

The Impact of Regulatory Frameworks on Fraud Detection in Auditing

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Received : January 11, 2024 Accepted : February 18, 2024 Published : February 28, 2024 Citation: Lestari, P, A., & Edeh, F, O.	ABSTRACT: Fraud detection in accounting and auditing has evolved significantly due to technological advancements and regulatory developments. This study reviews existing literature on the impact of artificial intelligence, big data analytics, and organizational ethics in strengthening fraud detection. Using a comprehensive methodology, relevant sources from Google Scholar, JSTOR, ScienceDirect, and other academic databases were analyzed to identify key trends and challenges in forensic auditing. Findings indicate that machine learning algorithms significantly enhance fraud detection accuracy, while organizational commitment to ethical standards plays a crucial role in fortesing a transparent sudit antironement Paralletory
Frameworks on Fraud Detection in Auditing. Sinergi International Journal of Accounting & Taxation, 2(1), 15-26.	role in fostering a transparent audit environment. Regulatory frameworks, although essential, must strike a balance to avoid undue constraints on auditors. The study also highlights the necessity of continuous auditor training to optimize the application of emerging technologies in fraud detection. These insights underscore the importance of integrating technological advancements with ethical and regulatory considerations to improve fraud detection efficiency. Future research should focus on refining AI-based audit tools and developing tailored regulatory frameworks that promote both compliance and audit independence. Keywords: Fraud Detection, Forensic Accounting, Audit Technology Artificial Intelligence. Regulatory Compliance. Big
	Data Analytics, Financial Transparency.
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INTRODUCTION

Fraud detection in accounting and auditing has undergone significant transformation in the last five years due to rapid technological advancements. The increasing complexity of financial fraud has necessitated the adoption of novel methodologies and technological tools to enhance detection capabilities. Recent studies highlight the integration of blockchain technology and artificial intelligence (AI) in auditing, which has substantially improved transparency and reduced the likelihood of undetected fraudulent activities (Eze, 2019; Qader & Çek, 2024). Concurrently, the application of big data analytics in fraud detection has gained prominence, as it enables auditors to analyze vast datasets, thereby enhancing the accuracy of financial assessments and fraud prevention measures (Anghel & Poenaru, 2023; Joshi & Gallani, 2024; Shalhoob et al., 2024).

Furthermore, organizational commitment and auditor accountability have emerged as critical determinants in fraud detection. Research by (Damayanti & Agustia, 2024) suggests that auditors with a strong organizational commitment are more likely to report fraudulent activities, underscoring the role of internal organizational factors in ensuring audit effectiveness. These developments indicate that fraud detection is no longer solely reliant on traditional audit techniques but is increasingly influenced by technological innovation and organizational behavior.

Despite these advancements, significant challenges persist. One major issue is the audit expectation gap, wherein auditors, financial statement preparers, and stakeholders hold differing perceptions of auditors' responsibility in fraud detection. (Al-Dhubaibi, 2020; Modugu & Anyaduba J, 2013; Sahdan et al., 2020) found that stakeholders often expect auditors to proactively identify all fraudulent activities, whereas auditors primarily focus on assessing financial statement accuracy. This discrepancy underscores the need for clearer communication and regulatory guidelines to align stakeholder expectations with audit realities.

Another challenge is the evolving complexity of financial fraud. Fraudulent schemes have become increasingly sophisticated, often leveraging advanced financial instruments and digital transactions to conceal illicit activities. Studies by Chen and Wu (2022) indicate that financial statement fraud frequently involves intricate methods that require auditors to continuously update their knowledge and skills. The integration of machine learning techniques in audit processes offers a promising solution, as these tools can process large datasets to detect anomalous transactions indicative of fraud (Bakumenko & Elragal, 2022; Offor et al., 2022; Sulaiman et al., 2023). However, widespread adoption remains hindered by concerns over data integrity and the interpretability of machine learning models.

