IJAAR PUBLISHING®

Research Journal of Management Practice | ISSN: 2782-7674
Vol. 5, Issue 4 (2025) | www.ijaar.org/rjmp

BLOCKCHAIN TECHNOLOGY IN ACCOUNTING AND FINANCIAL REPORTING QUALITY: A STUDY OF SELECTED MANUFACTURING FIRMS IN ANAMBRA STATE

Akaegbobi, Tochukwu Nkem (PhD)[1] & Nwosu Kanayo Chike (PhD)[2]
[1]Department of Accountancy, Nnamdi Azikiwe University, Awka, Nigeria
[2]Department of Marketing, Nnamdi Azikiwe University, Awka, Nigeria

ABSTRACT

The study examined the influence of blockchain technology in accounting on financial reporting quality: a study of selected manufacturing firms in Anambra state. The specific objective was to ascertain the influence of blockchain integration, blockchain distributive element and blockchain-based accounting system on the reliability of financial reporting among selected manufacturing firms in Anambra state. The study adopted survey research design. The population for this study comprises 427 staff members from selected manufacturing firms in Anambra State. Stratified sampling was used in selecting a sample size of 207 respondents. Primary data were collected using structured questionnaire. The analysis of the research question was done with the aid of frequency distribution and mean while the hypotheses were tested using Pearson Product Moment Correlation. The study found that: blockchain integration positively and significantly influences the reliability of financial reporting among selected manufacturing firms in Anambra state, blockchain distributive element positively and significantly influences the reliability of financial reporting among selected manufacturing firms in Anambra state, blockchain-based accounting system positively and significantly influences the reliability of financial reporting among selected manufacturing firms in Anambra state. In conclusion, firms embedding blockchain elements in their accounting frameworks experience a measurable improvement in the quality of financial reporting, thus strengthening the reliability of information. The study recommends that professional accounting bodies such as ICAN and ANAN, in collaboration with the Nigerian Financial Reporting Council (FRC), should develop standardized frameworks and training programs for the adoption of blockchain-driven triple-entry accounting. This should include curriculum updates in accounting education, certification of blockchain-compliant software, and regulatory guidelines to guide implementation.

Keywords: Blockchain Technology in Accounting, Financial Reporting Quality, Blockchain Integration

Akaegbobi, T. N., & Nwosu, K. C. (2025). Blockchain Technology in Accounting and Financial Reporting Quality: A Study of Selected Manufacturing Firms in Anambra State. *Research Journal of Management Practice. 5*(4), 33-56. DOI: https://doi.org/10.5281/zenodo.15711533

1.0 Introduction

The accounting profession has undergone significant transformations over the years, with the advancement of technology playing a pivotal role in these changes. Over the last decade, digital technologies such as Artificial Intelligence (AI), Big Data, Cloud Computing, and Blockchain have revolutionized the way accounting functions are carried out. These innovations have had far-reaching implications for the accuracy, efficiency, and transparency of financial reporting (Umoren, Ukpeh & Ewang, 2024). According to Udo (2023), blockchain, a decentralized and immutable ledger technology, has emerged as one of the most promising developments in this regard. Originally designed to support cryptocurrency transactions, Blockchain technology has found applications in various industries, including finance, supply chain management, healthcare, and accounting. Its ability to offer transparent, secure, and tamper-proof record-keeping has drawn the attention of both practitioners and researchers in the accounting field, especially with regard to its potential to enhance the quality of financial reporting (Temitayo, Adedayo & Stephen, 2024).

Investors, stakeholders, regulators, and even the general public are placing increasing demands on firms to provide accurate, timely, and verifiable financial data. In this context, effective Blockchain technology in accounting offers a solution that addresses several challenges associated with traditional accounting systems (Novak, Barišić & Žager, 2022). Conventional accounting systems often rely on intermediaries, such as banks and auditors, to validate transactions and ensure accuracy. These intermediaries can introduce delays, errors, and opportunities for fraud (Lootah, 2024). Blockchain, on the other hand, operates through a distributed network of nodes that independently verify transactions, thereby eliminating the need for third-party validation. This decentralized nature of Blockchain enhances transparency, reduces the risk of manipulation, and provides an immutable audit trail of transactions (Akinadewo, Dagunduro & Osatuyi, 2023).

