The Role of Blockchain Technology in Enhancing Audit Quality and Combating Financial Fraud: An Analytical Study of International Experiences

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Received: 20/07/2026, **Accepted**: 08/10/2026, **Published**: 15/11/2026

Cite This Paper as: Rachida Bouguenoune, Mourad Alla (2026) The Role of Blockchain Technology in Enhancing Audit Quality and Combating Financial Fraud: An Analytical Study of International Experiences The Journal Of African Development L, Vol.7, No.1, 351-360

KEYWORDS

blockchain; accounting audit quality; financial fraud; international experiences

ABSTRACT

This study examines the role of blockchain technology in enhancing audit quality and combating financial fraud by presenting and analysing a set of international experiences and assessing the extent to which this technology contributes to improving audit procedures, strengthening the reliability of financial information, and curbing the manipulation of records. It also seeks to develop an analytical framework linking the characteristics of blockchain namely, the immutability of records, transparency, and transaction traceability to the two dimensions of audit quality and fraud prevention, thereby clarifying the conditions for successful adoption and its limitations. The study concludes that international experiences generally agree on the positive impact of this technology on the reliability of audit evidence, audit efficiency, and the accuracy of fraud detection. This impact is further enhanced when blockchain is integrated with artificial intelligence and deep-learning technologies. Nevertheless, its effectiveness remains contingent upon auditors' competencies, the clarity of the regulatory framework, and the technological and oversight readiness of institutions.:.

INTRODUCTION

The fields of auditing and accounting are undergoing rapid transformation as a result of technological development. Traditional methods based on examining financial statements and paper-based confirmations are no longer sufficient to address the growing complexity and volume of financial operations or the diversity of risks associated with manipulation and fraud. These developments have affected confidence in financial information and, consequently, the decisions made by investors and other stakeholders, placing audit quality at the centre of the concerns of the profession, regulators, and researchers.In this context, blockchain technology has emerged as one of the most significant modern digital technologies. It provides distributed records that are difficult to alter, transparency in transactions, and the ability to trace and verify transactions in real time. International experiences have demonstrated the potential of this technology to improve audit procedures and support financial-fraud detection systems, particularly when integrated with artificial-intelligence tools and intelligent data analytics.At the same time, the literature indicates that these potential benefits are not automatic. Their realization is constrained by technological, regulatory, and professional challenges, most notably technical complexity, insufficient auditor expertise, and the absence of clear regulatory frameworks. This makes it important to examine and analyse international experiences in order to identify lessons that may help enhance audit quality and combat financial fraud.

RESEARCH PROBLEM

Despite the growing global interest in using blockchain technology in the auditing profession and in limiting financial fraud, international experiences differ in their contexts, approaches, and levels of implementation. Their outcomes also vary according to auditors' competencies, the clarity of the regulatory framework, and the technological readiness of institutions. These differences call for an integrated analysis to understand the nature of blockchain's contribution and the conditions required for its successful implementation. Accordingly, the study addresses the following central research question:

- How does blockchain technology contribute to enhancing audit quality and combating financial fraud in light of international experiences?

This central question gives rise to a number of subsidiary questions, the most important of which are:

What is the conceptual framework of blockchain technology, audit quality, and financial fraud?

How does blockchain technology affect accounting audit quality according to international experiences?

What role does blockchain, either independently or in integration with other technologies, play in combating financial fraud?

What are the main factors and challenges that determine the success of implementing this technology?

RESEARCH OBJECTIVE

This study seeks to highlight the role of blockchain technology in enhancing audit quality and combating financial fraud by analysing the most relevant international experiences, identifying areas of convergence and divergence among them, and determining the factors that influence successful implementation. In doing so, it aims to support the use of lessons learned in environments that are still at an early stage of adopting this technology.

SIGNIFICANCE OF THE STUDY

The significance of this study stems from its examination of a contemporary issue related to the development of the auditing profession and the strengthening of confidence in financial information. It brings together the two dimensions of audit quality and fraud prevention within a single analytical framework. It also contributes to Arabic-language literature by presenting international experiences that may help auditors, institutions, and regulatory bodies understand both the potential and the limitations of the technology, while balancing the opportunities offered by digital transformation against the requirements of professional competence and an appropriate regulatory framework.

