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Blockchain Accounting for Transparency, Accountability, and Audit Practice: A Systematic Literature Review

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ABSTRACT

Blockchain has become a game-changing accounting technology that is changing how businesses document, validate, and report financial data. This study aims to examine the effect of blockchain on accounting, auditing, and financial reporting's transparency and accountability by conducting a systematic literature review (SLR) of recent works (2023–2025). Drawing on 39 peer-reviewed articles from the Scopus database that as outlined in the PRISMA process, this review synthesizes key issues, research gaps, and directions of future research. Findings demonstrate that blockchain improves efficiency, security, fraud prevention, and data transparency, but adoption remains constrained by regulatory ambiguity, infrastructural limitations, and organizational resistance. Research gaps remain in developing economies, in adoption by accounting professionals, and in the integration of blockchain with accounting standards. Future research is suggested to address these challenges by combining socio-technical and institutional perspectives. The study significantly advances the understanding of scholars, practitioners, and policymakers of how to successfully and sustainably integrate blockchain technology into accounting systems.

Keywords: Accounting; Auditing; Blockchain; Financial Reporting; Transparency

INTRODUCTION

The necessity of using state-of-the-art technology that can guarantee financial data integrity and transparency is becoming more and more apparent as accounting undergoes digital transformation. Although its use in accounting practice is still in its infancy, blockchain has emerged as one of the most promising developments among these many. Blockchain is a technology of a distributed ledger that makes it possible to record transactions that are decentralized, unchangeable, and instantly verifiable. The features of this blockchain application promise more accountability and transparency in the accounting context (Han et al., 2023; Hoxha et al., 2025; Monteiro et al., 2024).

However, the implementation of blockchain is not only technical but also paradigmatic. This technology challenges traditional accounting models that rely on intermediaries and manual verification by auditors (Isbaih et al., 2024). This change necessitates a reorientation toward the role of auditors, internal control mechanisms, and financial data governance. The need for blockchain implementation to ensure the transparency of financial reports is becoming increasingly urgent amidst rising cases of data manipulation, audit failures, and a public trust crisis in financial institutions. Blockchain is seen as capable of closing information asymmetry gaps and strengthening accountability between business actors, regulators, and the public (Han et al., 2023; Rahman et al., 2024). In addition, the application of blockchain improves accountability through traceability, immutability, and continuous auditing, which allows stakeholders to monitor transactions in real time and ensure the integrity of financial reports. Thus, blockchain not only serves as a technological tool to strengthen governance and information reliability, but also has strategic implications for increasing transparency, public trust, and the credibility of financial institutions in the digital age.

Nevertheless, the utilization of blockchain in accounting is still limited and diverse. Reflects that this technology is at an immature stage of adoption in professional practice. This variation indicates that although the potential of blockchain has been widely discussed in theory, its implementation in the context of accounting has not developed evenly across sectors. Many studies focus on the potential of technology, such as the study by Andiana et al. (2024), Mahlangu & Moosa (2023), Monteiro et al. (2024), Vedapradha & Ravi (2023), and Yiming & Manansala (2024), but empirical evidence regarding its actual application in accounting, both in the public and corporate sectors, still needs further exploration. This creates a need to systematically review recent literature to understand the extent to which blockchain has influenced accounting and auditing practices.

This study has specific objectives to analyze how blockchain affects accounting procedures, auditing, and the transparency and accountability of financial reporting, and to determine the gaps in the current body of knowledge and recommend future lines of investigation. Thus, in order to answer the primary issue, this study performs a systematic literature review (SLR) on how much blockchain technology affects accounting procedures, auditing, financial reporting's accountability, and transparency, and what the current developing trends and research gaps are.

This paper makes a contribution by assessing the blockchain's implications for accounting, pointing out research gaps, and summarizing current trends and research orientations to offer suggestions for further investigation. 39 papers that were pertinent to the subject were analyzed. This research is expected to aid scholars, professionals, and legislators in understanding the potential and challenges of blockchain technology integration for accounting across a range of industries.

The structure of this article is systematically organized to provide a comprehensive understanding of the development and implications of blockchain technology in accounting. The structure of the article is as follows: Section 2 discusses the literature on blockchain in accounting. Section 3 explains the research method. Sections 4 and 5 present an overview of the publications reviewed based on article distribution by journal, research themes, and methods used; discuss the implications of applying the technology of blockchain on accounting procedures, auditing, and the transparency and accountability of financial reporting; and highlight the research gaps that have been identified and offer recommendations for further study. Finally, Section 6 presents the conclusions of the outcomes of this literature review, emphasizing the theoretical and practical implications of the findings, as well as emphasizing the significance of further research to promote the long-term comprehension and use of blockchain technology in the field of accounting.

