

A Decade of Financial Fraud Research (2014-2024): A Systematic Review and Future Research Directions

(Satu Dekad Kajian Penipuan Kewangan (2014-2024): Ulasan Sistematik dan Cadangan Arah Penyelidikan Masa Hadapan)

Jianing Wang
Mazni Abdullah
Kamisah Ismail

(Faculty of Business and Economics, Universiti Malaya)

ABSTRACT

This study presents a systematic literature review on financial fraud. The aim is to map its theoretical foundations, regional dynamics, and detection strategies while addressing critical gaps in the field's development and disciplinary diversity. A systematic literature review of 437 peer-reviewed articles published between 2014 and 2024 was conducted in accordance with PRISMA guidelines, drawing data from the Web of Science and Scopus databases. The analysis identifies prevailing theoretical frameworks, key determinants of fraud, and notable regional disparities. A significant increase in scholarly attention to financial fraud is observed after 2017, with China and Europe emerging as the most prolific regions. Although the Fraud Triangle and Fraud Diamond remain the dominant theoretical models, the adoption of alternative perspectives is limited. Detection approaches are categorised into proactive and reactive strategies, highlighting the need for more integrated and comprehensive prevention frameworks. Additionally, machine learning has emerged as a predominant tool for fraud detection. By synthesising empirical findings and theoretical developments, this review identifies asymmetries in the literature and calls for greater theoretical innovation through the application of underutilised models. The study offers actionable insights for advancing academic research and informing best practices for mitigating financial misconduct.

Keywords: Systematic literature review; financial fraud; fraud theories; fraud detection; PRISMA

ABSTRAK

Kajian ini menawarkan sintesis komprehensif terhadap literatur berkaitan penipuan kewangan, dengan tujuan memetakan asas teori, dinamika serantau, dan strategi pengesanan, di samping menangani jurang kritikal dalam evolusi serta kepelbagaian disiplin dalam bidang ini. Kajian literatur sistematik terhadap 437 artikel yang disemak oleh rakan sebaya, yang diterbitkan antara tahun 2014 hingga 2024, telah dilaksanakan berdasarkan garis panduan PRISMA, dengan data diperolehi daripada pangkalan data Web of Science dan Scopus. Analisis ini mengenal pasti kerangka teori yang dominan, penentu utama penipuan, dan ketidakseimbangan serantau yang ketara. Peningkatan ketara dalam perhatian ilmiah terhadap penipuan kewangan dapat diperhatikan selepas tahun 2017, dengan China dan Eropah muncul sebagai wilayah paling produktif. Walaupun Teori Segitiga Penipuan dan Teori Berlian Penipuan kekal sebagai model teori dominan, penggunaan perspektif alternatif masih terhad. Pendekatan pengesanan dikategorikan kepada strategi proaktif dan reaktif, sekali gus menekankan keperluan terhadap rangka kerja pencegahan yang lebih menyeluruh serta bersepadu. Selain itu, pembelajaran mesin telah muncul sebagai instrumen utama dalam pengesanan penipuan. Dengan mensintesis dapatan empirikal dan perkembangan teori, ulasan ini mendedahkan ketidakseimbangan dalam literatur serta menyeru inovasi teori yang lebih meluas melalui penerapan paradigma yang kurang dimanfaatkan. Kajian ini menyumbang pandangan yang boleh diaplikasikan untuk memajukan penyelidikan akademik dan memaklumkan amalan dalam usaha menangani salah laku kewangan.

Kata kunci: Kajian literatur sistematik; penipuan kewangan; teori penipuan; pengesanan penipuan; PRISMA

INTRODUCTION

Financial fraud is a critical issue in contemporary business and society, posing substantial economic and social challenges. Its implications are extensive, leading to considerable financial losses for organisations, eroding market confidence, and undermining the integrity of financial systems (Saad et al. 2021; Wang et al. 2025). This phenomenon occurs in both developed and developing economies, taking diverse forms such as accounting fraud, insider trading, investment fraud, and embezzlement. These forms of misconduct not only challenge business

leaders and regulatory bodies but also have far-reaching consequences for policymakers and the broader financial ecosystem (Villaescusa & Salas 2021; Zhang 2023; Li et al. 2024; Jiang et al. 2024).

The pervasive nature of financial fraud can severely affect consumer trust and investor confidence, contributing to heightened market volatility and constraining sustainable economic growth (Satrio 2022). As the global economy becomes increasingly interconnected and complex, the need for effective strategies to prevent, detect, and address financial fraud is paramount. This necessity extends beyond individual organisations to encompass the financial system, highlighting the importance of a coordinated approach to combating fraud (Stevansyah 2023).

Given the significant impact of financial fraud, understanding its underlying causes is essential. Various theories have been developed to explain the motivations behind fraudulent behaviour. However, the complexity of fraud warrants further examination of the determinants and contextual factors that lead individuals and organisations to engage in financial misconduct. This review aims to systematically analyse the existing literature on financial fraud theories, emphasising their relevance to contemporary contexts and their potential to inform strategies for fraud prevention.

The primary purpose of this systematic literature review is to synthesise and critically evaluate the major theories of financial fraud, identifying the key factors that influence fraudulent behaviour. By aggregating findings from multiple disciplines, this review aims to provide a holistic understanding of the multifaceted nature of financial fraud. Analysis of the current literature reveals that while the Fraud Triangle (Cressey 1953) and Fraud Diamond (Wolfe & Hermanson 2004) serve as foundational benchmarks, as they were the first to systematically break down the "why" and "how" of fraudulent behaviour into manageable components (e.g., Rasheed et al. 2023; Adhania 2024), this review identifies a significant movement towards more multidimensional frameworks. By synthesising distinct theoretical perspectives, including the Fraud Pentagon, CRIME theory, and the Theory of Planned Behaviour, this study responds to calls for greater theoretical innovation (Rasheed et al. 2023). Furthermore, while research has historically centred on China and Europe (Yu & Fan 2024), this review highlights emerging insights from diverse global contexts to provide a more balanced regional perspective. Proactive and reactive detection approaches remain fragmented, showing insufficient integration between fraud detection and prevention frameworks, as well as asymmetry between theoretical models and empirical findings. Therefore, this systematic literature review addresses the identified gaps by diversifying theoretical foundations beyond the Fraud Triangle and Diamond, incorporating innovative perspectives and emerging paradigms to support theoretical renewal. It promotes global inclusivity through cross-regional comparative analyses, bridging studies from underrepresented areas with those in China and Europe. By harmonising proactive and reactive detection methods, the SLR integrates fraud detection and prevention frameworks, aligns theoretical models more closely with empirical evidence, and clarifies the psychological, economic, organisational, and regulatory influences that contribute to financial misconduct.

A systematic literature review (SLR) is essential for synthesising and evaluating the extensive body of existing research on financial fraud (Tranfield et al. 2003). Individual studies have contributed valuable insights into various aspects of financial fraud, yet they often operate in isolation, focusing on specific determinants and theories. This fragmentation can lead to an incomplete understanding of the broader landscape of financial fraud research. The SLR addresses this issue by consolidating these disparate findings into a coherent framework, thereby strengthening our understanding of financial fraud theories and their applications. The importance of SLRs in the context of financial fraud is highlighted by the need to integrate findings across studies. For instance, the literature indicates that financial reporting fraud has led to substantial regulatory changes aimed at prevention (Li et al. 2025), as seen in the aftermath of high-profile cases such as Enron and WorldCom. Furthermore, recent bibliometric analyses highlight the growing recognition of public policy and financial regulation as critical components in combating financial fraud (Filatova et al. 2023). These studies collectively emphasise that while individual research efforts are valuable, they often fail to capture the complexity of financial fraud in its entirety.

This SLR methodology enables researchers to identify gaps in the literature and propose future research directions. For example, a literature review focusing on the fraud triangle reveals inconsistencies in findings regarding factors influencing financial statement fraud, indicating a need for more comprehensive studies that consider multiple variables and contexts. Additionally, the application of various theoretical frameworks, such as the fraud diamond and hexagon models, provides a more nuanced understanding of motivations and opportunities for fraud (Adhania 2024). This synthesis of theories and findings is essential for developing effective prevention strategies and strengthening the overall knowledge base in the field.

