


# Chapter 5


## Innovative Auditing Practices: Evidence From Emerging Technologies

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### ABSTRACT

*This study pertains to the impact of new emerging technologies—Artificial Intelligence (AI), blockchain, and cloud computing—on the auditing process. Based on case studies and literature reviews, it explains how each of the foregoing technologies enhances audit quality, real-time assurance, fraud detection, and evidence integrity. AI enables high-frequency data analysis to detect fraud and anomalies in a more efficient manner. Cloud computing enables real-time collaborative auditing but raises data privacy and regulatory compliance issues. Blockchain offers tamper-evident audit trails via smart contracts but suffers from interoperability challenges. The paper presents a visionary sketch of the signs of these technologies and gives*

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*recommendations to auditors, educators, and policymakers.*

## **1. INTRODUCTION**

Recent literature is designed to highlight the fact that every new technology—AI, cloud computing, and blockchain—transforms auditing fundamentally. Artificial Intelligence (AI) improves audit quality through data analysis and risk automation. For instance, Pérez-Calderón et al. determine that AI “substantially enhances audit efficiency, accuracy, and client communication quality,” hence leading to a general improvement in the quality of audit output (Issa, Sunyaev, & Vasarhelyi, 2016; Pérez-Calderón, Alrahamneh, & Montero, 2025). AI analytics enable auditors to examine complete datasets instead of samples, narrowing the scope for human error and making more educated judgments. Anomaly detection software based on AI discovers unusual patterns in transactions that are more likely to be overlooked by human assessors while searching for fraud. There is evidence that AI application in audit functions “has the ability to streamline audit processes, increase efficiency, and enhance the detection of fraudulent movement” (Saifudin, Januarti, & Purwanto, 2023; Appelbaum, 2017). By ever-present monitoring of transaction flows, AI also facilitates near real-time assurance, minimizing audit cycles and enabling real-time reaction to exceptions (Yermack, 2017). More broadly, AI facilitates delivery of higher quality audits and improved fraud detection and conveys rigor and assurance to evidence through advanced automated verification (Pérez-Calderón, Alrahamneh, & Montero, 2025; Saifudin, Januarti, & Purwanto, 2023).

Cloud computing also transforms the audit process. Cloud infrastructure makes it possible for auditors to gain secure central access to financial information, providing greater accuracy and timing. Empirical studies show that organizations with cloud ERP systems have higher audit accuracy, report quality, and evidence reliability compared to organizations that own on-premises systems (Alotaibi, 2023). Cloud computing's scalability and on-demand feature enable auditors to deal with enormous amounts of data more efficiently and enhance the quality of audits. Anytime access to real-time accounting records in the cloud enables continuous auditing and assurance: auditors can authenticate transactions as they occur rather than after the fact. (Alotaibi, 2023) Cloud platforms also enable collaboration and sharing of data between clients and audit teams to reduce time differences. In addition, cloud systems enhance the consistency of the audit evidence by keeping standard, tamper-evident records of transactions. Cloud environments pose new control issues, however; auditors must consider cloud security and governance controls to resist fraud risk and preserve evidence integrity.

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