

ARTIFICIAL INTELLIGENCE AND EARNINGS MANAGEMENT: GOVERNANCE STRATEGIES AND MODEL ADOPTION

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Abstract

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Despite growing interest in using artificial intelligence (AI) to examine earnings management (EM), the literature remains fragmented across models and national contexts, offering limited comparative insight. This study maps the regional use of AI models in research on EM and related forms of accounting manipulation, including fraud detection and financial distress proxies. It is based on a systematic review of 21 peer-reviewed articles published between 2016 and 2025 in Scopus and Web of Science (WoS), following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009). The findings show that East Asian studies predominantly apply deep neural networks (DNN), deep belief networks (DBN), and hybrid models, often incorporating environmental, social, and governance (ESG)-related variables. West Asian research remains limited and mainly relies on natural language processing (NLP) of annual reports. North American studies primarily employ artificial neural networks and intelligent agents within fraud detection frameworks, while European research continues to use traditional indicators such as the Beneish M-score and Altman Z-score as empirical proxies. Overall, the study concludes that the effectiveness of AI-based approaches in addressing EM and related manipulative practices is institutionally contingent, highlighting the need for region-specific governance frameworks and cross-disciplinary collaboration.

Keywords: Artificial Intelligence, Corporate Governance, Cross-Regional Analysis, Earnings Management, Fraud Detection, Systematic Literature Review

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1. INTRODUCTION

According to a recent report by BioCatch (2024), artificial intelligence (AI) systems today are capable of detecting nearly 73% of financial fraud cases, reflecting widespread adoption by 74% of institutions as part of their efforts to combat financial crime. This evolution highlights the growing potential of algorithmic technologies in financial surveillance, the reduction of information asymmetry, and the strengthening of corporate governance (Akpan, 2025; Amoush, 2025; Chemmaa & Ibrahim, 2025; Correia & Água, 2023; Lokanan & Ramzan, 2024; Xu et al., 2026). In a context marked by increasingly complex financial operations and heightened regulatory expectations, AI is emerging as a strategic lever, particularly in detecting earnings management (EM), a discrete yet persistent form of accounting manipulation. Nevertheless, the scientific literature still struggles to provide a comprehensive overview of the real-world applications of AI across diverse economic and institutional settings (Aboelfotoh et al., 2025; Alassuli et al., 2025; Choi et al., 2022; Shaban & Al-Hawatmah, 2024; Ustahaliloğlu, 2025).

A review of the existing literature reveals several structural limitations. First, available studies remain largely concentrated on a few specific national contexts, such as China (Li & Sun, 2023), Canada (Lokanan & Ramzan, 2024), or Romania (Capraş et al., 2025). Rather than enabling systematic cross-country comparisons, this geographical concentration restricts our understanding of how AI-based EM detection tools perform across heterogeneous regulatory, institutional, and governance environments. Second, the empirical protocols employed are highly heterogeneous: 92% of the reviewed studies use distinct methods, ranging from deep neural networks (DNN) to semantic analysis, as well as traditional indicators like the Beneish and Altman scores (Aboelfotoh et al., 2025). While this methodological diversity is innovative, it undermines the comparability of results. Furthermore, institutional moderators are largely overlooked: only 11% of the reviewed works explicitly consider factors such as board composition, ownership structure, or the digital maturity of firms (Hameed & Sanad, 2025; Xu et al., 2026). This lack of contextual perspective constrains our understanding of the actual effectiveness of AI tools, which appears to be strongly dependent on regulatory, organizational, and cultural environments (Kipp et al., 2020).

Against this background, the concentration of prior research in a limited number of countries constitutes a key motivation for adopting a regional mapping approach rather than a limitation in itself. To address these gaps, the present study proposes a comparative mapping of AI applications in the detection of EM across different global regions. A systematic literature review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines protocol, based on 21 peer-reviewed articles published between 2016 and 2025, indexed in the Scopus and Web of Science (WoS) databases. The selected studies explicitly employ AI tools in empirical frameworks and analyze their impact in identified economic contexts. The approach

distinguishes five major analytical regions: East Asia, West Asia, North America, Europe, and a global category covering cross-regional studies.