LITERATURE REVIEW

Agency Theory

In every principal-agent relationship, agency theory asserts that conflicts of interest are a natural consequence of the separation of ownership and control within an organization. The conflict primarily stems from information asymmetry, where the agent has more complete and faster access to information than the principal; goal divergence, where the agent tends to maximize personal utility while the principal focuses on increasing company value; and limitations in monitoring mechanisms, which prevent the principal from fully ensuring that the agent acts in their best interest. These three factors create opportunities for opportunistic behavior, which in classical agency literature is described as agency costs that must be borne by the organization (Jensen & Meckling, 2019).

In the context of accounting, this dynamic has several critical implications. Information asymmetry allows agents to engage in earnings management, manipulate financial reporting, or conceal risks, which can mislead stakeholders. Moral hazard arises when an agent acts less carefully or makes high-risk decisions because the negative consequences are largely borne by the principal. Additionally, low managerial accountability can weaken the financial reporting quality and reduce the reliability of information used in decision-making processes. In the long run, these practices can erode market confidence, increase uncertainty, and lead to economic inefficiencies. Therefore, effective governance mechanisms are needed to mitigate agency problems. These mechanisms can include strengthening internal control systems, improving audit quality, implementing stricter financial reporting standards, and aligning incentives between principals and agents through appropriate contract design. In addition, market mechanisms such as the role of institutional investors and capital market regulations, as well as non-market mechanisms such as organizational culture and professional ethics, also play a complementary role in reducing the likelihood of opportunistic behavior (Jensen & Meckling, 2019).

In the digital age, the application of blockchain technology in accounting offers significant potential to strengthen corporate governance mechanisms by improving the transparency, accuracy, and integrity of financial information. Unlike traditional accounting systems that rely on a centralized database, blockchain operates with a distributed ledger that allows all stakeholders to access the same transaction records simultaneously. This characteristic directly reduces information asymmetry between the principal and the agent, as financial data is more openly available and cannot be modified without detection (Han et al., 2023).

Stakeholder Theory

Stakeholder theory emphasizes that organizations are accountable not only to shareholders but also to all parties affected by their decisions and activities, including employees, customers, suppliers, regulators, and the wider community (Freeman, 2010). This perspective shifts the organization's orientation from simply maximizing shareholder value to creating shared value that considers social, ethical, and environmental aspects. Thus, stakeholder theory demands accountability and transparency mechanisms that allow each stakeholder group to assess the organization's actions against their expectations.

In the context of blockchain accounting, these principles are becoming increasingly relevant and can be operationalized more effectively. Blockchain, with its characteristics of transparency, immutability, and verifiability, provides a reporting environment that allows all stakeholders to access and validate information in real-time. Unlike traditional reporting systems that are periodic and often asymmetrical, blockchain enables more equitable, faster, and manipulation-resistant information disclosure. This strengthens the company's trustworthiness because stakeholders no longer need to rely entirely on specific intermediaries to ensure data accuracy (Han et al., 2023). Furthermore, blockchain supports increased organizational accountability because every transaction and data change is permanently recorded on a distributed ledger. With an immutable audit trail, stakeholders can trace the flow of decisions, transactions, and the company's compliance with regulations and ethical standards. This transparency enhances the organization's legitimacy in the eyes of regulators and the wider public, aligning with the concept of organizational legitimacy, which is an extension of stakeholder theory.

Besides strengthening transparency, blockchain also impacts the reduction of agency costs by improving reporting quality, automating procedures with smart contracts, and enabling independent verification that does not require complete trust in a single party. Thus, blockchain serves as a governance mechanism that simultaneously contributes to the interests of various stakeholder groups, combining the core principles of agency theory (efficiency and reducing opportunistic behavior) and stakeholder theory (information fairness and organizational decision legitimacy).

Blockchain in Accounting

Blockchain is a technology of a distributed ledger that allows transaction verification to be transparent, safe, and unchangeable without the need for network consensus (Petratos, 2024). In the context of accounting, blockchain creates a digital evidence-based recording system that minimizes reliance on third parties and enhances the accuracy and integrity of financial data (Sgantzos et al., 2023).