The application of Blockchain technology in accounting is still relatively new, but its potential to transform financial reporting practices is becoming increasingly evident (Temitayo, Adedayo & Stephen, 2024). Blockchain's key characteristic is its decentralized ledger system, where transactions are recorded in "blocks" and linked in a chain, forming an immutable record. Once a transaction is recorded on the Blockchain, it cannot be altered or deleted, ensuring that the financial records are accurate and tamper-proof (Umoren, Ukpeh & Ewang, 2024). For manufacturing firms, this is particularly important as they often deal with large volumes of transactions, both within the firm and with external partners. The use of Blockchain in accounting allows firms to streamline their processes, reduce the risk of errors, and improve transparency. In addition to providing enhanced security, Blockchain also facilitates real-time financial reporting (Udo, 2023).

Blockchain technology's influence on financial reporting quality is profound, as it offers several distinct advantages over traditional systems. One of the most significant ways Blockchain impacts financial reporting is by enhancing the accuracy and reliability of financial information. In traditional accounting systems, data is often entered manually, increasing the risk of human error and fraud (Lootah, 2024). Blockchain technology, however, ensures that once a transaction is recorded, it is immutable and time-stamped, making it impossible to alter or tamper with (Akinadewo, Dagunduro & Osatuyi, 2023). This increases the credibility of financial statements, which are essential for stakeholders who rely on accurate financial data to make informed decisions. Furthermore, the decentralized nature of Blockchain means that multiple parties can access and verify the same data, ensuring that all stakeholders have the same version of the financial information (Novak, Barišić & Žager,

2022). This reduces the likelihood of discrepancies between different parties and enhances trust in the reporting process.

Additionally, Blockchain technology provides a higher level of transparency in financial reporting (Temitayo, Adedayo & Stephen, 2024). In traditional accounting systems, information is often siloed within individual departments or companies, making it difficult for stakeholders to gain a full understanding of the financial health of a firm. Blockchain, on the other hand, provides a shared, transparent ledger where all transactions are visible to authorized participants in the network. This transparency ensures that financial data is accessible in real-time, allowing stakeholders to track the flow of funds and better understand the financial position of the organization. This level of openness can help to reduce the likelihood of fraudulent activities and increase confidence in the accuracy of financial reports (Lootah, 2024).

Despite these advantages, it is important to note that the integration of Blockchain technology into accounting practices does not come without challenges. The adoption of Blockchain requires significant investments in both technology and training, and firms may face resistance from employees and stakeholders who are accustomed to traditional accounting systems (Udo, 2023). Moreover, the legal and regulatory frameworks surrounding Blockchain are still evolving, which could pose challenges for firms seeking to implement Blockchain-based financial reporting systems (Umoren, Ukpeh & Ewang, 2024). However, the potential benefits of Blockchain in enhancing financial reporting qualitysuch as improved accuracy, transparency, timeliness, and cost-efficiency—make it an area worth exploring for manufacturing firms in Anambra State, as well as other firms in Nigeria and beyond. This study aims to analyse how Blockchain technology is being utilized in the accounting practices of manufacturing firms in Anambra State and its influence on the quality of their financial reporting.

In an ideal situation, financial reporting should be accurate, transparent, and timely, providing stakeholders with reliable information to make well-informed decisions. For manufacturing firms, financial statements are a crucial tool for assessing performance, managing operations, and attracting investment. In today's rapidly evolving business environment, the quality of financial reporting is directly tied to the effectiveness of accounting systems. Technologies such as Blockchain hold great promise in enhancing financial reporting by offering secure, real-time, and tamper-proof records of transactions (Novak, Barišić & Žager, 2022). The use of Blockchain in accounting has the potential to increase transparency, improve accuracy, reduce fraud, and streamline reporting processes.