RESEARCH METHODOLOGY

Given the nature of the subject, the study adopts the descriptive-analytical approach, which is particularly suitable for theoretical and analytical research in economics and management sciences. This approach involves accurately describing the phenomenon, analysing and comparing the findings of selected international experiences, and interpreting the relationships among their variables in order to reach objective scientific conclusions.

I. Blockchain Technology: Concept and Principles:

Accounting and financial operations in the digital age require the immediate deployment of secure and efficient financial-management systems. Centralised processing of corporate data and the manual verification used in traditional accounting and auditing systems delay the preparation of financial reports and create risks of fraud and operational inefficiency. Blockchain is therefore regarded as an advanced tool capable of bringing fundamental changes to financial transactions, particularly accounting practices and audit procedures.

1. The Concept of Blockchain:

Nyakairu (2025, p. 40) explains that blockchain is a term used to describe digital systems that were initially documented through the digitisation of accounting-ledger practices. It represents a distributed ledger. Distributed-ledger operations provide all participants with information about each transaction, which is executed and stored in a block within a highly secure data channel that cannot be altered. Wenhua et al. (2023, p. 2) and Qahtan et al. (2023, p. 20) describe blockchain as a revolutionary distributed-database technology. In a blockchain system, data are stored in blocks linked together in a chain. Unique copies of these chains are referred to as ledgers. Users within the blockchain network are called nodes, and each node maintains a copy of the ledger. Blockchain data are updated among users through cryptographic security. This arrangement ensures data decentralisation, one of the key concepts underpinning blockchain systems.Marc (2016, p. 4) also notes that blockchain is a technology designed to eliminate the double-spending problem through public-key cryptography. Each participant is assigned a private key, kept secret like a password, and a public key shared with all other participants.

2. Principles of the Blockchain System:

The blockchain system is based on a set of fundamental principles that enable secure and reliable digital transactions

without the need for intermediaries. These principles include:

Decentralisation:

Blockchain operates as a distributed data ledger in which information is stored across numerous nodes in the network. This removes the need for a central authority and reduces single points of failure. Although the distributed proof-of-stake process relies on a limited number of delegates, it remains decentralised because token holders have the authority to vote and replace delegates if they are dissatisfied with their performance (Dong et al., 2023, p. 11).

Transparency and Traceability:

Blockchain has been integrated into numerous supply chains to establish traceability. All recorded transactions and data are visible on the digital ledger, and any authorised party can review and verify them by tracing them from beginning to end. Blockchain-based traceability solutions therefore contribute to greater transparency and help address data-manipulation problems and points of failure in centralised systems (Sunny et al., 2020, pp. 5–6).Immutability:The principle of immutability means that once a transaction has been permanently recorded and added to the blockchain, it cannot be changed, modified, or deleted. Blockchain links blocks through cryptographic algorithms; consequently, any alteration to a single block would disrupt the chain of links. The authors explain that this principle safeguards data integrity and strengthens trust in the decentralised system, making blockchain more secure than conventional databases (Zheng et al., 2017, p. 558).

Consensus Mechanisms:

Blockchain networks use consensus algorithms for example, mechanisms in which a device performs computational operations and provides proof of the result. Each validating node in the network runs the same consensus algorithm. The system therefore does not require a third-party administrator to supervise transactions. This ensures agreement among participants and helps prevent fraud and double spending (Nawari & Shriraam, 2019, p. 215).

The following table provides a concise description of the fundamental principles of blockchain.

Table 1. Fundamental Principles of Blockchain

Principle	Brief Description
Decentralisation	A distributed network of nodes with no central party controlling the network.
Transparency and traceability	All recorded transactions are visible and traceable from beginning to end.
Immutability	Once data have been recorded, they cannot be modified or deleted.
Consensus mechanisms	The network collectively agrees on the validity of transactions and authenticates them.

Source: Prepared by the researchers on the basis of the synthesis of previous studies.