The concept of blockchain accounting marks a paradigm shift from double-entry systems toward triple-entry accounting (TEA), where each transaction is accompanied by a third entry permanently recorded on the blockchain and verifiable by all relevant parties (Pan et al., 2023). This system improves financial information's transparency and accountability (Larikova et al., 2023; Shapovalova et al., 2023). The improvement of financial information transparency and accountability through the blockchain system is supported by Deloitte (2019), which states that transparency is a key factor in strengthening a company's competitive advantage while fostering trust among market participants. Transparency refers to the ability of stakeholders to access, verify, and evaluate financial information accurately, completely, and in a timely manner, thereby enabling more rational and evidence-based decision-making. Meanwhile, accountability emphasizes an organization's responsibility for its actions, decisions, and financial reports, as well as ensuring that the entity is accountable to all relevant stakeholders (Secinaro et al., 2022). Thus, the application of blockchain not only strengthens the

financial information quality but also supports effective governance through permanent, documented, and independently verifiable recording mechanisms.

Moreover, in addition to operational efficiency and fraud risk reduction by providing a permanent, tamper-proof, and collectively verifiable recording mechanism, blockchain is also transforming the role of accountants from mere transaction recorders to digital data analysts focused on verification, governance, and strategic decision-making (Oladejo et al., 2024). Through automated controls, real-time auditing, and traceability capabilities, blockchain enables accountants and auditors to assess transaction integrity more effectively and independently, strengthening governance practices and improving the quality of assurance provided to stakeholders. Thus, blockchain serves as a technological infrastructure that not only strengthens transparency and accountability but also supports operational efficiency, information integrity, and strategic decision-making, consequently making a substantial contribution to modern accounting and auditing practices.

Several previous studies, such as those by Akter et al. (2024), Garanina et al. (2022), and Secinaro et al. (2022), have reviewed the application of blockchain in accounting and auditing. However, most of these studies have only focused on the technical aspects or general benefits of blockchain, without critically analyzing how this technology comprehensively affects transparency, accountability, and auditing practices, and rarely integrating theoretical perspectives. Thus, based on this gap, the research conducted in this study has strong justification and is scientifically relevant. This study, through an SLR approach, not only examines the role of blockchain in strengthening transparency, accountability, and auditing practices but also synthesizes scattered findings to provide clear theoretical and practical contributions. Therefore, this research strengthens the understanding of blockchain accounting, offers implications for managerial and audit practices, and opens up further research directions to explore the effectiveness of blockchain implementation in diverse organizational contexts.

RESEARCH METHOD

This study uses the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method as recommended by Martiny et al. (2024) to ensure quality, transparency, and minimize bias in conducting the SLR.

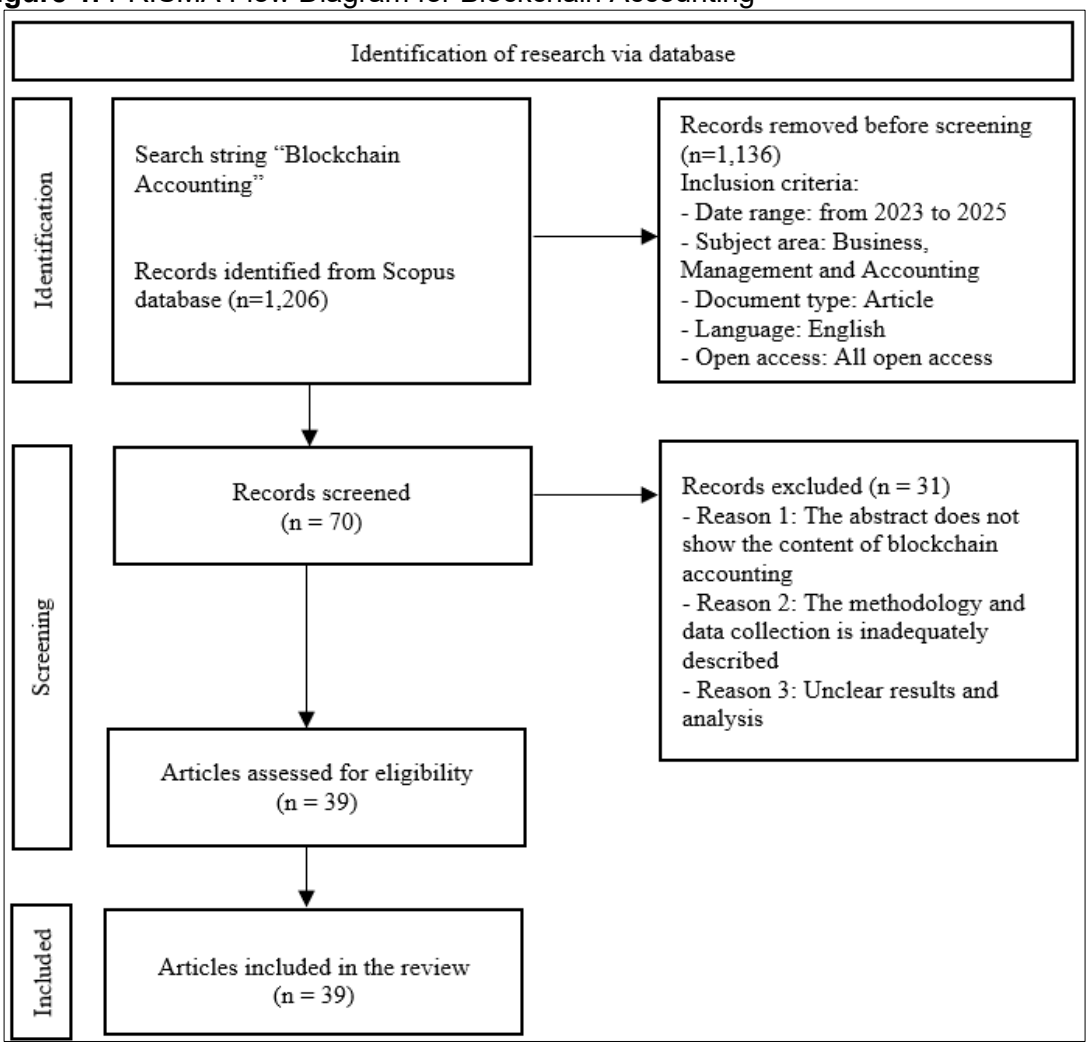
As an initial step, this research collected data from the Scopus database, which was chosen exclusively for its reputation as the most comprehensive and credible source of scientific literature. Scopus provides extensive coverage of peer-reviewed publications across disciplines, including accounting and blockchain technology, ensuring access to high-quality and relevant data sources. This database also implements strict selection standards to maintain scientific validity and minimize the risk of including predatory publications. Additionally, Scopus's advanced search capabilities and citation analysis features enable the transparent, accurate, and replicable execution of SLR, in accordance with the methodological standards of highly reputable academic research. The use of Scopus alone is thought to be representative enough to meet the goals of this study, even though a systematic review across many databases could expand the findings. This method is efficient and effective in reducing redundancy and guaranteeing a focus on legitimate, reliable, and highly significant scientific literature because of the extensive coverage and excellent caliber of journals indexed in Scopus, the majority of which also appear in other databases.