This review is structured around the following five research questions:

1. What are the publication trends of the reviewed articles?
2. What are the journal distributions of the reviewed articles?
3. What are the geographic distributions of the reviewed articles?
4. What are the theoretical perspectives of the reviewed articles?
5. What is the primary focus of the reviewed articles?

These research questions seek to identify significant patterns and insights within the existing literature on financial fraud. By examining publication trends, the study aims to identify the temporal evolution of research in this field. The analysis of journal distributions provides an overview of the academic outlets that have contributed to this field. In contrast, the geographic distribution of reviewed articles offers insights into the regional focus of research on financial fraud. Furthermore, examining the theoretical perspectives employed in these studies supports an understanding of the conceptual frameworks that have guided scholarly inquiry. Finally, identifying key findings across the reviewed literature supports a synthesis of major themes, trends, and gaps, contributing to a comprehensive understanding of financial fraud research.

METHODOLOGY

To address the above questions, we followed the SLR methodology guidelines proposed by Paul and Criado (2020). This methodology begins by formulating a review protocol to establish the scope of the review. Furthermore, the procedure for literature evaluation and screening is explained in the subsequent subsections.

REVIEW APPROACH AND PROTOCOL

Among the most widely recognised frameworks for SLRs is the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), which provides a structured approach for reporting systematic reviews and meta-analyses. PRISMA guidelines highlight the importance of transparency and comprehensive reporting, which are critical to the reproducibility and reliability of systematic reviews (Tranfield et al. 2003). The adoption of PRISMA guidelines has been shown to improve the methodological quality of systematic reviews across various fields, including medicine and the social sciences (Panic et al. 2013). This study follows the PRISMA guidelines to ensure a transparent, reproducible, and rigorous systematic review process. The PRISMA approach provides a structured framework for conducting systematic reviews, defining clear stages from the initial literature search to the final analysis and synthesis. The systematic review process involves several key steps: identification, screening, eligibility, and inclusion. FIGURE 1 provides a flow diagram illustrating the detailed process of the SLR.

The search strategy began with the identification of relevant keywords and phrases related to financial fraud, including terms such as "financial fraud," "determinants of financial fraud," "fraud influencing factors," "fraud theories", "fraud detection", "fraud strategies", and "fraud behaviour." These terms were used to search for studies published in peer-reviewed journals, conference proceedings, and other scholarly sources. Given the global nature of financial fraud, the review incorporated studies from a diverse range of geographical regions. The search was conducted across major academic databases, including the Web of Science (WOS) and Scopus. The databases were selected due to their comprehensive coverage of high-quality scholarly research in the fields of business, finance, and law. Studies were restricted to English-language publications to ensure consistent interpretation and coding across the research team. The search covered studies published between 2014 and 2024. This ensures the inclusion of recent and relevant literature. This search yielded a total of 1,569 peer-reviewed articles.

Next, during the screening phase, we used Zotero to identify and remove duplicates by cross-referencing articles using the "author, title, year" format, as suggested by Tranfield et al. (2003). This process reduced the number of studies to 1,288 articles. Subsequently, we conducted a rigorous manual screening, applying predefined inclusion and exclusion criteria to ensure that only the most relevant studies were included (Tranfield et al. 2003). After reviewing titles, abstracts, and keywords, 729 studies were excluded for the following reasons: 412 did not focus on financial fraud (e.g., general crime or non-financial misconduct); 158 were not in English; 97 were duplicates across multiple databases; 42 were non-empirical (e.g., opinion pieces, editorials, or reviews); and 20 were inaccessible in full text format.

The inclusion criteria for selecting articles were as follows:

1. Peer-reviewed journal articles, conference papers, and books.
2. Studies focusing on financial fraud theories, determinants, fraud behaviour, fraud strategies, or factors influencing fraud.
3. Empirical studies or theoretical papers published between 2014 and 2024.
4. Studies written in English.

Exclusion criteria included:

1. Studies that did not explicitly focus on financial fraud or its determinants.
2. Articles published before 2014 or after 2024, to ensure the inclusion of current research.
3. Studies that were not available in full text or that lacked sufficient methodological rigour (e.g., opinion pieces, non-peer-reviewed sources).

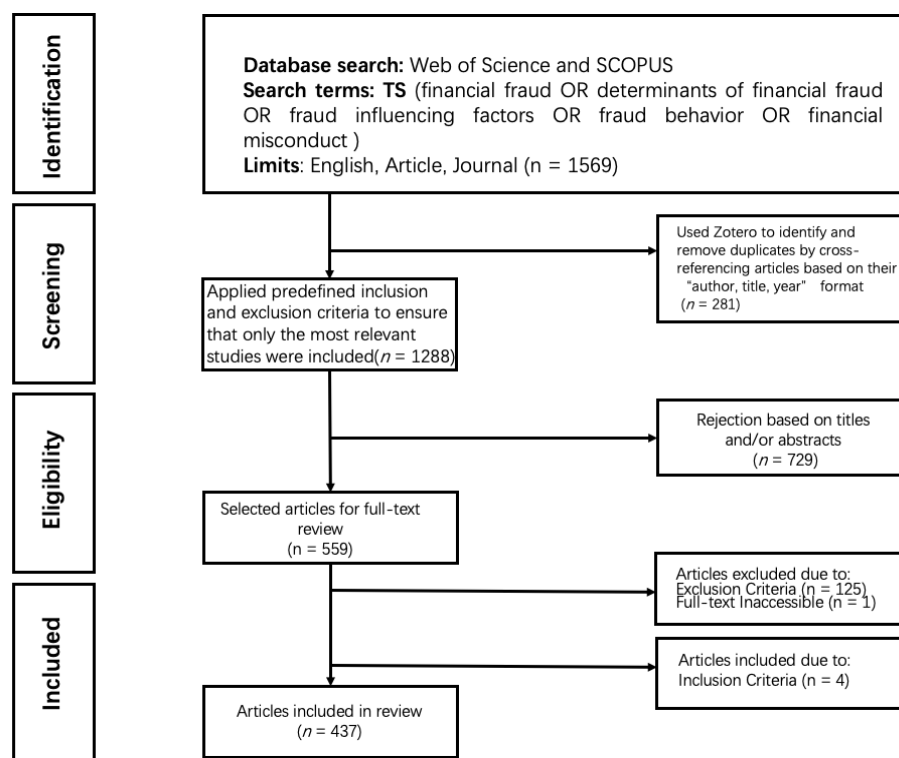


FIGURE 1. PRISMA Protocol (Sources: Authors' work)

In the eligibility stage, we carefully reviewed the full texts of the remaining 559 articles to determine whether they addressed the core research questions on financial fraud behaviour and financial fraud factors. At this stage, 125 articles were excluded because they did not sufficiently examine financial fraud. Additionally, one article could not be accessed due to resource limitations. Consequently, 433 articles met the eligibility criteria and were retained for further analysis.

During the inclusion stage, we employed a forward and backward search strategy, as recommended by Kitchenham (2004), to identify additional relevant articles that may have been overlooked in the initial search. This technique was effective in identifying four additional articles that met the eligibility criteria. Consequently, a total of 437 empirical articles were included in the final review sample.

In the final step, we used Microsoft Excel to document the main findings from each of the 437 articles. A standardised worksheet was developed to record essential information, including article titles, keywords, objectives, theoretical models and frameworks, country context, methodology, identified determinants and influencing factors, consequences, and full citations. This structured approach ensured that all relevant data were systematically captured for analysis.

RESULTS

A comprehensive descriptive analysis was conducted on the 437 articles. We examined five key dimensions, which are publication trends, journal distribution, geographic distributions, theoretical foundations, and primary focus of the reviewed articles.

PUBLICATION TREND

This section addresses RQ1 by examining publication trends in the reviewed articles over the study period. The analysis indicates a steady increase in research on determinants of financial fraud from 2014 to 2024, reflecting growing scholarly attention, as evidenced by the increasing number of publications each year (see FIGURE 2). In 2014, 11 articles were published on the topic, increasing to 14 in 2015. Publication counts continued to rise steadily, reaching 19 in 2016 and 24 in 2017. By 2018, the total number of articles had increased to 29, marking the onset of a notable surge in research output.