II. Accounting Auditing: Concept, Objectives, and Requirements:

The Industrial Revolution led to the emergence of joint-stock companies, also known as capital companies, and consequently to the separation of ownership from management. This created a need for accounting auditing to ensure that accounting principles and procedures were properly applied and to protect owners' rights by providing them with transparent and credible financial reports. Given the importance of accounting auditing, this section addresses its definition and objectives, as well as the requirements of the audit process in the context of technological developments.

1. The Concept of Accounting Auditing:

Accounting auditing may be defined as an operational control process that makes it possible to verify the appropriateness and accuracy of preliminary and reported accounting information. It enables users to gain assurance about the accuracy of

data, understand and evaluate them, report on them, ensure compliance, and disclose all their essential aspects. Such assurance is achieved by the auditor's implementation of the mandatory procedures set out in International Standards on Auditing, particularly the identification and assessment of risks of material misstatement in accounting information and the evaluation of the company's internal-control system (Oksana, 2023, p. 37).

2. Objectives of Accounting Auditing:

The objectives of accounting auditing depend on the purpose for which the auditor is appointed, as follows (Taxmann, 2024):

- Primary Objectives:

The auditor's primary objective is to inform the owners whether the balance sheet presents a true and fair view of the company's financial position and whether the profit and loss account reports accurate figures for the financial year's profits and losses. The auditor also seeks to determine whether the accounting system records transactions correctly, whether the accounts have been prepared in accordance with recognised accounting policies and practices and applicable legal requirements, and whether the financial statements comply with accounting standards.

- Secondary Objectives:

The following objectives are secondary to the achievement of the primary objectives of accounting auditing. They include detecting and preventing errors and fraud. The detection of fraud and material errors is an incidental objective of an independent accounting audit, whereas the primary objective is to determine whether the financial statements present a true and fair view. As stated in the Auditing Practices Statement issued by the Institute of Chartered Accountants of India, the auditor should consider the possibility of fraud or error in the accounts under examination, since either may result in the misstatement of accounting information. Errors refer to unintentional mistakes in financial information arising from a lack of knowledge of accounting principles (errors of principle) or from negligence on the part of accounting staff (clerical errors).

3. Requirements for Accounting Auditing in the Blockchain Environment:

The auditing process requires certain updates to keep pace with rapid transformations and the digitisation of information. These requirements include the following (Zaqout, 2016, pp. 85–89; Yunfan et al., 2025, pp. 2–3):Comprehensive understanding of blockchain technology: Auditors need in-depth knowledge of blockchain, including consensus mechanisms, cryptography, and technical challenges.Smart-contract auditing: Smart-contract code must be audited to detect programming errors and security attacks that may affect its functionality.Regulatory framework: Compliance with the laws and regulatory standards governing the accounting audit process.Auditing automated processes: Automated processes and internal controls must be audited to ensure the accuracy and reliability of information generated by operations.Digital documentation: Findings and evidence should be documented digitally to ensure ease of access and auditability.

Analysis and verification: Advanced and specialised tools and techniques should be used to analyse data and verify the absence of unauthorised transactions.Incident response and cyber-risk management: Plans should be developed to ensure a rapid response to incidents affecting data security.Development of auditors' skills: Accounting auditing in a blockchain environment requires new, higher-level skills that combine traditional accounting knowledge with modern technical competencies in cryptography and data analysis.

III. The Role of Blockchain Technology in Auditing:

Financial operations in the digital age require the immediate implementation of secure, transparent, and efficient financial-management systems in response to their increasing complexity. Centralised processing of corporate data and the manual verification used in traditional accounting and auditing systems delay reporting, increase fraud risks, and create operational inefficiencies. Blockchain offers companies an innovative solution through decentralised accounting records, thereby improving the transparency and accessibility of financial reporting.

1. Main Effects of Blockchain on Accounting:

The fundamental principles of blockchain in accounting reflect the evolution of ledger systems, which have developed from double-entry accounting two entries for each accounting transaction, namely a debit and a credit to triple-entry accounting. The principal innovation introduced by blockchain is a new element: a cryptographically secured entry stored across multiple networks. Financial obligations, including invoices and payments, as well as regulatory-compliance

requirements, can be executed automatically through smart contracts operating within the blockchain network.

