

The Utilizing AI in Forensic Audit: A Solution to Detect & Prevent Financial Fraud

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Abstract. *Financial fraud is a significant challenge faced by organizations worldwide, with significant financial and reputational impacts. Forensic audits play a critical role in identifying and preventing such fraud. This study uses a descriptive qualitative method, which is a study that describes social phenomena or events, both natural and man-made. This study aims to describe the characteristics, quality, and relationships between activities. However, traditional methods often fall short in the face of complexity and large volumes of data. The application of Artificial Intelligence (AI) offers innovative solutions to enhance the effectiveness of forensic audits. This article discusses the role of AI in detecting and preventing financial fraud, the benefits it offers, and the challenges that may be faced in its implementation.*

Keywords: *Artificial; Forensic; Intelligence; Technology.*

1. Introduction

Financial forensic auditing is an investigative process to find and analyze evidence of suspected fraud or financial violations. This audit is conducted to detect and prevent fraud, as well as to provide valid evidence in court. Financial forensic audits are conducted by forensic auditors, who are professionals who have expertise in accounting, auditing, and law.

The purpose of financial forensic audits Detect and prevent fraud, Investigate fraud that has occurred, Provide evidence needed to prosecute perpetrators of fraud, Provide recommendations for improving internal control systems.

Financial forensic audit methods: Data analysis to look for anomalies or irregularities, Forensic testing to analyze data or documents. And the challenges of financial forensic audits Complexity of modern fraud schemes, Limited access to critical data, Legal and ethical issues, High costs and time required

Financial fraud, such as financial statement manipulation and asset embezzlement, can cause significant financial losses and damage an organization's reputation. Forensic auditing is a specialized discipline within accounting that focuses on investigating fraud and financial

irregularities. However, traditional audit methods often face limitations in detecting fraud patterns, especially with the increasing volume and complexity of financial data.

Artificial Intelligence (AI) has shown great potential in various fields, including finance and accounting. AI's ability to analyze large amounts of data, recognize patterns, and detect anomalies in real-time makes it an effective tool in forensic audits. The application of AI in forensic audits can improve the accuracy and efficiency in detecting and preventing financial fraud.

2. Research Methods

This study uses a descriptive qualitative method, which is a study that describes social phenomena or events, both natural and man-made. This study aims to describe the characteristics, quality, and relationships between activities.

3. Result and Discussion

Benefits of Applying AI in Forensic Audits

- a. **More Accurate Anomaly Detection:** AI is able to analyze large amounts of transaction data and detect unusual or suspicious patterns that human auditors might miss. Machine learning algorithms can be trained to recognize signs of fraud based on historical data, improving detection accuracy. (Marco Schreyer, 2017)
- b. **Time and Cost Efficiency:** Traditional audit processes take significant time and resources. With AI, data analysis can be automated and faster, reducing the time it takes to identify potential fraud. This can also reduce the costs associated with the audit process. (Vita Citra Mulyandini, 2024)
- c. **Real-Time Monitoring:** AI enables real-time monitoring of financial transactions, so potential fraud can be detected and prevented before it causes greater losses. This provides an advantage over traditional audit methods which are usually retrospective. (Muhammad Ray Syahronny, 2024)
- d. **Increasing Auditor Capabilities:** With the help of AI, auditors can focus on deeper analysis and strategic decision-making, while routine tasks and data analysis are performed by the AI system. This increases the productivity and effectiveness of auditors in carrying out their duties. (Hasri Ainun Syahfir, 2025)

Challenges in AI Implementation

Despite offering various benefits, the application of AI in forensic audits also faces several challenges:

- a. **Data Quality:** AI requires high-quality data to function optimally. Incomplete or inaccurate data can affect the performance of AI systems in detecting fraud.(Ervian Ridho Mawlidy, 2024)
- b. **Complexity of Algorithms:** Complex AI algorithms may be difficult for auditors without a technical background to understand, requiring specialized training to ensure adequate understanding.(LPKD, 2024)
- c. **Ethical and Privacy Issues:** The use of AI in financial data analysis raises questions about data privacy and security. It is important to ensure that AI implementation complies with applicable regulations and maintains the confidentiality of information.(Andi Prayitno, 2024)

4. Conclusion

The application of Artificial Intelligence in forensic auditing offers an effective solution to detect and prevent financial fraud. With the ability to analyze data efficiently and accurately, AI can improve audit quality and help organizations maintain their financial integrity. However, it is important to consider the challenges involved and take the right steps to ensure a successful and ethical implementation of AI in forensic auditing.

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