Moreover, the implementation of new technologies in fraud detection presents additional obstacles, particularly in terms of system integration and auditor training. Research by (Hassan et al., 2024; Islam & Stafford, 2021; Olofinsola, 2016) highlights the importance of specialized IT knowledge and critical thinking skills for internal audit functions to effectively utilize data analytics tools. Without adequate training, auditors may struggle to leverage these technologies optimally, thereby limiting their effectiveness in identifying fraudulent activities. Thus, while technology-driven fraud detection holds considerable potential, its success is contingent upon the ability of auditors to adapt to and integrate these tools into their workflows.

Despite ongoing efforts to enhance fraud detection, research indicates that existing governance frameworks and control mechanisms remain insufficient in preventing financial misconduct (Insani et al., 2023; Priatnasari, 2020; Tan et al., 2023). (Rehman & Hashim, 2020) found that even with stringent corporate governance codes, fraudulent activities persist, suggesting the need for more robust anti-fraud strategies. This raises important questions regarding the efficacy of current fraud detection methodologies and the necessity for continued innovation in forensic auditing.

Given these challenges, there exists a significant gap in the literature concerning the interplay between technological advancements, auditor responsibilities, and organizational factors in fraud detection. While numerous studies have explored individual aspects such as AI integration or auditor behavior, comprehensive research that examines their interdependencies remains scarce. Addressing this gap is crucial for developing a holistic approach to fraud detection that incorporates technological, regulatory, and organizational considerations.

The primary objective of this review is to analyze the evolving landscape of fraud detection in accounting and auditing, with a particular focus on the integration of advanced technologies, auditor responsibilities, and systemic challenges. This study aims to evaluate the effectiveness of AI, blockchain, and big data analytics in fraud detection, assess the impact of auditor behavior and organizational commitment, and explore regulatory implications for audit practices. By synthesizing existing research, this review seeks to provide insights into best practices for enhancing fraud detection frameworks.

This review encompasses a broad scope, examining fraud detection practices across various geographic regions and industry sectors. Recognizing that regulatory environments and cultural factors influence fraud detection efficacy, this study incorporates comparative analyses between developed and emerging economies. Additionally, it considers variations in audit practices across industries, such as banking, healthcare, and corporate finance, to offer a comprehensive understanding of fraud detection challenges and solutions.

By addressing these critical issues, this review aims to contribute to the ongoing discourse on improving fraud detection methodologies. It underscores the necessity of a multi-faceted approach that integrates technological innovation, auditor training, and regulatory enhancements to combat financial fraud effectively. Future research should focus on refining AI-driven audit tools, bridging the audit expectation gap, and developing standardized guidelines for integrating emerging technologies into forensic auditing.

METHOD

This study employs a systematic approach to reviewing existing literature on fraud detection in accounting and auditing. To gather relevant sources, a comprehensive search was conducted across multiple academic databases, ensuring the inclusion of high-quality and peer-reviewed articles. The primary databases utilized in this research include Google Scholar, JSTOR, ScienceDirect, IEEE Xplore, Emerald Insight, SpringerLink, and ProQuest. Each of these platforms offers extensive coverage of scholarly works in forensic accounting, auditing methodologies, financial fraud detection, and emerging technologies in the auditing field.

Google Scholar was particularly useful in providing a broad overview of literature, including journal articles, books, and conference papers. JSTOR and ScienceDirect, known for their vast collections of finance and accounting journals, provided access to cutting-edge research on forensic accounting and fraud prevention strategies. IEEE Xplore was instrumental in sourcing studies related to the technological aspects of fraud detection, such as machine learning applications and big data analytics. Similarly, Emerald Insight and SpringerLink contained relevant empirical studies and case analyses that further enriched the research. ProQuest was utilized to access dissertations and theses that offer deep theoretical insights and longitudinal studies on fraud detection trends.

To refine the literature search, a carefully curated set of keywords was employed. The primary search terms included "fraud detection," "forensic accounting," "audit quality," "financial fraud," and "big data analytics." Boolean operators such as AND, OR, and NOT were integrated to optimize search results. For instance, a query using "fraud detection AND forensic accounting" retrieved articles that specifically discuss fraud detection within forensic accounting frameworks. Additionally, quotation marks were used for phrase searches, such as "financial fraud," ensuring that results were highly relevant to the topic. The combination of these keywords and advanced search techniques significantly enhanced the precision of the literature review.