The findings reveal distinct regional dynamics. In East Asia, advanced models such as DNN, deep belief networks (DBN), and hybrid approaches combining random forests with C5.0 decision trees exhibit strong performance, particularly in environments characterized by robust environmental, social, and governance (ESG) governance and the presence of long-term institutional investors (Lee et al., 2024; Wu et al., 2024). In West Asia, although studies are still limited, the integration of natural language processing (NLP) into the analysis of annual reports appears to enhance financial oversight capacity, especially within gender-diverse boards (Hameed & Sanad, 2025). In North America, AI serves a dual function: *ex post*, through anomaly detection algorithms; and *ex ante*, via intelligent agents that positively influence managers' financial reporting choices (Kipp et al., 2020; Lokanan & Ramzan, 2024). In Europe, results are more mixed: while traditional models remain prevalent, only specific components of the Beneish score, such as the days' sales in receivables index (DSRI) or sales growth index (SGI), are truly predictive of default risk (Capraş et al., 2025). Finally, on a global scale, research highlights the effectiveness of deep learning, anomaly detection, and semantic analysis approaches, while emphasizing the need for careful human interpretation to ensure model robustness (Aboelfotoh et al., 2025; da Silveira et al., 2023).

By synthesizing fragmented national evidence into a comparative regional framework, this study clarifies how geographic and institutional variations shape both the adoption and effectiveness of AI-based EM detection tools, thereby offering a contribution that goes beyond existing reviews.

The article is structured as follows. Section 2 presents the conceptual foundations of EM and the contributions of AI to accounting practices. Section 3 details the methodology used for selecting and analyzing the publications. Section 4 presents empirical findings by region. Section 5 discusses the theoretical, managerial, and ethical implications of the results, stressing the importance of a contextualized, responsible, and interdisciplinary approach to integrating AI into financial governance practices. Section 6 concludes the research.

2. LITERATURE REVIEW

In the context of financial reporting and corporate governance research, AI refers to a broad set of data-driven computational techniques used to analyze large volumes of structured and unstructured accounting and financial information (Bansal, 2024). These techniques notably include machine learning algorithms that identify patterns in financial data through iterative learning processes and predictive classification methods (Hammami & Zadeh, 2022; Li & Sun, 2023). They also encompass deep learning architectures, such as neural networks, which are particularly effective in capturing complex and non-linear relationships embedded in accruals and financial ratios (Choi et al., 2022). In parallel, NLP methods have been applied to narrative disclosures and annual reports in order to extract textual signals related to governance characteristics and reporting

quality (Hameed & Sanad, 2025). Other studies emphasize the relevance of hybrid models combining multiple algorithmic approaches, such as random forests and decision tree classifiers, to enhance detection accuracy in earnings manipulation and fraud-related tasks (Chen & Howard, 2016). Recent empirical evidence further indicates that machine learning techniques are increasingly employed to detect EM practices from high-dimensional financial data, as they allow the identification of subtle anomalies and non-linear structures that traditional statistical models often fail to capture (Bansal, 2024; Li & Sun, 2023). Overall, this methodological evolution reflects a growing convergence between EM research and data science tools, while suggesting that AI-based approaches operate primarily as complementary governance mechanisms that support, rather than replace, human judgment and institutional oversight (Akpan, 2025; Ustahaliloğlu, 2025).

Recent advances in AI have progressively reshaped corporate governance by strengthening monitoring capacities, improving decision-making quality, and enhancing organizational transparency, while simultaneously raising new challenges related to accountability, ethical, and regulatory oversight (Ustahaliloğlu, 2025). AI technologies enable boards and governance mechanisms to process large volumes of structured and unstructured information, thereby reducing information asymmetry between managers and stakeholders and reinforcing supervisory effectiveness, particularly in complex and data-intensive organizational environments (Correia & Águia, 2023). From this perspective, AI-driven systems increasingly complement traditional governance mechanisms by automating compliance procedures, enhancing early risk detection, and supporting regulatory enforcement, although their effectiveness remains institutionally contingent due to variations in legal frameworks, enforcement strength, and ethical norms across countries (Correia & Águia, 2023; Ustahaliloğlu, 2025).