However, despite the increasing global interest in Blockchain for its ability to improve accounting practices, many firms are still relying on traditional accounting methods that are prone to errors, delays, and manipulation (Umoren, Ukpeh & Ewang, 2024). Traditional accounting systems in manufacturing firms are often characterized by a lack of real-time data, manual data entry, and fragmented processes, which increase the risk of inaccuracies and fraud. This situation is further exacerbated by a general lack of awareness and training regarding the potential of Blockchain technology among key stakeholders in these firms. As a result, even though Blockchain has been proven to enhance financial reporting quality, its adoption in these firms remains limited and inconsistent (Temitayo, Adedayo & Stephen, 2024).

Poor financial reporting quality in manufacturing firms can lead to a lack of trust among investors, creditors, and other stakeholders, who may perceive the financial statements as unreliable. This erodes the firm's credibility and may hinder access to capital or investment

opportunities. Moreover, inaccurate or delayed financial reporting can lead to poor decision-making at both the strategic and operational levels. Firms that are unable to produce real-time and reliable financial data may struggle with inventory management, budgeting, and financial forecasting, which can negatively impact their overall performance. Furthermore, the lack of transparency and security in financial reporting can increase the risk of fraudulent activities, legal liabilities, and reputational damage. Therefore, the failure to adopt effective technologies like Blockchain in accounting poses significant challenges to the long-term sustainability and success of manufacturing firms in Anambra State.

1.1 Objectives of the Study

The main aim of the study is to examine the influence of blockchain technology in accounting on financial reporting quality: a study of selected manufacturing firms in Anambra state. The specific objectives are as follows:

1. To ascertain the influence of blockchain integration on the reliability of financial reporting among selected manufacturing firms in Anambra state.
2. To analyse the influence of blockchain distributive element on the reliability of financial reporting among selected manufacturing firms in Anambra state.
3. To investigate the influence of blockchain-based accounting system on the reliability of financial reporting among selected manufacturing firms in Anambra state.

1.2 Research Hypotheses

H01. Blockchain integration has no significant influence on the reliability of financial reporting among selected manufacturing firms in Anambra state.
H02. Blockchain distributive element has no significant influence on the reliability of financial reporting among selected manufacturing firms in Anambra state.
H03. Blockchain-based accounting system has no significant influence on the reliability of financial reporting among selected manufacturing firms in Anambra state.

2.0 Review of Related Literature

2.1 Conceptual Review

2.1.1 Blockchain Technology

Blockchain technology refers to a decentralized, distributed ledger system that allows for the secure, transparent, and immutable recording of data and transactions across a network of computers (Umoren, Ukpeh & Ewang, 2024). In other words, blockchain enables multiple participants to access a shared database where each transaction is verified and recorded in a way that cannot be altered retroactively (Akinadewo, Dagunduro & Osatuyi, 2023). This ensures that data stored on the blockchain is reliable, traceable, and protected from tampering or fraud, making it highly suitable for industries that require trustworthy and transparent records (Lootah, 2024).

The fundamental meaning of blockchain lies in its structural innovation. It operates by storing information in "blocks" that are linked together in chronological order to form a continuous "chain" of data (Temitayo, Adedayo & Stephen, 2024). Each block contains a batch of verified transactions, and once a block is filled, it is linked to the previous block using cryptographic algorithms. This chaining of data blocks creates a permanent and transparent record of all activities conducted on the network, which can be independently audited and verified by all authorized parties.

Another central element of the concept of blockchain technology is decentralization (Udo, 2023). Unlike traditional databases that are controlled by a single entity or central authority, blockchain is maintained by a network of nodes (computers) that collaborate to reach

consensus on the validity of transactions. This distributed architecture not only enhances the resilience and fault tolerance of the system but also fosters trust among users, as no single party has control over the entire ledger. The absence of central control reduces the risk of data manipulation or single points of failure.