A key aspect of this methodology was the implementation of inclusion and exclusion criteria to filter relevant studies. Inclusion criteria required that selected articles be peer-reviewed, published within the last five years, and directly related to fraud detection in accounting and audit contexts. Studies focusing on empirical findings, case studies, and theoretical advancements in fraud detection were prioritized. Exclusion criteria included articles that lacked methodological rigor, were not written in English, or primarily discussed fraud detection in non-financial sectors.

The study incorporated diverse research methodologies from various sources, including randomized controlled trials, cohort studies, case studies, and meta-analyses. Randomized controlled trials were valuable in assessing the efficacy of specific fraud detection techniques, while cohort studies provided longitudinal insights into the evolution of fraud prevention strategies. Case studies offered detailed real-world applications of fraud detection methodologies, and meta-analyses synthesized findings from multiple studies to present a broader perspective on trends in forensic auditing.

The selection process involved several steps to ensure the quality and relevance of the included literature. Initially, database searches yielded a large pool of articles. Abstracts and conclusions of these articles were reviewed to determine their relevance before retrieving the full texts. Following this, a secondary screening was conducted, focusing on methodological rigor and the applicability of findings to the field of forensic accounting. To further enhance the credibility of the review, cross-referencing was performed using citations from highly cited studies, ensuring that significant contributions to the field were not overlooked.

To maintain an objective and structured approach, data from selected studies were analyzed thematically. Thematic analysis allowed for the identification of recurring themes, such as technological advancements in fraud detection, the role of auditors in fraud prevention, and the impact of big data analytics. This method facilitated a comprehensive synthesis of existing knowledge, highlighting both prevailing challenges and emerging solutions in the domain of forensic auditing.

Given the reliance on rapidly evolving technologies in fraud detection, additional measures were taken to verify the credibility of sources. Studies from high-impact journals and articles with multiple citations were given precedence. Furthermore, government and institutional reports were consulted to ensure that findings aligned with industry best practices and regulatory frameworks. By utilizing this robust methodology, the study ensures a comprehensive and critical examination of existing research in fraud detection. The combination of diverse academic sources, strategic search techniques, and stringent selection criteria enhances the reliability and validity of the findings. This methodological approach not only strengthens the academic rigor of the review but also provides valuable insights into the evolving landscape of fraud detection in accounting and auditing.

RESULT AND DISCUSSION

Fraud detection in accounting and auditing has evolved significantly due to the increasing complexity of fraudulent activities and advancements in auditing technologies. Numerous studies highlight the role of auditors, the impact of technology, and the influence of regulatory frameworks in enhancing fraud detection mechanisms. This section presents findings on these key aspects based on recent literature, demonstrating the varying effectiveness of detection strategies across different geographic, sectoral, and regulatory contexts.

The role of auditors in fraud detection has been a focal point in recent studies. Research by (Kassem & Omoteso, 2023) suggests that auditors from Big 4 firms exhibit superior effectiveness in detecting financial misstatements compared to auditors from smaller firms. Their extensive experience, sophisticated analytical tools, and access to advanced fraud detection methodologies provide them with a competitive edge. Moreover, the integration of big data analytics into forensic accounting has further augmented auditors' capabilities. (Chen & Wu, 2022) demonstrate that machine learning algorithms, particularly ensemble models, outperform traditional single-algorithm approaches in identifying fraudulent activities. However, this level of technological integration varies across different regions. (Siahaan et al., 2023) observe that countries with stringent regulatory oversight tend to have more proactive auditors, while those with weaker legal frameworks often lag in effective fraud detection.