The selection process is carried out in accordance with systematically established criteria to ensure the inclusion of studies that are of high quality and have sufficient relevance.

Using the search term "Blockchain accounting," the Scopus database yielded 24,206 hits for this study's collection of publications on September 13, 2025. Next, we offer the following criteria to filter the outcomes. The criteria for inclusion are the date range from 2023 to 2025, subject area: business, management, and accounting; document type: article; language: English; and open access: all open access. Thus, articles published before 2023, discussing blockchain outside the context of accounting and auditing, non-academic, written in a language other than English, or with restricted access, will be excluded from the review.

These criteria were used to strengthen the data quality, which is also consistent with suggestions made by SLR studies (Martiny et al., 2024; Schaltegger et al., 2022). The remaining results are 70 articles. The 70 documents were then examined in this study using a particular content analysis method, yielding 39 articles. In order to identify research gaps and determine future research paths, a total of 39 papers were reviewed in this study (see Figure 1).

Figure 1. PRISMA Flow Diagram for Blockchain Accounting



Source: Author's Creation

In line with Schaltegger et al. (2022), this study further examines the distribution of selected studies based on (1) publishing journals, to identify core academic outlets; (2) the main research themes defined by the research question, to capture emerging focus areas; and (3) the research methods employed, to assess the methodological maturity and empirical grounding of the field.

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RESULTS

Distribution of Frequencies in Selected Articles

Distribution of Article Frequencies by Journals

The distribution of scholarly articles from 2023 to 2025 that examine the use of blockchain technology for accounting across a range of peer-reviewed journals is shown in Table 1. This distribution analysis helps identify the important publications that are cited in this discipline and gives an overview of the changing academic scene. Blockchain's important significance in improving the integrity and governance of accounting data is confirmed by the publication trend displayed in Table 1, which shows that interest in research in this area has continuously increased.