Within the broader spectrum of accounting irregularities, EM occupies an intermediate position between legitimate managerial discretion and outright financial fraud. It refers to the deliberate use of accounting choices or operational decisions to influence reported earnings while remaining, at least formally, within the boundaries of accounting standards, as initially conceptualized by Schipper (1989) and further developed by Healy and Wahlen (1998). Unlike financial fraud, which involves explicit violations of accounting rules and legal provisions, EM is typically discreet and persistent, making it more difficult to detect and regulate (Chemmaa et al., 2025b; Dechow et al., 2011). At the same time, EM is conceptually distinct from financial distress, although empirical research, particularly in data-driven and AI-based studies, frequently relies on accrual-based measures and distress-related indicators as empirical proxies for manipulative behavior (Altman, 1968). Prior empirical evidence shows that advanced machine learning approaches, especially ensemble classifiers, are effective in predicting both accrual-based and real EM, with stronger performance for accrual-based manipulation, while real EM remains more challenging to detect (Hammami & Zadeh, 2022). These findings underline the relevance of algorithmic models in capturing

complex and non-linear earnings manipulation strategies and justify the inclusion of related proxies in AI-driven research on EM, particularly in contexts characterized by limited transparency and heterogeneous institutional frameworks.

EM continues to represent a central challenge for corporate governance, especially in contexts characterized by discretionary accounting practices, ownership concentration, and uneven enforcement mechanisms (Chemmaa et al., 2025a). Recent empirical evidence indicates that AI contributes to improving financial reporting quality by enhancing the accuracy, timeliness, and reliability of accounting information, thereby constraining managerial discretion and limiting opportunities for earnings manipulation (Alassuli et al., 2025). Machine learning, neural networks, and deep learning techniques strengthen internal control systems and facilitate the detection of abnormal reporting behaviors and fraudulent activities that may escape traditional audit procedures, reinforcing the governance role of financial monitoring mechanisms in both developed and emerging markets (Amoush, 2025). In addition, AI adoption indirectly enhances reporting quality by improving accountants' analytical capabilities and technical competencies, which act as complementary governance channels supporting more disciplined financial disclosure (Alassuli et al., 2025).

Recent studies also document the superior performance of advanced AI models in financial prediction, anomaly detection, and risk assessment compared with conventional statistical approaches, particularly in identifying subtle earnings manipulation strategies embedded in complex financial data structures (Akpan, 2025). However, scholars caution that the governance value of AI-based monitoring tools depends critically on data quality, model transparency, and institutional safeguards, as algorithmic opacity and bias may undermine trust and accountability in financial reporting systems (Ustahaliloğlu, 2025). Moreover, evidence from African and other emerging economies highlights that governance effectiveness is strongly conditioned by ownership structures, enforcement quality, and the maturity of internal control systems, which jointly shape the impact of both traditional governance mechanisms and AI-based tools on EM practices (Chemmaa et al., 2025a). Despite the rapid expansion of research in this area, the literature remains fragmented across AI models, institutional contexts, and empirical settings, offering limited comparative insight into how governance environments shape AI model adoption and effectiveness. This gap motivates the present study, which systematically reviews AI-based EM research through a governance-oriented lens to clarify the institutional conditions under which AI contributes to constraining earnings manipulation.

3. METHODOLOGY

The objective of this paper is to synthesize empirical evidence on the use of AI in detecting EM across heterogeneous models and institutional contexts, for which the PRISMA framework is the most appropriate methodological choice (Moher et al., 2009). By contrast, alternative review approaches are less suited to this objective. Narrative reviews rely

heavily on author judgment, bibliometric analyses emphasize publication and citation patterns rather than empirical substance, and meta-analyses require homogeneous quantitative outcomes that are not available in this literature. Accordingly, this study follows the PRISMA protocol, which structures the review process into four sequential phases — identification, screening, eligibility, and inclusion — to ensure methodological rigor and replicability (see Table 1).

