

Chapter 4

Artificial Intelligence Challenges and Its Impact on Detection and Prevention of Financial Statement Fraud: A Theoretical Study

Archna

Lovely Professional University, India

Nidhi Bhagat

Lovely Professional University, India

ABSTRACT

The detection and prevention of financial statement fraud is a critical concern in maintaining the credibility and reliability of financial reporting. In response to this ongoing challenge, researchers are exploring innovative solutions that leverage artificial intelligence (AI) technology. This study investigates the potential application of AI techniques, such as machine learning algorithms, natural language processing, and data mining, in enhancing forensic accounting practices for detecting and preventing financial statement fraud. Furthermore, the research examines the inherent challenges and limitations involved in implementing AI systems within forensic accounting. The findings of this research contribute valuable insights to organizations, regulatory bodies, and forensic professionals, assisting them in their efforts to combat financial fraud and promote the accuracy of financial reporting systems.

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1. INTRODUCTION

Artificial Intelligence (AI) stands as a technological advancement bound to have a deep influence on the legal domain and the role of forensic accountants as expert witnesses. A forensic accountant's testimony, like any expert witnesses is pivotal for effectively presenting cases in court. Given the intricacies of many cases, forensic accountants often need to sift through data to discern reliable information, a process that can be both costly and time-intensive (Capraş & Achim, 2023). The integration of AI holds the potential to streamline this task, offering a more efficient approach (Cao, 2022). This inevitably requires courts, legal practitioners, and forensic accounting experts to familiarize themselves with this emerging technology and understand its impact on jury decisions (Mehta et al., 2022). Recent research also highlights the application of AI in fraud detection, which can significantly aid forensic accountants in their investigations (Y. Hilary et al., 2022; Chaquet-Ulledemolins et al., 2022; Zioviris et al., 2022). Moreover, AI's role in improving forensic accounting services has been observed in sectors like healthcare, where it contributes to fraud prevention (Obiora et al., 2022). As we move forward, it is evident that the synergy between forensic accounting and AI will play a crucial role in enhancing the legal landscape and the effectiveness of expert witness testimony. Considering the significant role played by forensic accountants as expert witnesses, the ongoing adaptation to AI within the legal framework becomes a pertinent subject for forensic accounting research (Capraş & Achim, 2023). Moreover, the way in which forensic accountants incorporate AI into a dynamic legal environment will also influence the trajectory of forensic accounting research (Cao, 2022). Forensic auditing encompasses the process of examining historical financial data to gather evidence that can be presented in legal proceedings. The term "forensic" is associated with financial facts and their manipulation, as well as the presence of financial fraud. According to Oberholzer, forensic auditing is a variant of investigative audit or accounting that places emphasis on tracking down instances of financial fraud (Ogunode & Dada, 2022). This field of forensic accounting offers a comprehensive understanding of various types of fraud occurrences while also actively working to prevent such fraudulent activities and institute anti-fraud measures. With the advent of information technology in the contemporary era, there has been a growing interest among academics and professionals to harness the capabilities of Artificial Intelligence (AI) in the realm of forensic accounting (Sharma & Panigrahi, 2020). This interest stems from the intention to enhance efforts against financial fraud. Forensic accounting is a crucial tool in detecting fraud, employing specialized skills to uncover suspicious financial patterns and anomalies (Kaur et al., 2020). These professionals conduct thorough investigations, analyze large volumes of data, and scrutinize relevant documents to identify potential red flags. With their expert testimony and collaboration with law

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