Table 1. Distribution of Article Frequencies by Journals

Frequency Distribution of Articles by Journals	2023	2024	2025	Total
Academic Journal of Interdisciplinary Studies	1	-	-	1
Accounting & Finance	-	1	-	1
ACCOUNTING EDUCATION	-	-	1	1
Asian Journal of Business and Accounting	-	-	1	1
Australian Accounting Review	1	-	-	1
Cogent Business & Management	-	-	1	1
Complex Systems Informatics and Modeling Quarterly (CSIMQ)	-	-	1	1
Eastern-European Journal of Enterprise Technologies	2	-	-	2
Financial and Credit Activity: Problems of Theory and Practice	3	-	1	4
Financial Innovation	-	-	1	1
GLOBAL BUSINESS & FINANCE REVIEW	-	1	-	1
Innovation & Management Review	1	-	-	1
Intelligent Systems in Accounting, Finance and Management	1	-	-	1
International Journal of Accounting Information Systems	1	1	-	2
International Journal of Analysis and Applications	-	-	1	1
International Journal of Applied Economics, Finance and Accounting	1	-	-	1
International Review of Management and Marketing	-	-	1	1
Journal of Global Information Management	-	1	-	1
Journal of Governance and Regulation	-	-	1	1
Journal of Risk and Financial Management (MDPI)	-	2	-	2
Journal of System and Management Sciences.	1	-	-	1
Journal of Risk and Financial Management	2	-	-	2
Management & Marketing	1	-	-	1
Management Systems in Production Engineering		1	-	1
Mathematics (MDPI)	1	-	-	1
Research in International Business and Finance	1	-	-	1
Review of Managerial Science	1	-	-	1
Risk and Financial Management	-	-	1	1
Risk and Financial Management (MDPI)	-	1	-	1
Scientific Bulletin of Mukachevo State University	-	-	1	1
Scientific Bulletin of Mukachevo State University Series Economics	-	-	1	1
WSEAS Transactions on Business and Economics	-	1	-	1
Total	18	9	12	39

According to Table 1, there is a noticeable trend in the number of journals that publish studies about the use of blockchain technology in accounting. Financial and Credit Activity: Problems of Theory and Practice (4 articles) is the journal with the largest publication contribution in this field. This indicates the journal's pivotal role in influencing scholarly discourse about the use of blockchain to strengthen governance and the integrity of financial reporting.

Distribution of Article Frequencies by Research Themes

With an emphasis on procedures for accounting and auditing, and accountability and transparency of financial reporting, Table 2 displays the findings of a thorough content analysis of 39 articles that identified three main themes about the effect of blockchain technology on accounting. The first theme, which is covered in 20 articles, emphasizes how automation has transformed accounting processes and improved record-keeping dependability. The second theme, encompassing 12 articles, emphasizes how blockchain affects auditing, particularly in data validation, enhancing auditor accountability, and preventing fraud. The third theme, reflected in 7 articles, examines the impact of blockchain on transparent and accountable financial reporting. This classification reflects the logical framework of the accounting process, providing a comprehensive overview of blockchain's role in strengthening governance and auditing, while also preventing overlap between study areas.

Table 2. Distribution of Article Frequencies by Research Themes

Frequency Distribution of Articles by Research Themes	2023	2024	2025	Total
Blockchain’s impact on accounting procedures	8	5	7	20
Blockchain’s impact on audit practices	7	3	2	12
Blockchain’s impact on transparency and accountability of financial reporting	3	1	3	7
Total	18	9	12	39

Table 2 shows that most papers focus on how blockchain technology affects accounting processes, but there is little research on how it affects financial reporting and auditing.

Distribution of Article Frequencies by Research Methods

Table 3. Distribution of Article Frequencies by Research Methods

Frequency Distribution of Articles by Research Methods	2023	2024	2025	Total
Bibliometric Analysis	-	1	1	2
Case Study	1	-	1	2
Comparative Analysis	1	-	-	1
Conceptual Analysis	6	-	-	6
Documentary Analysis	-	-	1	1
Interviews	-	2	2	4
Literature Review	2	3	2	7
Mix Method	-	-	2	2
Observation	-	1	-	1
Practice Review	1	-	-	1
Survey	7	2	3	12
Total	18	9	12	39

Based on Table 3, analysis of 39 selected articles reveals methodological variations that enrich the study of the relationship between blockchain and accounting. The survey method is the most dominant, indicating a research focus on empirical studies using primary data to address research gaps. Other empirical approaches are also developing, including case studies, interviews, documentary analysis, and comparative analysis,

which provide contextual evidence about the application of blockchain in accounting. Some studies used the SLR method, conceptual and bibliometric analysis, showing an academic focus on theoretical synthesis and identifying research gaps. Furthermore, other studies used mixed methods to test the validity of the results more comprehensively, while practice reviews and observations were rarely used, but offered in-depth perspectives on the dynamics of blockchain implementation in accounting practice. This finding confirms that accounting blockchain research has evolved toward a multidimensional approach that combines empirical exploration and literature synthesis to understand the implications of technology on financial governance and transparency.

DISCUSSION

The Current Issues in Research Themes and Challenges

As stated in Table 2, this section offers an overview of the primary study areas that arise from the convergence of blockchain technology and accounting procedures. These themes serve as a conceptual foundation for additional analysis and future research objectives while also reflecting the many methods and uses of blockchain in improving the accuracy and dependability of accounting data.