In the identification phase, a comprehensive search was conducted in two leading bibliographic databases: WoS and Scopus. The search strategy employed the keywords “Earnings management” and “Artificial intelligence”, targeting titles, abstracts, and keywords to maximize precision and relevance.

This step yielded 23 records from WoS, covering publications from 2012 to 2025, and 17 records from Scopus, spanning from 2011 to 2025. The total initial pool thus consisted of 40 potentially relevant papers.

During the screening phase, two filters were sequentially applied to narrow the dataset. The first filter retained only peer-reviewed scientific journal articles, excluding conference proceedings, reviews, book chapters, and non-academic outputs. The second filter restricted the selection to articles written in English. After applying these criteria, 19 papers from WoS and nine from Scopus remained. Following the elimination of duplicates across databases, a refined corpus of 26 unique studies was obtained.

Table 1. Overview of the systematic review phases following PRISMA guidelines

Phase	Steps	Description of action	Outcome
Identification	Step 1: Database search	<ul style="list-style-type: none"> Keywords used: “Earnings management” and “Artificial intelligence” Search fields: Title, abstract, keywords Databases: WoS and Scopus 	WoS: 23 papers (2012-2025) Scopus: 17 papers (2011-2025)
Screening	Step 2: Filtering	Inclusion criteria applied: <ul style="list-style-type: none"> Scientific journal articles only English language only 	WoS: 19 papers Scopus: 9 papers
	Step 3: Merging	Duplicate records removed. Merged dataset prepared for the eligibility check	26 unique papers
Eligibility	Step 4: Full-text check	Papers with inaccessible or incomplete full text excluded	22 papers remained
Inclusion	Step 5: Final selection	Thorough reading of the 22 remaining papers. Assessed for relevance to both AI and EM. Marginally relevant articles excluded.	21 papers included (2016-2025)

In the eligibility phase, the full-text availability of each of the 26 articles was verified. Papers without an accessible full text were excluded, resulting in a minor reduction of the dataset. After this check, 21 full-text articles were confirmed as accessible and retained for the next stage. This phase ensured that all retained works could be read and analyzed in depth.

Finally, in the inclusion phase, a thorough reading and qualitative assessment of the 21 eligible papers were conducted. Articles were evaluated based on their conceptual alignment with the research objective, their methodological soundness, and the extent to which they provided insights into the application of AI to EM. Only studies that demonstrated a clear connection between these two themes and offered empirical, theoretical, or technical contributions were included in the final review. These 21 studies, published between 2016 and 2025, form the analytical foundation of this research and provide a robust evidence base for understanding current trends, methodological approaches, and emerging themes at the intersection of AI and EM.

4. FINDINGS AND DISCUSSION

4.1. East Asia

Recent research conducted in East Asia highlights the increasingly decisive role of AI in detecting accounting manipulations and improving financial transparency. Indeed, next-generation machine learning models, such as DNN and DBN, have proven particularly effective. They significantly outperform traditional methods by identifying complex and non-

linear relationships specific to EM practices (Choi et al., 2022; Li & Sun, 2023). Moreover, in the field of auditing, the use of hybrid models, especially those combining random forests and C5.0 decision trees, has achieved fraud detection accuracy rates of up to 91%. These models are primarily based on key indicators such as cash flows and accruals (Chen & Howard, 2016). In addition, the adoption of AI contributes to strengthening the financial credibility of companies, particularly non-state-owned enterprises, by significantly reducing information asymmetries (Xu et al., 2026). This strengthening effect is even more pronounced when favorable institutional factors are present, such as strong ESG performance or the presence of long-term investors, both of which play a key role in reducing real EM (Lee et al., 2024; Wu et al., 2024).

Furthermore, Zhang (2022) highlights the positive impact of AI on managerial practices. Through facial and voice recognition technologies, the analysis of employee emotions helps optimize managerial decisions and, indirectly, reduce opportunistic behavior. Finally, Zhai et al. (2025) offer an interesting perspective on artificial intelligence orientation (AIO), showing that it helps limit inefficient investments in Chinese energy companies. However, the authors note that this positive effect may be weakened by the presence of excess organizational resources, which hinder the optimal integration of AI into decision-making processes.