The trend accelerated further in 2019, with 40 publications, and in 2020, despite challenges posed by the global pandemic, 33 articles were published. Subsequent years saw substantial growth in publication volume, with 49 articles published in 2021 and 69 in 2022. In 2023, the number of publications reached a peak of 79, reflecting

heightened academic and practical concern regarding financial fraud. In 2024, 70 articles were published, indicating a slight decline from the previous year while maintaining a high level of scholarly engagement.

In total, 437 articles were published in the WOS and SCOPUS databases between 2014 and 2024, indicating a marked increase in research volume dedicated to understanding financial fraud. This upward trend suggests growing recognition of the complexity and significance of financial fraud behaviour as an important issue in academia and practice. The research trajectory reflects multidisciplinary interest, incorporating insights from fields including management, economics, psychology, and law. It highlights the increasing importance of examining factors that contribute to financial fraud across sectors and regions.

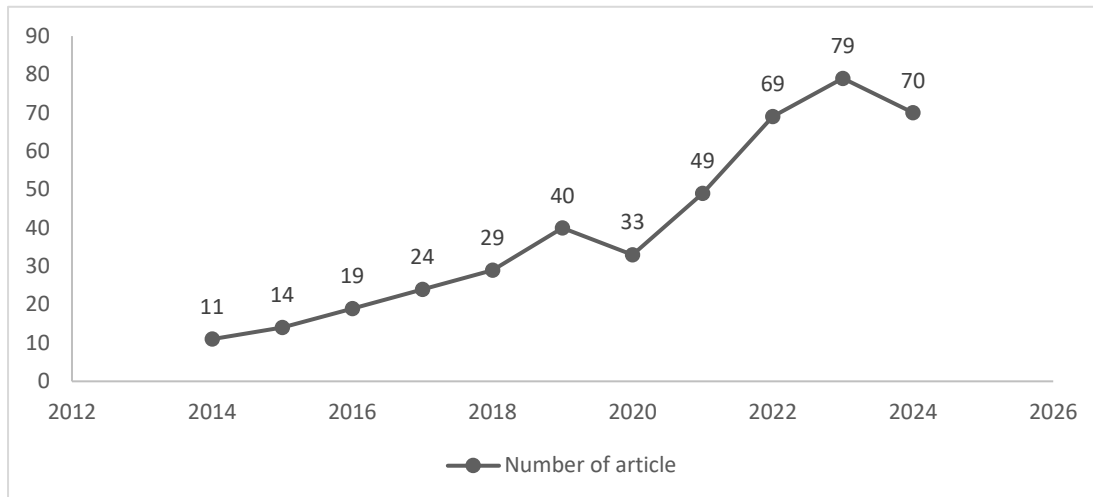


FIGURE 2. Publication trend from 2014 to 2024
Source: Authors' work

DISTRIBUTION OF ARTICLES BY JOURNALS

To address RQ2, this section examines the distribution of the reviewed articles across academic journals, highlighting the leading outlets contributing to research on financial fraud. The distribution of articles on financial fraud across various journals illustrates the broad and multidisciplinary nature of the field. The data (see TABLE 1) show that a wide range of journals from different disciplines, including finance, criminal law, ethics, and computational systems, have contributed to the expanding body of literature on this topic.

The dataset comprises a diverse set of academic journals that have published articles related to the research topic. As shown in the table, the Journal of Financial Crime has the highest number of publications (18 articles), indicating its prominence in the field. Finance Research Letters follows with 8 articles, while the Journal of Business Ethics, Expert Systems with Applications, and Sustainability each contain 7 articles, reflecting the interdisciplinary character of research on financial crime and corporate ethics. Several other journals, including Emerging Markets Review, IEEE Transactions on Computational Social Systems, and Accounting and Finance, have each published 5 articles, indicating their contributions to financial and computational perspectives on the topic. Journals such as Decision Support Systems, Managerial Auditing Journal, and International Review of Financial Analysis have each contributed 4 articles, while several other journals have published three articles.

A large proportion of the articles (138) are distributed across various journals that individually contain fewer than 3 publications. This distribution highlights broad academic interest in the topic across multiple disciplines, including finance, accounting, ethics, law, and computational analysis.

TABLE 1. Distribution of articles by journals

Journal	No. of Articles
Journal of Financial Crime	18
Finance Research Letters	8
Journal of Business Ethics	7
Expert Systems with Applications	7
Sustainability	7
Emerging Markets Review	5
IEEE Transactions on Computational Social Systems	5
Accounting and Finance	5
Decision Support Systems	4
Multimedia Tools and Applications	4
International Review of Financial Analysis	4
Managerial Auditing Journal	4

Journal of Economic Behavior & Organization	3
Journal of Islamic Accounting and Business Research	3
International Journal of Security and Its Applications	3
International Journal of System Assurance Engineering and Management	3
European Journal of Finance	3
European Journal on Criminal Policy and Research	3
Risks	3
International Review of Economics & Finance	3
International Journal of Accounting Information Systems	3
Accounting Research Journal	3
Mathematics	3
Journal of Circuits Systems and Computers	3
International Journal of Law Crime and Justice	3
Applied Sciences-Basel	3
Applied Soft Computing	3
Review of Accounting Studies	3
Others (lower than 3 articles per journal)	138

Sources: Authors' work

GEOGRAPHIC DISTRIBUTIONS

To address RQ3, this section examines the geographic distribution of the reviewed articles, highlighting the regions that have contributed most to research on financial fraud. Financial fraud research exhibits substantial geographic disparities (see TABLE 2), with Asia leading in coverage (201 articles), particularly China (117 articles), reflecting its complex financial systems and corporate scandals. India follows with 53 articles, while countries such as Indonesia, South Korea, and Malaysia contribute more modestly. In contrast, limited research exists in countries such as Iran, Pakistan, and Bangladesh, suggesting a need for further investigation in emerging markets. Europe (135 articles) demonstrates an uneven distribution, with England (47 articles) leading due to its strong financial institutions. Italy, Sweden, the Netherlands, and Germany also contribute notably, reflecting regional concerns about financial fraud. North America (62 articles) is primarily represented by the U.S. (43 articles), whereas Canada (16 articles) focuses more on governance and regulation. Mexico's limited contribution (three articles) highlights a research gap in the Latin American context.

Oceania (21 articles) is predominantly represented by Australia (17 articles), while New Zealand makes minimal contributions. The Middle East (five articles) and Africa (five articles) are notably underrepresented, with South Africa being the sole contributor from the latter. South America (seven articles) is led by Brazil (four articles), reflecting its exposure to financial fraud linked to political scandals. Overall, financial fraud research is concentrated in Asia, Europe, and North America, while underrepresentation in the Middle East, Africa, and South America indicates a need for broader studies, particularly in emerging markets where distinct socio-economic and regulatory conditions influence the dynamics of financial fraud. This geographic disparity is significant, as it constrains a comprehensive understanding of financial fraud in a global context (Xu et al. 2025). The socio-economic dynamics of many underrepresented regions give rise to specific fraud typologies and moderating factors not captured in Western or Asian contexts. For instance, the prevalence of informal economies in parts of Africa and the effects of resource-dependent economies in the Middle East create distinct incentives and opportunities for fraudulent activity (Kaituko et al. 2023; Senan & Swalih 2019). The current research gap, therefore, not only limits the generalizability of existing theories but also overlooks valuable contexts that could challenge, refine, or extend theoretical understanding of the drivers and manifestations of financial fraud.

TABLE 2. Geographic distributions

Geographic region by Continents	No. of articles	Geographic region by Countries	No. of articles		
Asia	201	Mainland China	117		
		India	53		
		Indonesia	6		
		South Korea	5		
		Singapore	3		
		Japan	2		
		Malaysia	9		
		Saudi Arabia	2		
		Turkey	1		
		Iran	1		
		Bangladesh	1		
		Pakistan	1		
		Europe	135	England	47
				Italy	21
Sweden	21				
Netherlands	19				
Germany	10				
Cyprus	4				
Poland	3				
Ukraine	2				
Romania	2				
Spain	2				

		Serbia	2
		Greece	1
		Russia	1
North America	62	USA	43
		Canada	16
		Mexico	3
Oceania	21	Australia	17
		New Zealand	4
Middle East	5	United Arab Emirates	3
		Jordan	1
		Morocco	1
Africa	5	South Africa	5
South America	7	Brazil	4
		Colombia	2
		Ecuador	1

Sources: Authors' work

THEORETICAL PERSPECTIVES

To address RQ4, this section examines the prominent theoretical perspectives employed in financial fraud studies. These theories provide a basis for understanding the determinants of fraud, including individual, organisational, and environmental factors. To identify the theoretical perspectives most frequently used in financial fraud studies, we manually extracted keywords from the abstracts of 437 academic articles. Each article was categorised according to the theoretical framework applied, and the frequency of each theory was recorded. This manual extraction process ensured a systematic and accurate categorisation of the theoretical perspectives employed in financial fraud research (Pollock & Berge 2018).