- Efficiency:

Blockchain provides solutions to efficiency-related difficulties by improving expenditure monitoring and recording expenditure data immediately. Every accounting record integrated with blockchain generates an immediate entry, enabling companies to access up-to-date financial data. This feature gives institutions and companies a clearer view of their expenditure and helps them make sound decisions (Pragya, 2025, p. 200).

- Data Processing:

Blockchain affects the database engine of accounting information systems by digitising existing paper-based verification processes. The technology can securely store accounting data, such as accounts payable and accounts receivable, and improve the efficiency of transaction accounting by addressing current accounting challenges. It can simplify operations, reduce transaction-settlement time and counterparty risk, limit fraud, and improve organisation and capital flows (Han et al., 2023, p. 4).

- Real-Time Accounting:

Blockchain enables the public display of encrypted transactions that benefit from multi-party verification. This allows companies to provide balance sheets, income statements, cash-flow statements, inventory records, and capital investments in real time to relevant business partners, customers, auditors, and regulators across the value chain. Real-time accounting enabled by blockchain can substantially reduce opportunistic managerial behaviour that leads to accounting tricks and value-destroying practices intended to manipulate earnings (Cong et al., 2018, p. 3).

2. Main Effects of Blockchain on Accounting Audit Procedures:

Many large companies face difficulties in auditing and verifying the integrity of accounting and financial transactions. Blockchain emerges here as a tool for reducing errors and manipulation while saving time and effort in audit procedures. Its principal effects are outlined below.

- Achieving Transparency in Accounting Data:

In permissionless blockchains, each network participant maintains an identical copy of the blockchain. Consensus is achieved by continuously synchronising all copies, thereby ensuring the transparency, accuracy, and currency of accounting data. Although users do not disclose information during transactions, these transactions remain traceable and visible throughout the network. Transaction records can be accessed and accurately reconstructed at any time (Manlu et al., 2019, p. 23).

- Strengthening Security and Reducing Fraud Risks:

One of the main advantages of blockchain is data security. Given the distributed nature of the ledger, its consensus mechanism, and the use of cryptography, participants in the chain can monitor all company transactions as they are recorded in the ledger. Under blockchain technology, altering data is difficult because a successful alteration would require the approval of more than 51% of network participants. Blockchain-based ledgers are therefore better able to address data-security risks than other accounting systems by preventing unauthorised changes to accounting information and, consequently, limiting fraud and errors. This reduces the risk of the unlawful appropriation of company assets (Centobelli et al., 2023, p. 1568).

- Saving Time and Reducing Costs:

Although the initial costs of implementing blockchain technology are high, its long-term benefits including lower labour costs through automation and substantial savings can be significant. Blockchain reduces the need for repeated audits and streamlines the audit process, thereby lowering operating expenses and saving time (Krishna, 2023, p. 4000).

- Enabling Continuous Auditing:

The implementation of blockchain can support a shift towards continuous auditing by providing information as soon as transactions are added to the blockchain. Data are updated in real time, without the need to request reports or documents from management or individual departments (Mohamed et al., 2024, p. 133).

- Building Trust and Stability in Accounting Data:

In a permissionless blockchain, intermediaries or central authorities are unnecessary. Transaction records and accounting data remain stable once added to the blockchain. Any attempt to alter one or a few copies of the chain would be futile, as the altered copies would become inconsistent with all the other copies in the network (Manlu et al., 2019, p. 23).

- Reducing Information Asymmetry:

Information asymmetry occurs when managers keep information private, conceal it, or disclose it strategically in order to influence the outcome of a decision or transaction. Information asymmetry has created moral-hazard risks that have contributed to numerous financial scandals worldwide. In this context, accounting and auditing practices need to mitigate information asymmetry in order to achieve transparency and accountability. This review therefore argues that blockchain can provide a new technological means of controlling and monitoring accounting information, thereby reducing information asymmetry. Blockchain enables data to be shared, verified, and agreed upon, while anomalies can be detected (Han et al., 2023, p. 5).