The Effect of Blockchain on Accounting Procedures

Blockchain technology is fundamentally changing accounting practices by altering the recording, verification, and reporting of financial transactions. Because of its decentralized and unchangeable nature, it produces a consensus-based record-keeping system that improves the dependability, timeliness, and traceability of accounting data while doing away with the necessity for conventional reconciliation (Seshadrinathan & Chandra, 2025). This change gave rise to the idea of TEA, which creates a transparent and impenetrable audit trail by permanently recording every transaction in a shared, mutually checked ledger (Pan et al., 2023).

The use of blockchain in accounting has several advantages, such as improving risk management and automating certain accounting tasks by utilizing smart contracts, which carry out accounting logic automatically when specific criteria are satisfied (Hnatyshyn et al., 2025). This automation increases the accuracy of financial reporting, simplifies inter-entity reconciliation, and decreases human error. Even real-time financial reporting and analysis are made possible by integrating blockchain technology with enterprise resource planning (ERP) systems. Additionally, blockchain is changing accountants' roles from simple transaction recorders to data validators, architects of financial information systems, and strategic analysts who guarantee the accuracy and dependability of digital data (Akter et al., 2024; Indrayani et al., 2025; Vedapradha & Ravi, 2023).

Additionally, blockchain strengthens inter-organizational accounting by providing a shared ledger accessible to all parties in the value chain, such as affiliated companies, suppliers, and strategic partners. This transparency improves data accuracy, secure data storage, and accounting process automation (Nofel et al., 2024).

However, the adoption of blockchain still faces several challenges, such as limited interoperability between platforms, scalability, and high energy consumption (Akter et al., 2024; Chavali et al., 2024; Pham & Vu, 2024). Additionally, the absence of universal accounting standards for blockchain-based transactions creates regulatory ambiguity, particularly in the recognition of digital assets, fair value measurement, and the accounting treatment of tokens and smart contracts (Jackson & Luu, 2023; Parrondo, 2023). In developing countries, digital literacy constraints and institutional resistance still pose obstacles, along with challenges such as the low proportion of investment in the

information technology sector and the poor quality of training and developing human resources in the field of blockchain accounting (Petchenko et al., 2023).

Thus, blockchain is not merely a technological innovation, but also a catalyst for transforming the accounting paradigm from a centralized trust-based system toward a distributed trust-based digital ecosystem (trust by design) (Seshadrinathan & Chandra, 2025; Vedapradha & Ravi, 2023). Accounting in the blockchain era no longer serves solely to measure value but rather to engineer trust through data integrity, cross-entity transparency, and continuous accountability within the digital economic ecosystem.

The Effect of Blockchain on Audit Practices

Blockchain technology has revolutionized the audit landscape by transforming the paradigm of collecting, verifying, and providing assurance over audit evidence through distributed financial systems. The decentralized and immutable nature of blockchain transforms traditional auditing practices from post-transaction verification to continuous auditing, enabling real-time transaction tracking with an immutable audit trail (Alkafaji et al., 2023). By implementing smart contracts and distributed ledgers, blockchain automates the process of collecting audit evidence, allowing auditors to verify transactions directly at their source without relying on third parties. In addition to increasing audit efficiency, this automation reduces the possibility of financial record tampering, strengthening data reliability and transparency (Oladejo et al., 2024).

Several studies indicate that blockchain gives rise to the concept of triple-entry auditing, which is an evolution from double-entry bookkeeping to cryptographically verified three-entry records stored on a shared ledger that every interested party can access (Sgantzos et al., 2023). This innovation significantly reduces the risk of confirmation and inconsistencies in the audit trail, and shifts the auditor's role from transaction verifier to a more strategic function in overseeing systems and data analysis (Oladejo et al., 2024).

However, the application of blockchain in audit practice also raises significant methodological and ethical complexities. Because the algorithmic validation method heavily depends on the quality of the code's logic and the governance of the underlying blockchain protocol, some studies caution that automating audits using blockchain cannot completely replace expert judgment or critical qualitative judgment (Abu-Dabaseh et al., 2025; Oladejo et al., 2024). Although smart contracts can execute pre-programmed audit rules, the system is not yet capable of assessing qualitative aspects such as managerial intent or indications of ethical manipulation (Alkafaji et al., 2023; Matskiv et al., 2023). In order to understand anomalies, evaluate systemic risk, and guarantee that blockchain-based audits continue to adhere to the independence and objectivity principles specified in professional standards, auditors' professional competence is still crucial (Akter et al., 2024; Al-Khasawneh & Al-Khasawneh, 2023; Mahlangu & Moosa, 2023).