The results indicate that the most frequently applied theories in financial fraud research focus on individual decision-making and opportunities for fraud (see TABLE 3). The prevalence of the Fraud Triangle Theory (FTT), developed by Cressey (1953), and the Fraud Diamond Theory (FDT), introduced by Wolfe and Hermanson (2004), suggests that scholars continue to prioritise situational factors, such as pressure, opportunity, rationalisation, and capability, that lead to fraudulent behaviour. The Fraud Pentagon Theory, proposed by Marks (2012), expands this view by adding arrogance and competence to the traditional triangle, offering a broader psychological perspective. Meanwhile, CRIME Theory, which stands for Capability, Rationalisation, Inducement, Motive, and Expectation, provides a comprehensive model for understanding fraud drivers, although it appeared less frequently (seven articles). The lower use of these extended models, while still valuable, suggests that they remain comparatively underexamined.

No theoretical framework was employed in 237 articles, raising concerns about the extent to which these studies explicitly engage with theory. This may reflect limited theoretical rigour or a tendency to prioritise empirical observation without a guiding conceptual framework. Several factors could explain this tendency: a perceived disconnect between abstract theory and practical, solution-oriented research (Arteaga et al. 2024); the methodological challenges of operationalising complex social theories in quantitative models (Peterson et al. 2021). To address this gap, future research should integrate theory more deliberately into empirical inquiry. One possible approach is retroactive theorising, in which scholars use empirical findings to inductively develop theoretical propositions. By identifying and briefly introducing these key theories and their origins, this review offers a foundational reference point for researchers aiming to engage more deeply with theory-driven fraud studies.

TABLE 3. Key theories applied in the reviewed articles

Theories	No. of articles
Fraud Triangle Theory	47
Fraud Diamond Theory	23
Fraud Pentagon Theory	20
Theories of Planned Behavior	25
Routine Activity Theory	15
Cognitive Evaluation Theory	8
CRIME Theory	7
Organizational Theory	10
Institutional Theory	5
Stakeholder Theory	5
Risk Management Theory	5
Behavioral Theory	5
Decision Theory	5
Financial Literacy Theory	10
Situational Crime Prevention Theory	10
Research Without a Clearly Stated Theoretical Basis	237

Sources: Author's Work

PRIMARY FOCUS OF THE REVIEWED ARTICLES

To address RQ5, this section analyses the primary thematic focus of the reviewed articles, identifying the dominant research streams and the key issues examined in studies of financial fraud. FIGURE 3 synthesises the key themes from the reviewed literature into a comprehensive framework of financial fraud factors and detection approaches. Internal Fraud Factors encompass organisation-specific vulnerabilities, such as lax accountability in financial statements and weak internal controls, which are directly manageable by the firm. In contrast, External Fraud Factors involve macro-level influences beyond the firm's immediate control, including weak regulatory environments and ineffective board oversight. The 'Other-Related Factors' category is distinct in capturing emergent, interdisciplinary moderators that intersect internal and external domains, such as gender diversity in leadership, organisational hierarchy and power dynamics, and insufficient employee training. These factors are not strictly 'internal' or 'external' but function as pivotal amplifiers, indicating the need for holistic interventions. This synthesis of the literature highlights the importance of a comprehensive approach to understanding financial fraud, which is crucial for developing effective prevention strategies.

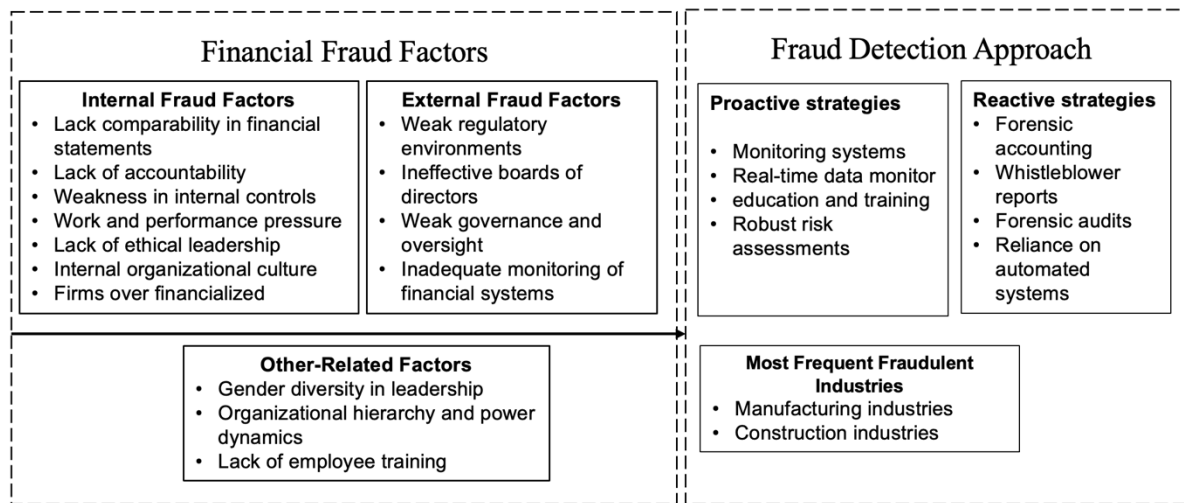


FIGURE 3. Mapping financial fraud factors and fraud detection approach
 Source: Authors' work

FINANCIAL FRAUD FACTORS

The existing literature emphasises the conditions that create opportunities for fraudulent actions, which are critical to understanding the mechanisms behind fraud. For instance, the lack of comparability in financial statements is identified as a significant risk factor for fraud (Blanco et al. 2023). Research indicates that poor comparability increases the likelihood of misstatements and can conceal fraudulent activities (Kim et al. 2016).

Another prominent factor discussed in the literature is weakness in internal controls, which significantly increases the risk of financial fraud (e.g., Nawawi & Salin 2018; Asmah et al. 2019; Kagias et al. 2022; Tian & Sun 2023). Studies emphasise that weak internal controls provide greater opportunities for fraud, particularly when combined with a corporate culture that does not prioritise ethical behaviour. The presence of material weaknesses in entity-wide controls is found to be particularly predictive of future fraud detection (Suh et al. 2019; He 2023). This aligns with findings that emphasise the importance of strong internal control systems in preventing fraud (Donelson et al. 2017).

Research indicates that as firms become more financially oriented, particularly small and medium-sized enterprises, they are more likely to engage in fraud due to increasing pressure to meet financial targets (Davidson et al. 2022). This pressure can create incentives for managers to manipulate financial reports, further complicating the field of financial fraud (Senvar & Hamal 2022). Studies consistently show that female corporate leaders are more likely to detect fraud and are more committed to ethical practices than their male counterparts (Yami & Poletti-Hughes 2022). Several studies indicate that gender diversity in leadership roles can enhance organisational performance and ethical standards (Wang et al. 2022). For instance, diverse leadership teams are associated with improved decision-making processes, which can mitigate risks related to financial fraud (Yarram & Adapa 2023). Gender-diverse teams bring varied perspectives that can lead to more comprehensive risk assessments and innovative solutions to potential ethical dilemmas (Wu et al. 2021). Moreover, organisations with higher female

representation in leadership positions tend to foster more inclusive cultures, which can discourage unethical behaviour and promote transparency (Wang et al. 2023).