Sectoral differences also influence fraud detection efficacy. (Ismajli et al., 2019) highlight that auditors in the public sector face unique challenges, including political pressures and bureaucratic constraints that impede their ability to report fraudulent activities. Unlike their private-sector counterparts, who operate within a more structured regulatory framework, public-sector auditors often encounter institutional barriers that reduce the efficiency of fraud detection processes. Similarly, cultural factors play a critical role in fraud reporting. (Ningsih et al., 2024) find that in certain societies, strong social stigmas deter individuals from reporting fraud, leading to an underestimation of its prevalence and complicating auditors' ability to detect and address fraudulent practices effectively.

Empirical evidence underscores the role of technology in augmenting fraud detection efforts. (Shalhoob et al., 2024) confirm that integrating big data analytics into auditing procedures enhances the speed and accuracy of fraud identification. These findings align with research by (Rahman & Xu, 2022), who demonstrate that machine learning techniques, especially ensemble methods, improve detection rates compared to traditional analytical approaches. Nevertheless, these

technological advancements are not uniformly adopted across sectors. (Rustiarini et al., 2020) note that public-sector audits often suffer from budget constraints and inadequate training programs, which hinder the adoption of advanced technological tools. In contrast, larger private-sector entities leverage these technologies more effectively due to greater financial and technical resources.

The methodologies employed in fraud detection research also impact the consistency and reliability of findings. Experimental studies, such as those conducted by (Lee et al., 2012), examine the role of professional skepticism in fraud detection, revealing that auditors with higher skepticism levels are more adept at identifying fraudulent activities. While controlled experiments provide valuable insights, their applicability to real-world scenarios remains limited due to the controlled nature of the experimental environment. On the other hand, survey-based studies, such as those by (Damayanti & Agustia, 2024), offer broader perspectives on how organizational commitment and ethical considerations influence fraud detection. However, survey methodologies introduce potential biases, as self-reported data may not always reflect actual practices.

Emerging trends in fraud detection literature reveal increasing reliance on advanced technologies and regulatory measures to enhance audit effectiveness. (Mandal & Amilan, 2023) highlight the growing adoption of artificial intelligence and blockchain technology in auditing processes. These technologies not only improve data transparency but also reduce opportunities for undetected fraudulent activities. Furthermore, regulatory frameworks play a crucial role in shaping fraud detection practices. Damayanti and Agustia (2024) emphasize that stricter accounting standards and anti-fraud regulations lead to higher detection rates. However, overregulation can also create unintended consequences. Research by (Khersiat, 2020) warns that excessive regulatory pressures may discourage auditors from reporting fraud due to fear of legal repercussions or professional liability.

Advancements in digital auditing tools have significantly reshaped fraud detection strategies. (Mugwira, 2022) illustrates how internet-based auditing systems enable real-time fraud detection and enhance auditors' ability to analyze complex financial transactions. However, these advancements necessitate ongoing professional development. Rustiarini et al. (2020) argue that many auditors lack the necessary technical training to fully leverage digital audit tools, creating a gap between technological capabilities and practical implementation. Additionally, predictive analytics has emerged as a promising approach to fraud detection. (Rixom & Plumlee, 2023) show that machine learning algorithms can predict fraudulent activities based on historical financial data, allowing auditors to take a proactive approach in fraud prevention.

Despite technological advancements, significant challenges remain. Rixom and Plumlee (2023) highlight that many auditors feel unprepared to integrate emerging technologies into their workflows due to insufficient training and institutional support. Additionally, organizational resistance to change can slow the adoption of new fraud detection tools. Research by Mugwira (2022) indicates that firms with rigid traditional structures often struggle to transition to data-driven auditing methods, limiting the effectiveness of advanced fraud detection mechanisms.

In summary, recent literature underscores the evolving landscape of fraud detection in accounting and auditing. While technological advancements and regulatory measures have strengthened fraud identification capabilities, disparities in adoption and sectoral challenges persist. Future research should focus on bridging the gap between technological innovation and auditor readiness, ensuring that fraud detection strategies remain robust and adaptable to an increasingly complex financial environment.