Moreover, blockchain technology is known for its inherent security features (Temitayo, Adedayo & Stephen, 2024). Transactions are validated using consensus protocols such as Proof of Work or Proof of Stake before they are recorded, ensuring that only legitimate activities are included in the ledger. Additionally, the cryptographic hashing of data within blocks prevents unauthorized changes, making the system tamper-resistant. These properties contribute to blockchain's reputation as a reliable solution for secure data management and digital trust (Umoren, Ukpeh & Ewang, 2024). In essence, blockchain technology is a revolutionary method of recording and managing information in a secure, transparent, and decentralized manner (Lootah, 2024). Its core value lies in eliminating the need for intermediaries, ensuring the integrity of data, and enhancing the efficiency of processes that rely on accurate recordkeeping. As such, it holds vast potential in sectors such as finance, healthcare, supply chain, and, increasingly, accounting and auditing.

2.1.2 Blockchain Integration

Blockchain integration refers to the process of embedding blockchain technology into existing organizational systems, workflows, or infrastructures to enhance operational performance, data security, and process transparency (Udo, 2023). This concept signifies the strategic application of blockchain’s capabilities within a conventional technological environment, thereby allowing institutions to benefit from its distributed ledger properties without overhauling their entire digital architecture (Celestin & Gidisu, 2023). Integration involves aligning blockchain with current business processes in a way that adds value and meets organizational goals.

The meaning of blockchain integration centers on the functional incorporation of a new and disruptive technology into traditional systems (Umoren, Ukpeh & Ewang, 2024). It implies that blockchain is not functioning in isolation, but is being adapted and connected to other digital tools such as enterprise resource planning (ERP) systems, customer databases, or accounting software. This allows the organization to use blockchain’s advantages—such as immutability and transparency—within the framework of its already existing operational systems. The term also encompasses the interoperability between blockchain platforms and other software applications to ensure seamless communication and data exchange.

Furthermore, blockchain integration is a concept rooted in technological synergy. It reflects the idea that blockchain is not just a stand-alone innovation, but a component that can enhance legacy systems by improving trust, reducing redundancy, and automating processes (Umoren, Ukpeh & Ewang, 2024). When integrated, blockchain supports functions like digital identity verification, real-time transaction settlement, and secure document sharing within traditional operations. This combination strengthens organizational effectiveness by increasing the reliability and auditability of data that flows through integrated systems (Lootah, 2024).

The integration process often requires aligning blockchain’s decentralized structure with the centralized models of existing systems (Udo, 2023). This involves technical modifications, data standardization, and process reengineering to ensure compatibility and functionality. Integration does not necessarily imply full adoption but rather the strategic use of blockchain in areas where it can generate the most significant benefits—such as fraud detection, supply chain traceability, or financial reconciliation. Ultimately, blockchain integration refers to the

meaningful and practical implementation of blockchain within the technological and operational ecosystems of organizations (Temitayo, Adedayo & Stephen, 2024). It is a deliberate effort to combine the innovative strengths of blockchain with existing digital infrastructures to deliver improved transparency, security, and efficiency.

2.1.3 Blockchain Distributive Element

The blockchain distributive element refers to the decentralized and distributed nature of blockchain technology, which is foundational to its operation (Johnson & Okoye, 2023). Unlike traditional centralized systems where a central authority controls the flow of information and transactions, blockchain relies on a network of distributed nodes or computers that each maintain a copy of the entire blockchain. Each node in the network plays a crucial role in validating and verifying transactions, thus ensuring the integrity and security of the data without the need for intermediaries. This distribution of data across multiple nodes contributes significantly to blockchain's resilience against attacks and failures since there is no single point of vulnerability.

This concept is central to the way blockchain operates, enabling a peer-to-peer network where every participant can access the entire history of transactions on the blockchain (Johnson & Okoye, 2023). The decentralization afforded by the distributive element eliminates the need for trusted third parties, such as banks or other financial institutions, to mediate and validate transactions. Instead, blockchain technology relies on cryptographic algorithms and consensus protocols, such as proof-of-work or proof-of-stake, to ensure that all transactions are legitimate and trustworthy. The decentralized approach significantly reduces the risk of fraud, as any attempt to alter the blockchain would require the attacker to simultaneously change the data on all the distributed nodes, which is practically impossible due to the computational power required.