The structure of organisational hierarchies can also influence the incidence of financial fraud. Research indicates that rigid hierarchies may create environments in which unethical behaviour is more likely to occur, as employees may feel pressured to conform to the expectations of their superiors (eg, Brown et al. 2024; Boddy et al. 2024). Power dynamics within organisations further complicate this issue. Perpetrators of financial statement fraud often use their authority to recruit others into fraudulent schemes (eg, Albrecht et al. 2015). A significant factor contributing to financial fraud is insufficient employee training in ethical standards and compliance (eg, Koomson et al. 2020; Omar et al. 2016; Abdullahi & Mansor 2018). Organisations that do not prioritise ethics and compliance training may inadvertently foster an environment in which unethical behaviour is normalised (eg, Burke et al. 2022; Nuhu et al. 2024).

Building on the Fraud Triangle framework, several studies examine how employee perceptions of work pressure lead to fraudulent behaviour (eg, Nawawi & Salin 2018; Zuberi & Mzenzi 2019). For example, one study links work pressure to a higher likelihood of employee computer fraud, suggesting that when employees feel overwhelmed by workload demands or performance expectations, they are more likely to justify fraudulent actions as a coping mechanism (Yami & Poletti-Hughes 2022). This phenomenon is also observed in academic settings, where students under pressure to achieve high test scores are more likely to engage in academic fraud (Sarriá et al. 2019).

FRAUD DETECTION APPROACHES

Fraud detection approaches can be broadly categorised into proactive and reactive strategies, each serving distinct purposes in the fight against fraudulent activities. The proactive fraud detection approach emphasises the identification and prevention of potential fraud before it occurs. This strategy is characterised by the implementation of internal controls, continuous monitoring systems (Throckmorton et al. 2015; Halteh & Tiwari 2023), and real-time data analysis to detect irregularities (Kerr et al. 2023). For instance, proactive forensic auditing, whistleblower systems (Lowe et al. 2015), and the development of the analyst profession (Chen et al. 2016) are critical measures for preventing financial statement fraud, thereby highlighting the importance of early detection mechanisms in non-governmental organisations. Li et al. (2021) suggested that firms committing financial fraud strategically increase their corporate social responsibility activities to complement their fraudulent practices. Additionally, proactive communication and knowledge management strategies have been shown to enhance client awareness of e-banking fraud, suggesting that education and training are vital components of a proactive fraud prevention framework (Barker 2020). Establishing strong governance structures and conducting thorough fraud risk assessments are essential for fostering an organisational culture that prioritises fraud prevention (Roy 2024). This proactive stance is further supported by research indicating that organisations employing comprehensive fraud prevention strategies can significantly reduce the incidence of fraud (Siregar & Tenoyo 2015).

In contrast, the reactive fraud detection approach focuses on identifying and investigating fraud after it has occurred. This method often involves audits, forensic investigations, and reviews of financial transactions. For example, the role of forensic accounting is crucial in post-fraud investigations, as it provides the necessary tools for uncovering fraudulent activities that have already taken place (Adelakun 2024). The effectiveness of reactive measures is also evident in the use of whistleblower reports, which serve as critical sources of information for identifying fraud after it has occurred (Shonhadji & Maulidi 2021). The use of automated systems for fraud detection indicates that, while reactive measures are essential (Zhou et al. 2023), they should be complemented by proactive strategies to create a comprehensive fraud management system (Baesens et al. 2021; Suh et al. 2020).

Machine learning (ML) has emerged as a powerful tool in both proactive and reactive fraud detection strategies, offering the ability to analyse vast and complex datasets to identify patterns indicative of fraudulent behaviour (see TABLE 4). ML algorithms can be trained to detect anomalies and classify transactions or financial statements as fraudulent or legitimate based on historical data (Rahman & Zhu 2024). These techniques are especially effective in addressing the challenges of imbalanced datasets, where fraudulent cases represent a small proportion of the total, by utilizing advanced resampling techniques or anomaly detection methods (Tang & Liang 2024). Moreover, unsupervised learning methods, including clustering and autoencoders, are increasingly utilized to identify previously unknown fraud schemes without relying on labelled data (Koc et al. 2024). The adaptability and predictive power of ML models enable continuous monitoring and real-time detection, making them essential for improving the efficiency and accuracy of fraud detection systems. As research evolves, hybrid models that combine multiple algorithms or integrate domain knowledge with machine learning have shown promising results in achieving both high detection rates and low false positives (Vorobyev 2024).

TABLE 4. Using machine learning (ML) to detect financial fraud

Study	Year	ML Techniques	Type of Fraud	Key Findings
Nami & Shajari	2018	Random Forest	Financial statement fraud	<ul style="list-style-type: none"> Proactive strategies (e.g., forensic auditing, whistleblower systems, governance) reduce fraud risk; CSR may mask fraud; education improves prevention.
Xu et al.	2023	Logistic Regression	Financial statement fraud	<ul style="list-style-type: none"> Proposed a hybrid DBDT model combining interpretability and representation learning; improved fraud detection performance on imbalanced data
Zhou et al.	2024	Decision tree	Financial statement fraud	<ul style="list-style-type: none"> Built an effective financial statement fraud prediction model
Rtayli & Enneya	2020	SVM	Credit card fraud	<ul style="list-style-type: none"> The proposed model outperforms previous models in terms of efficiency and effectiveness in detecting fraudulent transactions across multiple real-world datasets.
Lei et al.	2023	Neural Networks	Credit card fraud	<ul style="list-style-type: none"> The use of a distributed model can avoid privacy leakage and data handling costs.
Li et al.	2024	LSTM algorithm	Financial fraud	<ul style="list-style-type: none"> The classification effects of all deep learning algorithms are better than those of basic models and ensemble models.

DISCUSSION AND CONCLUSION

This systematic literature review synthesises empirical and theoretical insights from 437 peer-reviewed articles on financial fraud, drawn from the Web of Science and Scopus databases. Following PRISMA guidelines, the study maps key developments in the field, highlighting significant trends, theoretical orientations, and research gaps. The findings indicate a notable rise in scholarly interest since 2017, with China and Europe emerging as dominant research hubs. This geographic concentration reflects regional concerns tied to the complexities of corporate governance and regulatory environments. The disciplinary breadth of journal contributions further highlights the interdisciplinary nature of financial fraud research, with strong representation from outlets focused on financial crime, ethics, and accounting.

Theoretically, the field remains predominantly anchored in the Fraud Triangle and Fraud Diamond frameworks. Limited engagement with alternative paradigms, such as Cognitive Evaluation Theory and CRIME Theory, highlights opportunities for theoretical innovation. The review further identifies key internal and external drivers of fraudulent behaviour and examines the interaction between proactive prevention mechanisms and reactive detection strategies in mitigating financial misconduct. The dominant theories in financial fraud research, while providing foundational frameworks, exhibit notable limitations that constrain their applicability in contemporary contexts. The Fraud Triangle, while foundational, oversimplifies fraud by reducing it to pressure, opportunity, and rationalisation, thereby ignoring contextual differences such as cultural influences or technological enablers (Kagias et al. 2022). A key weakness in the research landscape is the limited adoption of alternative perspectives, which perpetuates theoretical stagnation and constrains the development of adaptive prevention strategies in dynamic financial environments.

In terms of financial fraud factors, the review identified a broad spectrum of internal and external determinants influencing fraudulent behaviour. Internal factors, such as weak internal controls, lack of accountability, and inadequate monitoring systems, were found to be critical in fostering an environment conducive to fraud. External factors, including weak regulatory environments, ineffective boards of directors, and market pressures, also play significant roles in shaping fraud risk. These factors often interact in complex ways, creating fertile ground for fraudulent activities in industries with weak oversight or high-pressure environments. The review emphasises the need for a more comprehensive understanding of how these internal and external factors interact to influence the occurrence of financial fraud.

Regarding fraud detection approaches, the review highlights the distinction between proactive and reactive strategies. Proactive approaches, such as enhancing internal controls, implementing real-time monitoring systems, and promoting fraud awareness, aim to prevent fraud before it occurs. These strategies are crucial for corporations seeking to build resilience and protect shareholder value, rather than merely responding to losses after the fact (Pourhabibi et al. 2020). In contrast, reactive approaches, such as forensic audits, post-event investigations, and data analysis, are used to detect fraud after it has occurred. This presents a fundamental challenge for regulators, who are often constrained by limited resources and can only investigate a fraction of incidents, frequently acting after substantial public harm has occurred. The emergence of machine learning for detection addresses this gap by offering a scalable, proactive tool to identify complex, non-linear patterns indicative of fraud, thereby supporting both corporate compliance officers and under-resourced regulatory bodies (Rahman & Zhu 2024). Both of these approaches are essential for a comprehensive fraud detection system, as they serve distinct functions in combating fraudulent activities. The effectiveness of combining proactive and reactive strategies remains an important area for future research, particularly in determining how organisations can balance the two approaches to maximise fraud detection and prevention.