3. Opportunities and Challenges Facing Auditors in the Blockchain Environment:

Table 2 presents the opportunities and challenges facing auditors when blockchain technology is integrated into audit procedures.

Table 2. Opportunities and Challenges of Integrating Blockchain into Auditing

Opportunities	Challenges
• Enhancing audit efficiency and effectiveness.	• Complexity of modern technology, while most auditors lack in-depth technical knowledge of blockchain.
• Recording transactions in blocks with a digital timestamp and fingerprint, making data fraud almost impossible.	• High initial costs of implementing advanced blockchain systems, which require substantial investment in infrastructure.
• Eliminating the need for claims/requests.	• Legal and regulatory challenges, particularly across different regulatory environments.
• Continuous auditing.	• Difficulty in aligning blockchain systems with traditional accounting standards.
• Enabling multiple parties to verify and scrutinise the validity of inputs.	• Blockchain networks may experience slow processing when handling large volumes of data.
• Enhancing transparency and confidence in financial reports.	
• Reducing the need for traditional intermediaries.	
• Facilitating agreement and compliance.	
• Saving time and reducing costs.	

Source: Prepared by the researchers based on Dalia (2023).

Table 2 clearly shows that integrating blockchain into auditing creates substantial opportunities to enhance transparency and security, facilitate continuous auditing, and reduce the role of intermediaries. The technology can fundamentally transform the efficiency and reliability of audit processes. Nevertheless, it may also encounter technological and legal challenges, including technical complexity, high initial costs, and uncertainty surrounding regulatory frameworks. In short, blockchain represents a major opportunity, but its benefits depend on overcoming regulatory and technical obstacles.

IV. Analysis of International Experiences in Applying Blockchain to Enhance Audit Quality and Combat Financial

Fraud:

Building on the theoretical discussion, this section analyses six international studies and experiences addressing the application of blockchain technology in accounting auditing and the prevention of financial fraud. The studies were selected according to their relevance to the research topic, with particular attention to the role of the technology in enhancing audit quality, supporting audit evidence, and reducing fraud, in order to identify the principal findings and challenges associated with its implementation.

1. International Experiences Related to Audit Quality:

A number of international studies were selected to highlight the impact of blockchain adoption on accounting audit quality, as presented below.Guo et al. (2026), in their study entitled "Informatization Construction and Audit Quality: Empirical Evidence from the Blockchain-Based Bank Confirmations," sought to test the effectiveness of blockchain technology in improving accounting audit quality by examining its application to bank confirmations in China. The researchers adopted a quasi-experimental design that exploited the gradual adoption of a blockchain-based bank-confirmation platform. The study found that adopting this platform improved the quality of audit procedures by limiting the manipulation of operating cash flows. It also positively affected audit efficiency and output quality by shortening the time required to issue audit reports, reducing audit fees, and decreasing discretionary accruals and financial-statement restatements. These findings highlight the importance of using blockchain to enhance the reliability of procedures for verifying bank balances and improve the quality of information on which auditors base their professional opinions.In a similar context, Belatik et al. (2025), in "L'audit à l'ère de la blockchain: étude empirique sur la qualité perçue au Maroc," examined the relationship between blockchain adoption and perceived audit quality in Morocco. The study used a quantitative approach based on partial least squares structural equation modelling (SmartPLS), drawing on data collected from a sample of 220 auditors. The research model included several factors associated with blockchain adoption, namely transparency, improved accounting confirmations, auditor competence, clarity of the regulatory framework, and the maturity of information-technology controls. The findings revealed positive and significant relationships between most of these factors and perceived audit quality, while technical complexity constituted an obstacle to adoption. The model explained 62.1% of the variance in audit quality. These findings confirm that blockchain's contribution to improving audit quality is not determined solely by its technical characteristics; it is also influenced by auditors' competence and the availability of an appropriate regulatory and control environment.Qader and Cek (2024), in "Influence of Blockchain and Artificial Intelligence on Audit Quality: Evidence from Turkey," analysed the effects of using blockchain and artificial-intelligence technologies on audit quality in Turkish institutions. The study relied on primary data collected from 300 participants and used partial least squares structural equation modelling (SmartPLS) to test the relationships among the study variables. The results showed that the use of blockchain and artificial intelligence had a positive effect on audit quality by helping to improve audit procedures, which in turn enhanced financial-reporting quality and strengthened the confidence of investors and stakeholders. The study is significant because it addresses the role of modern digital technologies in developing the auditing profession.As part of the studies offering a comprehensive theoretical treatment of the subject, Lombardi et al. (2021), in "The Disruption of Blockchain in Auditing: A Systematic Literature Review and an Agenda for Future Research," presented a systematic review of the literature on the implications of blockchain technology for the auditing profession. The review covered 40 studies published between 2010 and 2020 and employed systematic and bibliometric analysis to identify the main research trends in this field. It classified the research into three principal themes: the use of blockchain to improve information systems and reduce time and fraud; the role of smart contracts in increasing audit efficiency and strengthening disclosure and transparency; and the relationship between cryptocurrencies and initial coin offerings and issues of governance and project financing. The study concluded that blockchain has considerable potential to transform auditing practices, but realising this potential requires addressing the technological, regulatory, and professional challenges associated with its implementation.