4.2. West Asia

Although research on AI in West Asian countries remains limited, the pioneering study by Hameed and Sanad (2025) offers important insights into its

role in improving financial governance. The authors show that gender diversity on corporate boards, particularly the presence of women, contributes to enhancing financial performance measured by return on assets while also reducing EM practices. This relationship becomes even more pronounced when AI is employed, especially through textual analysis of annual reports, which supports female directors in their decision-making and strengthens their financial oversight capacity.

From another perspective, but still within the context of emerging markets, Narang and Pradhan (2024) examine the behavior of anchor investors in response to pre-initial public offering (IPO) EM, based on a sample of 169 IPOs in India. Their findings show that while earnings manipulation may attract some anchor investors, the more reputable ones, due to their experience or institutional status, can detect such accounting practices and adjust their participation accordingly, often offering lower prices when they perceive increased manipulation. This distinction supports the institutional ability hypothesis and contradicts the distraction hypothesis. Thus, in the specific context of Gulf markets and, more broadly, West Asian countries, these studies suggest that AI can serve as a lever for promoting more transparent governance practices, provided it is accompanied by competent and vigilant actors. However, generalizing these findings across the entire region calls for further investigation to better understand the institutional and cultural specificities at play.

4.3. North America

North American studies highlight the ambivalent role of AI in EM, oscillating between detection and prevention. Lokanan and Ramzan (2024) demonstrate that machine learning algorithms, particularly artificial neural networks, significantly improve the prediction of financial distress in the Canadian market, even when financial indicators are distorted by earnings manipulation. This ability to detect weak signals despite attempts at obfuscation suggests that AI could serve as a robust ex post control mechanism. From a complementary perspective, Kipp et al. (2020), through a behavioral experiment, reveal the ex-ante moderating effect of AI. Managers supported by intelligent agents tend to adopt less aggressive reporting practices, especially when these tools limit their decision-making autonomy. These findings shed light on an underlying psychological mechanism, reduced transfer of responsibility, which positions AI as a safeguard against managerial opportunism.

Together, these studies outline a dual regulatory function of AI in the region: a tool for post hoc detection of manipulations as seen in the Toronto Stock Exchange (TSX), and a mechanism for the *ex-ante* prevention of decision-making bias. This complementarity warrants further exploration in other accounting jurisdictions, particularly to assess its universality in light of the cultural specificities of managerial practices.

4.4. Europe

While research in Asia and North America has highlighted the significant impact of AI on detecting

and limiting EM practices, the European context presents notable specificities. The study conducted by Capraş et al. (2025) on a sample of Romanian listed companies between 2015 and 2020 provides particularly insightful results concerning the relationship between accounting manipulation and bankruptcy risk. The analysis reveals no statistically significant correlation between the overall Beneish score, which measures the likelihood of earnings manipulation, and the Altman Z-score, which assesses bankruptcy risk. This finding suggests that, in this specific context, EM practices do not systematically affect the probability of corporate failure. However, the study does identify specific indicators from the Beneish model, particularly the DSRI, the SGI, and the ratio of total accruals to total assets, as having a significant influence on bankruptcy risk assessment. This observation qualifies the overall conclusion by showing that while the general effect of accounting manipulation appears limited, certain specific components can nonetheless impact a firm's financial stability.

These results highlight the complexity of the relationship between EM and financial health in the European context. They suggest that the impact of accounting manipulation may depend more on its precise nature than on its overall magnitude. This European particularity, contrasting with findings from other regions, raises important questions about the universality of detection mechanisms and their applicability across different regulatory and economic settings. Further research is needed to determine the extent to which these findings can be generalized across European markets, which often display diverse institutional characteristics and accounting practices. This study thus opens important avenues for future research aimed at better understanding regional specificities in the analysis of EM practices and their consequences for financial stability.

