributed significantly to the development of this manuscript. Hani Soraya binti Ishak was responsible for the data collection, performed the data analysis, and prepared the original draft of the manuscript. Professor Dr. Nor Balkish Zakaria contributed through overall supervision. Dr. Abd Hadi Mustaffa validated the data gathered and provided critical revisions to improve intellectual content of the manuscript. All authors read and approved the final version of the manuscript prior to submission.
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