This review identifies a significant challenge inherent in the financial fraud research landscape: pronounced cross-disciplinary fragmentation. Scholarship is often siloed within the distinct domains of accounting, finance,

law, and computer science, with limited dialogue between them. This fragmentation leads to duplication of effort, inconsistent terminology, and theoretical models that are narrowly focused on discipline-specific phenomena rather than the multifaceted nature of fraud itself. For the field to advance meaningfully, future research must actively pursue integrative, cross-disciplinary frameworks. Encouraging collaborative projects, developing shared lexicons, and designing studies that explicitly bridge these divides are essential steps toward building a more holistic and rigorous body of knowledge capable of addressing the complex reality of financial fraud.

THEORETICAL IMPLICATIONS

This study advances theoretical understandings of financial fraud by highlighting the multifaceted nature of its determinants and the evolving methodologies for its detection. The identification of key fraud factors, including internal control weaknesses, financialisation pressure, organisational hierarchies, ethical deficiencies, and leadership composition, suggests the need for broader theoretical frameworks that extend beyond the classical Fraud Triangle. While the Fraud Triangle emphasises pressure, opportunity, and rationalisation, the findings emphasise additional dimensions such as gender dynamics, power structures, and ethical culture, which merit integration into revised or expanded theoretical models. For instance, men historically hold more senior roles with greater access to perpetrate large-scale fraud, leading to higher average losses in some datasets (e.g., Abdullah et al. 2019). Moreover, women may benefit from gender-specific advantages, such as lower suspicion of wrongdoing or a stronger ability to neutralise guilt as followers rather than leaders (e.g., Maulidi 2023; Esoimeme 2024). Similarly, high-level executives or those with significant authority often exploit their power to override controls under which fraud is concealed (e.g., Mao et al. 2023), highlighting how hierarchical power imbalances amplify opportunity and enable rationalisation beyond what the original triangle accounts for (as partially addressed in extensions like the Fraud Diamond's "capability" or the Pentagon's "arrogance"). Toxic cultures further exacerbate these risks by fostering rationalisations and enabling fraud through indifference or fear of speaking up (e.g., Neukirchen et al. 2023), which weakens deterrence and normalises misconduct at an organisational level. Therefore, incorporating these elements would produce more comprehensive frameworks, shifting from an individual-focused model to one that explicitly addresses social and systemic influences on fraud risk and prevention.

The findings also point to the theoretical relevance of organisational behaviour and corporate governance in understanding fraudulent intent and execution. Hierarchical rigidity and weak ethical leadership are found to create environments conducive to fraud, suggesting that theories of organisational misconduct should incorporate power asymmetries and ethical leadership as central constructs. Moreover, the consistent association between ethics training and reduced fraud risk highlights the importance of individual-level cognitive and normative variables, warranting further examination within behavioural ethics and criminological theories.

The classification of fraud detection into proactive and reactive approaches further enriches theoretical discourse by introducing a temporal dimension to fraud management. Proactive detection reflects anticipatory governance mechanisms, while reactive detection captures retrospective investigative processes. This dichotomy provides a basis for theorising fraud detection as a dynamic and iterative process rather than a static response. The growing role of machine learning in both approaches calls for theoretical frameworks that incorporate technological agency and data-driven decision-making in the study of fraud prevention and detection.

Building directly on the critical gaps identified earlier, this SLR offers several avenues for theoretical advancement. Future research could develop hybrid models that integrate machine learning with human factors or conduct cross-cultural validation studies to address regional imbalances. By advocating socio-technical and behavioural integration, these directions not only address current theoretical stagnation but also pave the way for resilient, adaptive frameworks in an increasingly digital financial landscape.

PRACTICAL IMPLICATIONS

The findings offer practical guidance for organisations, auditors, regulators, and policy designers. First, the identification of core fraud factors highlights the need to strengthen internal controls and corporate governance mechanisms. Organisations should conduct regular audits of control systems, with particular attention to operational vulnerabilities, reporting inconsistencies, and leadership accountability.

Second, the influence of financialisation pressure on fraud incidence suggests that performance-based incentive structures and unrealistic financial targets may inadvertently encourage misconduct. Management practices should be reviewed to ensure that financial goals do not undermine ethical behaviour or promote opportunistic reporting. Establishing a culture of transparency and ethical conduct is essential for reducing the incentives and rationalisations associated with fraudulent behaviour.

Third, the emphasis on leadership characteristics, such as gender diversity, indicates the need for inclusive governance structures. Boards and executive teams that include diverse perspectives are more likely to enforce

ethical standards and resist unethical groupthink. This implies that leadership development and succession planning should integrate ethical orientation and inclusivity as core criteria.

From a detection standpoint, the distinction between proactive and reactive approaches provides clear guidance for designing multi-layered fraud response systems. Proactive tools such as whistleblower mechanisms, real-time monitoring, and predictive analytics should be integrated into daily operations. These systems enable organisations to identify anomalies before they escalate. Reactive strategies, including forensic accounting and post-event investigations, remain crucial for ensuring legal accountability and promoting institutional learning.

The integration of machine learning into fraud detection frameworks highlights the operational value of technology-driven solutions. Organisations should invest in the development and deployment of machine learning models capable of analysing large-scale, real-time financial data. Such models enable earlier identification of suspicious behaviour, reduce human error, and improve responsiveness. Policymakers and regulators should consider establishing minimum standards for fraud detection systems, including the adoption of advanced analytics in high-risk sectors.

LIMITATIONS AND FUTURE DIRECTIONS

While this review advances understanding of financial fraud dynamics, we acknowledge several constraints in this paper. The exclusive reliance on English-language, peer-reviewed articles published in SCOPUS or WoS-indexed journals may have limited the inclusion of non-English scholarship and grey literature, potentially narrowing the range of contextual and cultural perspectives. The methodological approach may introduce publication bias, as unpublished studies or null results remain underrepresented. The rapidly evolving technological and regulatory ecosystems shaping financial fraud also pose a temporal limitation, as emerging trends such as AI-driven fraud and decentralised finance risks may not yet be fully represented in the extant literature. Furthermore, a limitation of the reviewed body of work is its reliance on the Fraud Triangle, which may oversimplify fraud by focusing narrowly on pressure, opportunity, and rationalisation, while not accounting for managerial arrogance, inquiry failures, and entitlement. Moreover, the field remains geographically imbalanced, with dominant contributions from China, Europe, and the U.S., marginalising non-Western perspectives. Future research should therefore contrast theoretical models more explicitly, resolve empirical inconsistencies through meta-analytic approaches, and prioritise underrepresented regions to build strong frameworks.

This study offers a comprehensive synthesis of financial fraud research from 2014 to 2024. The future research agenda enables researchers to identify under-researched topics, and the findings offer valuable insights for regulators, facilitating the development of strong governance policies and strategic frameworks that enhance fraud prevention and strengthen financial oversight.

Several critical directions for future research on financial fraud merit closer attention. Despite the extensive use of the Fraud Triangle and Fraud Diamond theories, which provide foundational insights into the psychological and situational factors that contribute to fraud, there remains considerable scope for further theoretical refinement. Existing frameworks predominantly focus on individual behaviour and situational pressures, but they may simplify the complexity of fraudulent actions within organisations. Future research could examine how Cognitive Evaluation Theory and CRIME Theory, which address intrinsic motivation and organisational structures (Reeve 2023; Berg & Schreck 2022), could be integrated with these traditional models to develop a more multifaceted understanding of fraud. This would involve not only reconceptualising the relationship between individual predispositions and external pressures, but also examining how organisational and environmental factors function as catalysts for, or inhibitors of, fraudulent behaviour.