4.5. Europe global and non-territorial perspectives

Recent research reflects a major methodological shift in the study of accounting practices, driven by the rise of AI and big data analytics. The work of Aboelfotoh et al. (2025) identifies three key areas where these technologies provide significant added value: the detection of financial fraud, the evaluation of accounting manipulations, and the semantic analysis of reports. These studies highlight the effectiveness of machine learning techniques, particularly deep learning, in identifying complex manipulation patterns that are often undetectable through traditional approaches. This technical superiority is confirmed by da Silveira et al. (2023), who demonstrate that artificial neural networks are particularly effective in detecting accounting anomalies due to their ability to model non-linear relationships between financial variables. In the same study, Choi et al. (2022) show that DNNs significantly outperform traditional linear models, such as ordinary least squares (OLS), in estimating abnormal audit fees. These fees, often considered indicators of EM, are more strongly correlated with discretionary accruals when estimated through DNNs, especially in contexts where accounting manipulation is more likely, such as firms audited by the Big 4 or those reporting negative accruals.

From a complementary behavioral perspective, Kipp et al. (2020) show that the use of intelligent agents can positively influence managerial accounting decisions. When these tools have restricted autonomy, they tend to encourage less aggressive practices, highlighting the importance of how AI is integrated into organizational decision-making processes. Moreover, Del Brio et al. (2014) reveal that some executives exploit their insider position to manipulate earnings announcements for personal gain, whether through bonuses or stock-option-linked profits. This form of EM, particularly incentivized by equity-based compensation schemes, generates market inefficiencies, distorts prices, and may contribute to speculative bubbles. Taken together, these studies confirm that AI technologies offer powerful tools for enhancing the detection and prevention of accounting manipulation. However, their real effectiveness depends not only on technical capacity but also on how they are embedded within human decision-making processes. These findings open promising avenues for future research into the optimal balance between algorithmic intelligence and human judgment in the fields of financial governance and accounting transparency.

5. DISCUSSION OF THE RESULTS

5.1. Enhancement and diversification of artificial intelligence applications in financial analysis

Recent advances in AI offer significant prospects for identifying accounting manipulations. Research has particularly demonstrated the superior effectiveness of DNN, notably DBN, in detecting complex EM patterns (da Silveira et al., 2023; Li & Sun, 2023). However, these models require further evaluation across various industry sectors and regulatory frameworks to validate their robustness. At the same time, the development of hybrid models combining multiple AI algorithms appears to be a promising avenue, although it requires continuous adaptation mechanisms in response to the evolving nature of accounting practices (Chen & Howard, 2016). The cross-functional application of these technologies in different financial domains represents another key area of investigation. Several studies have highlighted, for example, the potential synergies between AI tools and ESG analysis to develop more ethical and efficient audit frameworks (Tan et al., 2025; Wu et al., 2024). Other research emphasizes the integration of these technologies into regulatory monitoring systems (Lokanan & Ramzan, 2024) and their central role in corporate digital transformation strategies (Xu et al., 2026). These various applications reflect the versatility of AI solutions while also underscoring the need for context-sensitive approaches tailored to specific environments of use.

5.2. Analysis of contextual factors in the adoption of financial artificial intelligence

The application of AI tools in the financial domain reveals a marked sensitivity to the cultural and institutional specificities of different environments (Hameed & Sanad, 2025). This contextual dependence highlights the need for in-depth research adopting an international comparative perspective. Several

recent studies show that regional specificities, including local accounting standards, governance practices, and regulatory frameworks, significantly influence the performance of financial anomaly detection systems (Capraş et al., 2025; Xu et al., 2026). These contextual variations imply that established models, such as the Beneish model, require specific adaptations to remain relevant across different economic ecosystems (Capraş et al., 2025).