Empirical findings indicate that the adoption of blockchain in auditing remains diverse and faces various obstacles, influenced by regulatory readiness, awareness, institutional trust levels, and good data governance and infrastructure, as well as high costs (Larikova et al., 2023; Oladejo et al., 2024). In developing countries, regulatory limitations and digital literacy are major obstacles, while in developed countries, blockchain has been piloted in audits for tax reconciliation, asset tracking, and detection (Alsarayrah & Alrowwad, 2025). This condition underscores the need for cross-border audit standard harmonization that integrates blockchain protocols into global assurance systems.

Overall, blockchain not only serves as an audit tool but also reforms the epistemological foundation of the auditing profession from periodic assurance to continuous trust

validation. Its ability to enhance transparency, accountability, and verification efficiency makes it a catalyst for transforming the global audit ecosystem. However, the success of blockchain integration heavily relies on synergy between auditors, regulators, and technology developers to ensure that this innovation not only strengthens system efficiency but also maintains the integrity of the profession and public trust (Mahlangu & Moosa, 2023).

The Effect of Blockchain on Transparency and Accountability of Financial Reporting

Blockchain demonstrably strengthens the transparency and accountability of financial reporting by delivering immutable, traceable, and near–real-time transaction records that reduce opportunities for financial reporting errors, manipulation, and enable end-to-end auditability (Hasan et al., 2025; Hoxha et al., 2025). Empirical evidence shows that blockchain for secure provenance materially improves data integrity and timeliness (Alkafaji et al., 2023). With its decentralized nature and consensus-based mechanism, blockchain ensures that every financial transaction is permanently recorded and verifiable by all relevant parties, creating a more transparent reporting system compared to conventional reporting mechanisms (Akter et al., 2024; Al-Shahamani et al., 2025). By giving open access to unchangeable transaction data and facilitating real-time financial disclosure that boosts stakeholder trust, this technology lessens information asymmetry between management, auditors, investors, and regulators (Alkafaji et al., 2023).

According to empirical data, blockchain can manage data exchange, reduce risk in financial information disclosure, control erroneous data, and enhance security and transparency. Thus, by monitoring cross-supply chain activities, blockchain expands the notion of corporate accountability while simultaneously improving the accuracy of financial reporting (Putri & Fikri, 2025; Sabour & Al-Waeli, 2023). Each entry on the ledger creates a transparent record, allowing regulators to trace the origin of accounting data back to the transaction source without internal party intervention and restricting earnings management practices (Odunayo et al., 2023). This fundamentally changes the position of financial reporting from a mere means of periodic accountability to an instrument of continuous accountability integrated into operational processes.

However, regulations concerning transparency, ethics, and confidence in their use have to be clearly stated for blockchain-based reporting systems. For corporate organizations and other stakeholders, the transparent character of transactions within a blockchain system offers both benefits and threats. On the one hand, this kind of openness helps with compliance and audit procedures, bolsters accountability, and enhances business intelligence analysis. On the other hand, it might facilitate manipulative transactions, generate information asymmetry and conflicts of interest, and even expose private or secret data. As a result, integrating blockchain into financial reporting necessitates striking a balance between data security and transparency in addition to modifying reporting guidelines to conform to International Financial Reporting Standards (IFRS) (Odunayo et al., 2023; Parrondo, 2023).

The obstacles in implementing blockchain technology are the skills gap, cost constraints, and cultural resistance (Hasan et al., 2025). Furthermore, the organization's technological and infrastructure readiness, accounting proficiency, and institutional readiness all have a significant role in how well blockchain can improve the accountability of financial reporting. Numerous studies emphasize the necessity of leadership commitment and technological preparedness to guarantee the sustainable implementation of blockchain-based reporting (Hasan et al., 2025; Hoxha et al., 2025). Additionally, collaboration between regulators, the accounting profession, and technology developers is needed to develop a data governance framework that ensures

a balance between public transparency and information security (Hasan et al., 2025). As a result, blockchain serves as both an instrument for technological advancement and an institutional framework that upholds accounting's position as the main source of financial reporting accountability in the digital era.

In sum, while blockchain provides robust technical mechanisms to enhance transparency, its net effect on accountability and reporting quality is contingent on regulatory alignment, interoperability, governance design, and professional preparedness, the factors that the current dataset identifies as essential research and policy priorities.

Identification of Research Gaps and Prospects for Further Research

This study identifies several significant limitations in the application of blockchain technology in accounting processes, auditing, and the transparency and accountability of financial reporting based on a synthesis of 39 scientific studies. Overall, the study results indicate that the implementation of blockchain has great potential to promote transparency, accuracy, and efficiency of financial information, while also strengthening the reliability of reporting systems, thereby increasing public trust in the accounting system. However, its implementation is still limited, partial, and highly dependent on organizational readiness, regulatory support, and stakeholder acceptance.