2. International Experiences Related to Combating Financial Fraud:

Research interest in blockchain has not been limited to its implications for accounting audit quality. It has also extended to studies examining the role of blockchain adoption in combating financial fraud. The most relevant studies are presented below.Fetaji et al. (2025), in "FRAUD-X: An Integrated AI, Blockchain, and Cybersecurity Framework With Early Warning Systems for Mitigating Online Financial Fraud: A Case Study From North Macedonia," aimed to develop an integrated framework for reducing online financial fraud by combining artificial intelligence, blockchain, cybersecurity, and early-warning systems, and applying it to the case of North Macedonia. The researchers tested the proposed framework using several datasets, including credit-card fraud data, mobile-payment transaction data, and anonymised local financial-

transaction data. The results showed that the proposed model performed better in detecting fraudulent activities than approaches relying on artificial intelligence alone. Integrating blockchain also strengthened transaction documentation and verification and reduced the possibility of manipulating transaction records, while early-warning systems supported a faster response to suspicious activities. The study highlights the role of integration between blockchain and other digital technologies in strengthening the capacity to detect online financial fraud and mitigate its risks.Similarly, Darwish et al. (2026), in "Securing Financial Transactions: Exploring the Role of Lightweight Blockchain-Enabled Deep Learning for Fraud Detection in FinTech Systems," examined the possibility of using lightweight blockchain technology in combination with deep-learning techniques to detect financial fraud in financial-technology systems. The study began from the limitations of certain traditional methods in addressing evolving fraud patterns, particularly high false-alarm rates and the difficulty of processing large volumes of financial transactions. To overcome these challenges, it proposed a framework combining blockchain with its ability to preserve transaction-record integrity and transparency and make manipulation difficult with deep-learning models capable of analysing data and identifying unusual patterns. The experimental findings indicated the potential to improve fraud-detection performance and reduce false alarms while taking speed and scalability requirements into account. The study is important because it clarifies how integrating blockchain with intelligent-analytics tools can strengthen the security of financial transactions and support monitoring and fraud-detection mechanisms.Kasztelnik (2025), in "Blockchain Technology and Smart Contracts for Fraud Detection and Deterrence in Cryptocurrency Markets," focused on analysing the role of blockchain technology and smart contracts in detecting fraud and limiting manipulation in cryptocurrency markets. The study analysed Bitcoin-market data using statistical methods and specialised algorithms for detecting unusual patterns, including rolling standard-deviation scores and the Isolation Forest algorithm. These methods were used to identify suspicious practices such as pump-and-dump schemes and unusual movements by large cryptocurrency holders. The study highlighted the potential of blockchain-ledger transparency and transaction traceability, together with data-analysis tools, to identify abnormal activities and document digital evidence in a form that can be reviewed and verified. Its significance lies in demonstrating the role that blockchain, supported by smart contracts and analytical tools, can play in strengthening the integrity of digital financial transactions and supporting efforts to detect manipulation and fraud.