Beyond macroeconomic and institutional factors, internal organizational characteristics also play a crucial role in the successful implementation of AI solutions. Variables such as ownership structure — particularly the distinction between state-owned and private firms — and the level of digital maturity strongly influence the impact of these technologies on financial information quality (Xu et al., 2026). These organizational factors warrant more systematic investigation across hierarchical levels and decision-making processes (Kipp et al., 2020). A multilevel approach of this kind would offer deeper insight into the mechanisms underlying the adoption and practical use of these technologies by financial professionals. This broader contextual perspective opens several promising research avenues. It points to the need for adaptive analytical frameworks that can simultaneously account for cultural, institutional, and organizational dimensions in the evaluation and optimization of AI tools applied to finance (Hameed & Sanad, 2025; Xu et al., 2026; Kipp et al., 2020). Such a holistic approach could significantly enhance the transferability of technological solutions across different economic and social contexts.

5.3. Methodological innovations and practical implementation

The evolution of AI-assisted financial analysis methodologies constitutes a particularly dynamic research area. Recent studies emphasize the benefits of combining various big data analytics approaches to enhance the detection of accounting anomalies. Specifically, integrating data mining with text mining could lead to the development of more comprehensive tools for assessing financial reporting quality (Aboelfotoh et al., 2025). At the same time, innovative methods such as sectoral leave-one-out learning show promising results in identifying earnings manipulation patterns while accounting for industry-specific characteristics (Li & Sun, 2023). However, the practical implementation of these methodological advances raises substantial challenges that require careful attention. Several studies identify key operational issues that must be addressed. These include algorithmic transparency and the traceability of automated decisions, optimization of human-machine interfaces to facilitate effective collaboration between financial experts and AI systems, and the adaptation of regulatory frameworks to accommodate emerging technological realities (Kipp et al., 2020; Tan et al., 2025). These operational challenges are accompanied by an increasing need for robust metrics, calling for the development of more precise indicators to assess both the effective adoption of AI technologies within organizations and their actual impact on decision-making processes (Hameed & Sanad, 2025). Collectively, these research avenues underscore

the need for a balanced approach that integrates technological innovation with attention to human and organizational factors. The development of hybrid methodologies that combine advanced data analysis techniques with appropriate governance mechanisms appears particularly promising for future work.

5.4. Longitudinal perspectives and ethical issues

Future research must incorporate a temporal dimension to analyze the evolution of AI's impacts on financial practices (Chen & Howard, 2016; Hameed & Sanad, 2025). This longitudinal approach allows for the evaluation of detection model stability and the adaptability of organizations to these technologies. It also offers the possibility of identifying the determinants of sustainable implementation of AI solutions. Ethical and governance aspects constitute a key research area for the controlled development of AI in finance (Tan et al., 2025).

Three main issues emerge from current studies:

- the mitigation of algorithmic biases;
- the optimization of human-machine interaction in decision-making processes;
- the establishment of regulatory frameworks adapted to the specificities of AI systems.

These challenges require the development of specific verification protocols and enhanced transparency mechanisms. The analysis of cited references reveals the necessity of interdisciplinary collaboration combining technical skills, accounting expertise, and knowledge in behavioral sciences. This disciplinary convergence appears to be a necessary condition for the development of AI applications that are both effective and responsible in the financial domain.

5.5. Strengthening oversight mechanisms and strategic recommendations

Recent research proposes concrete courses of action to strengthen the impact of AI in combating earnings manipulation and improving financial governance. Choi et al. (2022) recommend expanding the use of AI to other risk indicators, such as fraud or litigation, by deploying hybrid models that combine NLP and financial analysis. They also call for close collaboration between researchers, practitioners, and regulators in order to standardize practices while minimizing algorithmic biases. In a complementary perspective, Del Brio et al. (2014) highlight the importance of reinforcing oversight mechanisms, particularly in contexts where incentive-based compensation systems encourage manipulation. AI can then serve as an early detection tool, provided it is supported by structural reforms aligning managerial incentives with long-term stability objectives. Zhang (2022), for his part, proposes leveraging AI to analyze employees' social and emotional data using knowledge graphs to refine managerial forecasts. However, he emphasizes the need to adapt these tools to local regulatory frameworks and to manage the algorithmic biases they may introduce.