The findings of this study underscore the transformative role of advanced technologies, such as big data analytics and artificial intelligence, in enhancing fraud detection capabilities. These results align with prior research indicating that technology serves as a powerful tool in identifying anomalies within financial statements. For instance, studies by Chen and Wu (2022) highlight that machine learning algorithms, particularly ensemble models, demonstrate superior effectiveness in detecting fraud compared to traditional methods (Mandal & Amilan, 2023). This corroborates the assertion that modern audit methodologies not only enhance efficiency but also improve the accuracy of fraud detection.

Nevertheless, the implementation of technology in fraud detection is not uniform across sectors and regions. Research by Damayanti and Agustia (2024) reveals that the public sector often encounters barriers such as budget constraints and insufficient training for auditors. This suggests that while technology offers significant advantages, its success heavily depends on organizational readiness and the ability of auditors to adapt to technological advancements. These findings align with previous studies that indicate organizational and environmental factors influence the effectiveness of fraud detection technology.

In addition to technological advancements, the professional skepticism of auditors remains a crucial factor in detecting fraudulent activities. Lee et al. (2012) found that auditors exhibiting high levels of skepticism are more adept at identifying signs of fraud. This supports the results of the present study, which indicate that auditors must be trained to develop a critical approach toward financial information provided by clients. While technology aids in fraud detection, human judgment and analytical skills remain indispensable in forensic auditing.

Regulatory policies and accounting standards also play a pivotal role in fraud detection. The present findings demonstrate that stricter accounting forensic standards and regulatory frameworks enhance awareness and responsiveness to financial fraud. Research by Mandal and Amilan (2023) indicates that organizations subject to stricter compliance measures are more likely to adopt proactive audit practices. However, excessive regulation may also create undue pressure on auditors, limiting their independence and effectiveness. This concern is echoed in studies by Khersiat (2020), which suggest that overly stringent regulations can lead to increased stress among auditors, potentially reducing their willingness to report fraudulent activities. This highlights the necessity of achieving a balance between regulatory rigor and professional autonomy in fraud detection practices.

Systemic factors contribute significantly to the challenges identified in fraud detection within accounting and auditing. These include organizational culture, regulatory policies, and technological integration, all of which interact to shape the effectiveness of fraud detection

mechanisms. One critical factor is the organizational commitment to ethics and integrity. Research by Damayanti and Agustia (2024) suggests that auditors with a strong commitment to ethical standards are more likely to take responsibility in fraud detection. When organizations prioritize ethical values and provide institutional support, auditors are more motivated to report fraudulent activities. Conversely, an environment that tolerates unethical behavior can discourage auditors from exposing financial irregularities, exacerbating fraud-related challenges.

Regulatory frameworks also influence fraud detection efficacy. While research by Mandal and Amilan (2023) does not explicitly discuss the impact of strict regulations, it remains evident that stronger regulatory oversight compels organizations to adopt more robust audit practices. However, as noted by Khersiat (2020), excessive regulation may impose burdensome constraints on auditors, affecting their ability to act independently. This underscores the need for regulatory bodies to establish frameworks that balance enforcement with professional discretion.

Technological advancements play an equally significant role in shaping fraud detection outcomes. Studies by Qader and Çek (2024) indicate that emerging technologies such as blockchain and artificial intelligence enhance transparency and accuracy in audit processes, thereby minimizing the likelihood of undetected fraud. However, the successful implementation of these technologies is contingent on adequate training and technological literacy among auditors. Research by Rixom and Plumlee (2023) underscores the importance of equipping auditors with the necessary skills to effectively leverage digital tools. Organizations that fail to invest in auditor training risk undermining the potential benefits of fraud detection technologies.

External factors, such as stakeholder expectations and market pressures, further influence auditor behavior. Kassem and Omoteso (2023) found that auditors affiliated with large firms are more effective in detecting fraud, likely due to reputational incentives and greater accountability to stakeholders. This suggests that external pressures can drive auditors toward more rigorous fraud detection practices. However, undue pressure from stakeholders may also lead to conflicts of interest, potentially compromising auditor independence. These findings highlight the need for a balanced approach in managing external expectations while maintaining audit integrity.