Furthermore, incorporating emerging theoretical perspectives, such as behavioural ethics and social network theory, offers promising avenues for improving explanations of fraud. Behavioural ethics, which examines the psychological mechanisms behind ethical decision-making and moral disengagement (Bazerman & Gino 2012), can provide deeper insight into why individuals rationalise fraud despite potential ethical implications. Social network theory, by contrast, may offer a more nuanced account by examining how relationships and power dynamics within organisational networks influence individuals' willingness to engage in fraudulent behaviour (Aven & Iorio 2023). Researchers can analyse social structures to identify factors that enable or constrain fraudulent actions. This approach can also clarify how fraud spreads across organisations or industries, where tacit collusion and cultural norms may foster unethical behaviour.

Combining these diverse theoretical perspectives could yield a richer and more holistic understanding of financial fraud, thereby moving beyond the limitations of existing models. Theoretical development in this area should not only explain why fraud occurs but also examine how it can be prevented or mitigated through the interaction of individual, organisational, and societal factors. This shift could advance both theoretical foundations and practical applications for combating financial fraud across industries. Future research should also adopt interdisciplinary theoretical frameworks, employ mixed-methods approaches to bridge qualitative and quantitative divides, and prioritise investigations of nascent fraud vectors to strengthen global fraud resilience.

ACKNOWLEDGEMENT

We would like to acknowledge the financial support provided by the Faculty of Business and Economics, Universiti Malaya (Grant: UMG0021-2025).

REFERENCES

- Abdullahi, R. & Mansor, N. 2018. Fraud prevention initiatives in the Nigerian public sector: Understanding the relationship of fraud incidences and the elements of fraud triangle theory. *Journal of Financial Crime* 25(2): 527-544.
- Abdullah, N.H.N., Darsono, J.T., Respati, H. & Said, J. 2019. Improving accountability and sustainability through value creation and dynamic capabilities: an empirical study in public interest companies. *Polish Journal of Management Studies* 19(2): 9-21.
- Adelakun, B. 2024. Enhancing fraud detection in accounting through AI: techniques and case studies. *Finance & Accounting Research Journal* 6(6): 978-999.
- Adhania, S. 2024. The effect of hexagon fraud theory in detecting financial statement fraud. *International Journal of Digital Marketing Science* 1(1): 10-23.
- Albrecht, C., Holland, D., Malagueño, R., Dolan, S. & Tzafrir, S. 2015. The role of power in financial statement fraud schemes. *Journal of Business Ethics* 131: 803-813.
- Arteaga, E., Biesbroek, R., Nalau, J. & Howes, M. 2024. Across the great divide: a systematic literature review to address the gap between theory and practice. *Sage Open* 14(1).
- Asmah, A.E., Atuilik, W.A. & Ofori, D. 2019. Antecedents and consequences of staff-related fraud in the Ghanaian banking industry. *Journal of Financial Crime* 26(3): 669-682.
- Aven, B. & Iorio, A. 2023. Organizing for misconduct: A social network lens on collective corporate corruption. *Research in Organizational Behavior* 43.
- Baesens, B., Höppner, S., Ortner, I. & Verdonck, T. 2021. Robrose: a robust approach for dealing with imbalanced data in fraud detection. *Statistical Methods & Applications* 30(3): 841-861.
- Barker, R. 2020. The use of proactive communication through knowledge management to create awareness and educate clients on e-banking fraud prevention. *South African Journal of Business Management* 51(1).
- Bazerman, M.H. & Gino, F. 2012. Behavioral ethics: Toward a deeper understanding of moral judgment and dishonesty. *Annual Review of Law and Social Science* 8(1): 85-104.
- Berg, M.T. & Schreck, C.J. 2022. The meaning of the victim-offender overlap for criminological theory and crime prevention policy. *Annual Review of Criminology* 5(1): 277-297.
- Blanco, B., Dhole, S. & Gul, F.A. 2023. Financial statement comparability and accounting fraud. *Journal of Business Finance & Accounting* 50(7-8): 1166-1205.
- Boddy, C.R., Freeman, C. & Karpacheva-Hock, E. 2024. Fraud and corporate psychopaths: The proposition for reintroducing personality traits of the economic crime offender. *Journal of Economic Criminology* 5.
- Brown, D., Batra, G., Zafar, H. & Saeed, K. 2024. Reducing fraud in organizations through information security policy compliance: An information security controls perspective. *Computers & Security* 144.
- Burke, J., Kieffer, C., Mottola, G. & Perez-Arce, F. 2022. Can educational interventions reduce susceptibility to financial fraud? *Journal of Economic Behavior & Organization* 198: 250-266.
- Davidson, R.H. 2022. Who did it matters: Executive equity compensation and financial reporting fraud. *Journal of Accounting and Economics* 73(2-3).
- Donelson, D.C., Ege, M.S. & McInnis, J.M. 2017. Internal control weaknesses and financial reporting fraud. *Auditing: A Journal of Practice & Theory* 36(3): 45-69.
- Esoimeme, E.E. 2024. A critical analysis of the cross-border financial crime risks inherent in the African continental free trade area. *Journal of Financial Crime* 31(5): 1067-1081.
- Filatova, H., Tumpach, M., Reshetniak, Y., Lyeonov, S. & Vynnychenko, N. 2023. Public policy and financial regulation in preventing and combating financial fraud: A bibliometric analysis. *Public and Municipal Finance* 12(1): 48-61.
- Halteh, K. & Tiwari, M. 2023. Preempting fraud: a financial distress prediction perspective on combating financial crime. *Journal of Money Laundering Control* 26(6): 1194-1202.
- He, T. 2023. Financial fraud prevention and monitoring from the perspective of internal control. *Accounting and Corporate Management* 5(12): 107-112.
- Homer, E. 2019. Testing the fraud triangle: a systematic review. *Journal of Financial Crime* 27(1): 172-187.
- Jiang, H., Peng, C. & Ren, D. 2024. Supply-chain finance digitalization and corporate financial fraud: Evidence from China. *Economic Modelling* 139.
- Kagias, P., Cheliatsidou, A., Garefalakis, A., Azibi, J. & Sariannidis, N. 2022. The fraud triangle—an alternative approach. *Journal of Financial Crime* 29(3): 908-924.