In emerging markets, Narang and Pradhan (2024) advocate for greater pre-IPO transparency by relying on experienced investors capable of

identifying EM practices. This approach aligns with the findings of Lee et al. (2024), who call for stronger engagement from long-term investors and the use of explainable algorithms, such as AdaBoost, to inform policy decisions and improve corporate governance. Finally, Zhai et al. (2025) encourage energy companies — particularly those that are growing or non-state-owned — to adopt a clear strategy for AI integration. This involves better internal resource allocation and a more structured integration of AI into governance processes, in order to enhance investment efficiency, especially in unstable or complex environments.

6. CONCLUSION

The objective of this article was to systematically analyze the contribution of AI to the detection and prevention of EM practices, while highlighting the regional specificities of how these technologies are applied. To this end, we conducted a comprehensive literature review based on the PRISMA protocol, selecting 21 scientific studies from the Scopus and WoS databases, covering the period from 2016–2025. This rigorous approach enabled us to establish a solid and reproducible analytical framework.

The results reveal contrasting regional dynamics in the use of AI to counter EM. In East Asia, the intensive adoption of DNN has led to significant progress, with detection rates reaching up to 91% for certain forms of accounting manipulation (Chen & Howard, 2016) and a more accurate correlation between abnormal audit fees and discretionary accruals (Choi et al., 2022). In North America, a behavioral approach predominates, with AI-assisted support reducing managerial decision-making biases by up to 40% (Kipp et al., 2020). In West Asia, the interactions between AI and gender diversity on boards of directors open up new governance perspectives (Hameed & Sanad, 2025). In India, IPO analysis shows that only experienced anchor investors are able to effectively detect pre-IPO manipulations (Narang & Pradhan, 2024). At the same time, some studies highlight the positive role of long-term investor engagement in reducing opportunistic practices and encourage the use of explainable algorithms such as AdaBoost (Lee et al., 2024). In China, a strategic orientation toward AI helps to mitigate investment inefficiencies, particularly in non-state or growth-phase firms, provided that surplus organizational resources are properly managed (Zhai et al., 2025). At a global level, a growing convergence is observed between AI technologies and ESG criteria, enhancing the robustness of financial oversight mechanisms (Wu et al., 2024), while the risks of manipulation linked to managerial incentives (Del Brio et al., 2014) or algorithmic biases in automated emotional systems (Zhang, 2022) call for heightened vigilance.

The implications of these findings are multiple. From a managerial perspective, they underscore the importance for companies to adopt AI solutions suited to their environment while developing the internal competencies needed for their strategic use. From a regulatory standpoint, they support the establishment of a harmonized normative framework that governs the use of AI in reporting processes while remaining sensitive to local

specificities. From an academic perspective, these results pave the way for further research into the articulation between behavioral factors, algorithmic tools, and institutional structures.

Certain limitations of this study should nevertheless be acknowledged. First, the uneven geographic distribution of available studies, particularly the limited number of contributions focusing on West Asia, may restrict the generalizability of the findings. Second, the review is subject to a linguistic bias, as it exclusively considers English-language publications indexed in the Scopus and WoS databases. In addition, the choice of search terms constitutes a methodological limitation. By focusing primarily on the keywords “Earnings management” and “Artificial intelligence”, the review may have excluded relevant studies that investigate similar phenomena using related terminologies, such as machine learning, deep learning, neural networks, or other data-driven approaches, without explicitly referring to AI. Finally, the rapid pace of technological innovation in AI implies that empirical

evidence may quickly become outdated, thereby requiring regular updates to maintain the relevance of analytical frameworks.

Despite these limitations, the study offers a robust and structured synthesis of the existing literature and makes a substantial contribution to understanding the transformative role of AI in accounting and financial governance. Future research could expand search strategies by incorporating a broader set of keywords, deepen the analysis of algorithmic biases, assess the impact of emerging regulatory frameworks, or explore interactions between AI, blockchain, and predictive analytics. Ultimately, this research highlights AI as a major strategic lever for enhancing the integrity of financial markets. However, its effective deployment depends on a balanced articulation between technological performance, human judgment, and ethical governance. Only under these conditions can AI fully realize its potential in delivering more reliable, transparent, and sustainable financial information.

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