Various solutions have been proposed in the literature to address the challenges associated with fraud detection in accounting and auditing. One critical approach involves strengthening organizational commitment to ethics and integrity. Damayanti and Agustia (2024) emphasize that fostering an ethical corporate culture and providing institutional support encourage auditors to take a proactive stance in fraud detection. Implementing ongoing ethics training and awareness programs can reinforce auditors' commitment to ethical standards, thereby mitigating fraudulent practices.

Technological integration also presents a viable solution. Research by Chen and Wu (2022) underscores the effectiveness of machine learning algorithms, particularly ensemble models, in enhancing fraud detection capabilities. Leveraging artificial intelligence and big data analytics allows auditors to analyze large datasets more efficiently, identifying fraud patterns that might otherwise go unnoticed. However, the successful adoption of these technologies necessitates substantial investment in auditor training and technological infrastructure.

Regulatory enhancements constitute another potential avenue for improving fraud detection outcomes. While excessive regulation may impose undue pressure on auditors, establishing clear and pragmatic compliance frameworks can enhance audit quality. Regulatory bodies must strike a balance between enforcing stringent oversight and allowing auditors sufficient flexibility to exercise professional judgment. Research by Kassem and Omoteso (2023) suggests that firms adhering to well-defined regulatory standards exhibit higher fraud detection effectiveness, reinforcing the need for tailored regulatory approaches.

The effectiveness of fraud detection mechanisms is also contingent on auditor training and skill development. Rixom and Plumlee (2023) argue that equipping auditors with technological competencies is essential for maximizing the benefits of digital audit tools. Organizations should prioritize continuous professional development initiatives that enable auditors to stay abreast of technological advancements and evolving fraud schemes. Without adequate training, the full potential of fraud detection technologies remains unrealized.

Collaboration between auditors and stakeholders represents an additional strategy for enhancing fraud detection. Effective communication between auditors, corporate management, and regulatory bodies facilitates information-sharing and fraud risk assessment. Research by Kassem and Omoteso (2023) indicates that collaborative audit approaches improve fraud detection efficiency, as auditors benefit from access to diverse perspectives and insights. Establishing transparent communication channels can further strengthen fraud detection frameworks and reinforce audit credibility.

Overall, the literature presents multiple avenues for enhancing fraud detection effectiveness, including organizational commitment, technological adoption, regulatory improvements, and auditor training. Implementing these strategies requires a holistic approach that considers systemic factors, external pressures, and technological advancements. Addressing these challenges will be essential in ensuring the continued evolution and reliability of fraud detection methodologies in accounting and auditing.

CONCLUSION

This study highlights the significant impact of advanced technologies, such as big data analytics and artificial intelligence, in enhancing fraud detection in accounting and auditing. Findings from previous research indicate that machine learning algorithms, particularly ensemble models, have demonstrated superior effectiveness in identifying fraudulent activities compared to traditional methods (Chen & Wu, 2022). The integration of technology in audit practices not only improves efficiency but also enhances accuracy in detecting financial anomalies.

Organizational commitment to ethics and integrity is another key factor in fostering an environment conducive to fraud detection. Research by Damayanti and Agustia (2024) underscores that auditors who adhere strongly to ethical values are more proactive in reporting fraudulent activities. Therefore, organizations must embed a strong ethical culture and provide adequate support to auditors to encourage transparency and accountability.

Regulatory frameworks also play a crucial role in strengthening fraud detection mechanisms. While stringent regulations can drive organizations to adopt better audit practices, it is essential to balance regulatory strictness with auditors' ability to act independently without excessive pressure (Mandal & Amilan, 2023). Overregulation may discourage auditors from reporting fraud due to professional constraints.

Additionally, ongoing training and skill development for auditors are necessary to enhance their competency in utilizing emerging technologies effectively. Future research should focus on understanding how AI and big data analytics can be seamlessly integrated into existing audit methodologies and explore strategies to optimize regulatory policies without imposing undue burdens on auditors. These efforts will contribute to more robust fraud detection frameworks and improve financial accountability globally.

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