- Kaituko, L.E., Githaiga, P.N. & Chelogoi, S.K. 2023. Board structure and the likelihood of financial statement fraud. Does audit fee matter? Evidence from manufacturing firms in the East Africa community. *Cogent business & management* 10(2).
- Kagias, P., Cheliatsidou, A., Garefalakis, A., Azibi, J. & Sariannidis, N. 2022. The fraud triangle—an alternative approach. *Journal of Financial Crime* 29(3): 908-924.
- Kerr, D.S., Loveland, K.A., Smith, K.T. & Smith, L.M. 2023. Cryptocurrency risks, fraud cases, and financial performance. *Risks* 11(3): 1-15.
- Kim, Y.J., Baik, B. & Cho, S. 2016. Detecting financial misstatements with fraud intention using multi-class cost-sensitive learning. *Expert Systems with Applications* 62: 32-43.
- Kitchenham, B. 2004. Procedures for performing systematic reviews. *Keele University* 33: 1-26.
- Koc, O., Baser, F. & Selcuk-Kestel, A. S. 2024. Clustering based fuzzy classification with a noise cluster in detecting fraud in insurance. *Applied Soft Computing* 167.
- Koomson, T.A.A., Owusu, G.M.Y., Bekoe, R.A. & Oquaye, M. 2020. Determinants of asset misappropriation at the workplace: the moderating role of perceived strength of internal controls. *Journal of Financial Crime* 27(4): 1191-1211.
- Li, X., Kim, J.B., Wu, H. & Yu, Y. 2021. Corporate social responsibility and financial fraud: The moderating effects of governance and religiosity. *Journal of Business Ethics* 170(3): 557-576.
- Li, G., Wang, S. & Feng, Y. 2024. Making differences work: Financial fraud detection based on multi-subject perceptions. *Emerging Markets Review* 60.
- Li, W., Liu, X., Su, J. & Cui, T. 2025. Advancing financial risk management: A transparent framework for effective fraud detection. *Finance Research Letters* 56.
- Lowe, D.J., Pope, K.R. & Samuels, J.A. 2015. An examination of financial sub-certification and timing of fraud discovery on employee whistleblowing reporting intentions. *Journal of Business Ethics* 131: 757-772.
- Mao, J., Xu, D. & Yang, S. 2023. Female executives and corporate R&D manipulation behavior: Evidence from China. *Finance Research Letters* 57.
- Maulidi, A. 2023. Gender board diversity and corporate fraud: Empirical evidence from US companies. *Journal of Financial Crime* 30(2): 309-331.
- Nawawi, A. & Salin, A.S.A.P. 2018. Internal control and employees' occupational fraud on expenditure claims. *Journal of Financial Crime* 25(3): 891-906.
- Neukirchen, D., Köchling, G. & Posch, P.N. 2023. Enforcement of corporate misconduct during Democratic and Republican administrations. *Finance Research Letters* 55(Part A).
- Nuhu, M.S., Ahmad, Z. & Ying Zhee, L. 2024. The relationship between ownership structure and real earnings management practices: evidence from Malaysian public companies. *Jurnal Pengurusan* 72: 1-11.
- Omar, M., Nawawi, A. & Puteh Salin, A.S.A. 2016. The causes, impact and prevention of employee fraud: A case study of an automotive company. *Journal of Financial Crime* 23(4): 1012-1027.
- Panic, N., Leoncini, E., de Belvis, G., Ricciardi, W. & Boccia, S. 2013. Evaluation of the endorsement of the preferred reporting items for systematic reviews and meta-analysis (PRISMA) statement on the quality of published systematic review and meta-analyses. *PLoS ONE* 8(12).
- Paul, J. & Criado, A.R. 2020. The art of writing literature review: What do we know and what do we need to know? *International Business Review* 29(4).
- Peterson, J. C., Bourgin, D. D., Agrawal, M., Reichman, D. & Griffiths, T. L. 2021. Using large-scale experiments and machine learning to discover theories of human decision-making. *Science* 372(6547), 1209-1214.
- Pollock, A. & Berge, E. 2018. How to do a systematic review. *International Journal of Stroke* 13(2): 138-156.
- Pourhabibi, T., Ong, K. L., Kam, B. H. & Boo, Y. L. 2020. Fraud detection: A systematic literature review of graph-based anomaly detection approaches. *Decision Support Systems* 133, 113303.
- Rahman, M. J. & Zhu, H. 2024. Detecting accounting fraud in family firms: Evidence from machine learning approaches. *Advances in accounting*, 64, 100722.
- Rasheed, F., Said, J. & Khan, N. I. 2023. Evolution of fraud related theories: A theoretical review. *Journal of Nusantara Studies* 8(3), 322-350.
- Reeve, J. 2023. Cognitive evaluation theory: The seedling that keeps self-determination theory growing. *The Oxford Handbook of Self-Determination Theory*: 33-52.
- Roy, N. 2024. Proactive cyber fraud response: a comprehensive framework from detection to mitigation in banks. *Digital Policy Regulation and Governance*: no pagination.
- Saad, N., Mas'ud, A. & Mashadi, M.A. 2021. Tax Noncompliance of High Net-Worth Individuals (HNWIS) in Malaysia: Perspectives of Tax Professionals. *Jurnal Pengurusan* 63: 85-98.
- Sandhu, N. 2016. Behavioural red flags of fraud—a qualitative assessment. *Journal of Human Values* 22(3): 221-237.
- Sarriá, E., Recio, P., Rico, A., Díaz-Olalla, M., Sanz-Barbero, B., Ayala, A. & Zunzunegui, M. 2019. Financial fraud, mental health, and quality of life: a study on the population of the city of Madrid, Spain. *International Journal of Environmental Research and Public Health* 16(18): 3276.

- Satrio, A.B. 2022. Financing Decisions: Is the Quality of Information Still Relevant to be Considered? *Jurnal Pengurusan* 66: 41–52.
- Senan, N.A.M. & Swalih, M. M. 2019. A brief overview of forensic accounting and its present position in a Middle East country. *Pacific Business Review International* 12(1).
- Shonhadji, N. & Maulidi, A. 2021. The roles of whistleblowing system and fraud awareness as financial statement fraud deterrent. *International Journal of Ethics and Systems* 37(3): 370-389.
- Siregar, S. & Tenoyo, B. 2015. Fraud awareness survey of private sector in Indonesia. *Journal of Financial Crime* 22(3): 329-346.
- Stevansyah, N. 2023. The effect of fraud triangle on financial statement fraud in banking companies. *International Journal of Application on Economics and Business* 1(4): 1988-1999.
- Suh, J., Nicolaides, R. & Trafford, R. 2019. The effects of reducing opportunity and fraud risk factors on the occurrence of occupational fraud in financial institutions. *International Journal of Law Crime and Justice* 56: 79-88.
- Suh, I., Sweeney, J.T., Linke, K. & Wall, J.M. 2020. Boiling the frog slowly: The immersion of C-suite financial executives into fraud. *Journal of Business Ethics* 162(3): 645-673.
- Tang, Y. & Liang, Y. 2024. Credit card fraud detection based on federated graph learning. *Expert Systems with Applications* 256.
- Throckmorton, C.S., Mayew, W.J., Venkatachalam, M. & Collins, L.M. 2015. Financial fraud detection using vocal, linguistic and financial cues. *Decision Support Systems* 74: 78-87.
- Tian, J. & Sun, H. 2023. Corporate financialization, internal control and financial fraud. *Finance Research Letters* 56.
- Tranfield, D., Denyer, D. & Smart, P. 2003. Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management* 14(3): 207-222.
- Villaescusa, N. & Salas, O. 2021. When collusion meets the fraud triangle: a case study approach. *Journal of Financial Crime* 29(3): 805-815.
- Vorobyev, I. 2024. Fraud risk assessment in car insurance using claims graph features in machine learning. *Expert Systems with Applications* 251.
- Wang, Y., Yu, M. & Gao, S. 2022. Gender diversity and financial statement fraud. *Journal of Accounting and Public Policy* 41(2).
- Wang, F., Zhang, Z., Ho, L.J. & Usman, M. 2023. CFO gender and financial statement comparability. *Pacific-Basin Finance Journal* 80.
- Wu, J., Richard, O., Triana, M. & Zhang, X. 2021. The performance impact of gender diversity in the top management team and board of directors: A multiteam systems approach. *Human Resource Management* 61(2): 157-180.
- Wang, B., Bian, J., Xu, Y. & Liu, D. 2025. The role of internal control on financial fraud: evidence of pre-fraud and post-punishment from Chinese firms. *Emerging Markets Finance and Trade* 61(5): 1446-1459.
- Xu, L., Xu, M., Sun, Z., Xu, L. & Li, H. 2025. Unveiling the terrain of fraud: Exploring the association between physical topography and consumer fraud victimization. *Deviant Behavior* 46(6): 731-749.
- Yami, N. & Poletti-Hughes, J. 2022. Financial fraud, independent female directors and CEO power. *Journal of Risk and Financial Management* 15(12): 1-24.
- Yarram, S. & Adapa, S. 2023. Gender diversity of directors and financial performance: Is there a business case? *International Journal of Managerial Finance* 20(1): 147-167.
- Yu, Z. & Fan, J. X. 2024. Migrant status and consumer financial fraud in China: A two-stage approach using a representative household survey. *SAGE Open* 14(2).
- Zhang, J. 2023. Fraud transmission mechanisms within the community: Peer concealing and hinting among Chinese listed corporations. *Management and Organization Review* 19(5): 1005-1038.
- Zhou, Y., Li, H., Xiao, Z. & Qiu, J. 2023. A user-centered explainable artificial intelligence approach for financial fraud detection. *Finance Research Letters* 58.
- Zuberi, O. & Mzenzi, S.I. 2019. Analysis of employee and management fraud in Tanzania. *Journal of Financial Crime* 26(2): 412-431.

Jianing Wang
 Faculty of Business and Economics
 Universiti Malaya
 50603 Kuala Lumpur, MALAYSIA.
 E-Mail: 416804574@qq.com

Mazni Abdullah (corresponding author)
Faculty of Business and Economics
Universiti Malaya
50603 Kuala Lumpur, MALAYSIA.
E-Mail: mazni@um.edu.my

Kamisah Ismail
Faculty of Business and Economics
Universiti Malaya
50603 Kuala Lumpur, MALAYSIA.
E-Mail: kamisah.ismail@um.edu.my