There is a research gap regarding the limited understanding and awareness of organizations regarding blockchain technology. Although the adoption of blockchain in accounting procedures shows significant improvement, many business entities still face conceptual and technical barriers in understanding its characteristics and implications for use. Therefore, in order to improve their preparedness and the efficiency of their application in the context of digital accounting, more research is required to examine the factors that affect businesses' comprehension and awareness of blockchain technology. Issues of scalability, interoperability, and implementation cost are still underexplored. Although blockchain offers data transparency and immutability, high costs and integration challenges remain major obstacles. Future research should analyze economic efficiency, governance models, and technical solutions that can ensure the sustainability of blockchain adoption for accounting.

The lack of consistent accounting standards and guidelines for the treatment of digital assets and blockchain-based transactions creates ambiguity in practice. Therefore, future research needs to offer a regulatory framework and policy recommendations that can support harmonization between accounting standards, auditing practices, and distributed ledger protocols.

Blockchain has yet to have a significant impact on underdeveloped nations, SMEs, or nonprofits. Most research focuses on the public and private sectors and advanced economic contexts, even though blockchain has the potential to reduce information asymmetry and strengthen transparency in resource-constrained environments. Future studies should examine blockchain technology's implementation challenges and institutional preparedness for SMEs, nonprofits, and developing nations.

The behavioral and cognitive aspects of accountants and auditors in adopting blockchain technology are still rarely studied. Understanding of digital literacy, professional ethics, and independence within the context of blockchain-based systems needs to be deepened. Further research needs to explore how this technology is reshaping the roles, responsibilities, and professional identities of accountants in the digital age.

Overall, future research directions need to emphasize strengthening the company readiness and effectiveness of blockchain implementation, developing global standards, enhancing governance models and technical solutions, and reshaping the role of accountants and auditors in blockchain adoption dynamics. These efforts will accelerate the transformation toward transparent, accountable, and cutting-edge technology-based accounting and auditing practices.

CONCLUSION

This review demonstrates the enormous potential of blockchain technology to enhance accounting and auditing processes, as well as financial reporting's accountability and openness. The study findings indicate that blockchain technology significantly contributes to improved operational efficiency, data security, fraud prevention, and information transparency. Theoretically, this study contributes by integrating and clarifying the fragmented literature related to blockchain accounting mechanisms and their impact on reporting and audit quality. From a managerial and audit practice perspective, the study's findings suggest that blockchain can strengthen internal controls, optimize audits through automated and real-time verification, and enhance the integrity of accounting data. The unique contribution of this SLR lies in its synthesis of scattered literature findings, providing a comprehensive overview of how blockchain is applied in the context of transparency, accountability, and auditing practices. By bringing together existing empirical and conceptual evidence, this SLR not only clarifies relevant technological trends and mechanisms but also reveals significant research gaps, providing a basis for the development of theory, managerial practices, and blockchain implementation strategies in modern accounting.

However, there are still many challenges to be addressed, including issues with regulatory compliance, technology scalability, high costs, comprehension of blockchain technology, and the lack of integrated accounting standards. There is a lack of standard international regulations, a weak theoretical foundation, persistence among SMEs, non-profits, and developing countries, and a scarcity of empirical research on the application of blockchain in the context of actual accounting. In order to close this gap, cooperation between scholars, regulators, and practitioners is required to verify economic viability, build professional capability in the face of the digital accounting era, and deepen conceptual models. By overcoming these obstacles, blockchain might serve as the basis for a TEA-based reporting system that is more sustainable, transparent, and effective while maintaining the integrity of the global financial ecosystem.

The use of a single research index as the main source of reference is a drawback of this study. Therefore, using additional scientific databases is a pertinent avenue for future research growth. However, this study successfully provides a comprehensive overview of the current state of blockchain technology adoption in accounting, including its relationship to auditing processes and the accountability and transparency of financial reporting, which are both conceptually and practically closely related to the accounting discipline. This report identifies unmet research gaps and offers potential directions for future scientific inquiry. The information generated could greatly help scholars, experts, and regulators understand and successfully and sustainably guide the integration of blockchain technology into accounting processes.

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This study had no sponsor involvement. The most relevant studies on the use of blockchain in accounting, auditing, and the accountability and transparency of financial reporting are the main topic of this article. In order to preserve analytical focus, full details of the literature review results are not provided. To guarantee scientific transparency and

study traceability, more references and supporting information are available upon request.

DECLARATION OF CONFLICTING INTERESTS

There are no conflicting interests, according to the authors.

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