DISCUSSION OF THE INTERNATIONAL STUDIES:

The review of international studies indicates broad agreement that blockchain technology contributes to enhancing audit quality and combating financial fraud through its defining characteristics: record immutability, transparency, and transaction traceability. Using a quasi-experimental design, Guo et al. (2026) demonstrated an actual effect of the technology on improving audit procedures, efficiency, and outputs in the field of bank confirmations. Meanwhile, the studies by Belatik et al. (2025) and Qader and Cek (2024) identified a positive relationship between blockchain adoption and perceived audit quality. Belatik et al. further emphasised that this relationship depends on auditor competence, clarity of the regulatory framework, and the maturity of information-technology controls. They also found that technical complexity constitutes an obstacle to adoption. This is consistent with the conclusion reached by Lombardi et al. (2021) regarding the need to address technological, regulatory, and professional challenges.In the field of fraud prevention, the studies by Fetaji et al. (2025), Darwish et al. (2026), and Kasztelnik (2025) demonstrate the importance of using blockchain as a tool for documenting transactions and protecting records against manipulation, in combination with artificial-intelligence tools, deep learning, and statistical analysis. Such integration improves detection accuracy, reduces false alarms, and strengthens the documentation of digital evidence. This indicates that blockchain plays a complementary role alongside intelligent tools rather than replacing them. However, the literature differs methodologically: some studies rely primarily on perceived quality or on experimental models and specific digital environments, such as cryptocurrency markets, while fewer studies measure actual effects in operational environments, with the exception of the study by Guo et al.Previous studies reveal that most research has addressed audit quality and the prevention of financial fraud separately, without bringing them together within a single analytical framework. Moreover, empirical evidence is concentrated in technologically advanced or purely digital environments (China, Turkey, North Macedonia, and cryptocurrency markets). This study is therefore significant in seeking to combine both dimensions within one analytical framework and to draw lessons that may be useful in emerging environments.

CONCLUSION

By combining the theoretical framework with international experiences, this study has shown that blockchain technology represents a promising tool for enhancing audit quality and combating financial fraud. Theoretically, the technology is based on fundamental principles that include decentralisation, transparency, traceability, immutability, and consensus

mechanisms. In accounting, these principles translate into real-time records that are difficult to alter, reliable electronic evidence, the possibility of continuous auditing, and reduced information asymmetry. International experiences provide practical support for this argument, while also indicating that the contribution of the technology does not depend on its technical characteristics alone. Rather, it is contingent upon auditors' competence, the clarity of the regulatory framework, and the technological and control readiness of institutions. Blockchain also plays a complementary role alongside artificial intelligence, deep learning, statistical methods, and specialised algorithms.In light of the research problem which asked how blockchain contributes to enhancing audit quality and combating financial fraud based on international experiences the main findings can be summarised as follows:Blockchain shifts auditing away from periodic manual verification based on sampling and paper confirmations towards continuous auditing based on real-time updated data, while reducing reporting time and audit costs.Blockchain has helped improve audit procedures, efficiency, and outputs, particularly in bank confirmations, by limiting the manipulation of operating cash flows and reducing discretionary accruals and financial-statement restatements.Recorded data are difficult to alter without the approval of the majority of network participants. Real-time accounting also makes it possible to reduce opportunistic managerial behaviour, thereby lowering the risk of unlawful asset appropriation.The technology enables data sharing and verification among auditors, institutions, and stakeholders, thereby strengthening transparency and accountability and increasing investors' confidence in financial reports.The positive relationship between technology adoption and audit quality is influenced by auditor competence, the maturity of information-technology controls, and the clarity of the regulatory framework. Technical complexity, high initial costs, and limited compatibility with traditional accounting standards remain major challenges.The best results are achieved when blockchain is integrated with artificial intelligence, deep learning, and early-warning systems, as this strengthens transaction documentation, improves detection accuracy, and reduces false alarms

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