The blockchain distributive element also ensures the transparency of the system, as all participants in the network have access to the same version of the ledger (Umoren, Ukpeh & Ewang, 2024). This shared visibility allows for greater trust and accountability among users, as each transaction is publicly recorded in an immutable and time-stamped manner. In addition to transparency, this distribution of data enhances the security of the network, as there is no central server that can be targeted by cybercriminals. Each node in the network maintains a copy of the blockchain, and any attempt to alter the information on one node is immediately detected by the other nodes, making it virtually impossible to tamper with the data without being detected (Omaliko, Mordi & Ezeala, 2025).

Furthermore, the distributive element of blockchain enables improved efficiency and scalability in certain applications (Johnson & Okoye, 2023). Since transactions are processed and validated by multiple nodes simultaneously, the network can handle a high volume of transactions without relying on a single central authority. This distributed processing capability can enhance the performance of blockchain-based systems, especially in sectors such as finance, supply chain management, and healthcare, where the speed and accuracy of data verification are crucial. Additionally, as blockchain technology continues to evolve, the distributive element is likely to play an even greater role in enabling the development of decentralized applications (dApps) and other innovative solutions that leverage the power of distributed networks.

Thus, the blockchain distributive element is a fundamental characteristic that defines the technology's decentralized and secure nature. By distributing data across a network of nodes and eliminating the need for central authorities, blockchain enhances transparency, security, and efficiency in various applications. This decentralization is at the core of blockchain's

ability to disrupt traditional business models and offer a new way of conducting transactions and managing information (Umoren, Ukpeh & Ewang, 2024). The ongoing development of blockchain technology and its distributive capabilities is expected to have far-reaching implications for industries worldwide, driving innovation and creating new opportunities for businesses and individuals alike.

2.1.4 Blockchain-Based Accounting System

A blockchain-based accounting system is a modern financial recording framework that employs blockchain technology to record, verify, and maintain accounting transactions in a decentralized and tamper-proof ledger (Surana & Bhanawat, 2022). Unlike traditional accounting systems that rely on centralized databases, this system leverages blockchain's distributed nature to enhance transparency, traceability, and data integrity in financial reporting and recordkeeping. It represents a shift in accounting paradigms by embedding technological trust into the financial documentation process.

The essence of a blockchain-based accounting system lies in its ability to ensure that every transaction is independently verified and permanently stored on a digital ledger that is accessible to authorized users (Surana & Bhanawat, 2022). Each financial entry becomes a part of a chain of transactions, where modifications are virtually impossible without consensus from all nodes on the network. This immutability is central to the system's trustworthiness, reducing opportunities for fraud, errors, or data manipulation, which are common in traditional systems.

Moreover, this type of accounting system operates on real-time data entry and validation. Transactions are recorded instantly as they occur and are validated using consensus algorithms before being accepted into the ledger. This ensures that all users have access to the same, up-to-date financial information, fostering consistency and uniformity in reporting. The distributed nature of the ledger also provides redundancy, meaning that records are not lost or compromised due to a single point of failure. Another key aspect of a blockchain-based accounting system is the automation of accounting tasks through the use of smart contracts (Surana & Bhanawat, 2022). These programmable agreements execute automatically once predefined conditions are met, thus simplifying processes such as invoicing, payments, and compliance checks. Automation not only enhances efficiency but also reduces operational costs and minimizes human error.

Thus, a blockchain-based accounting system is a technological innovation that redefines how financial records are managed by introducing a decentralized, secure, and transparent approach to accounting. It supports accurate and verifiable financial reporting, facilitates real-time decision-making, and strengthens stakeholder trust (Umoren, Ukpeh & Ewang, 2024). As businesses continue to seek ways to improve financial integrity and accountability, the blockchain-based accounting system emerges as a robust solution for the digital age.

2.1.5 Quality of Financial Reporting

Quality of financial reporting refers to the degree to which financial statements and related disclosures accurately and faithfully represent a company's economic reality, enabling informed decision-making by stakeholders (Herath & Albarqi, 2017). It encompasses the overall soundness, clarity, and usefulness of the financial information presented, reflecting the extent to which the reports communicate the underlying performance and position of the business. High-quality financial reporting ensures that users can depend on the information to make rational economic judgments (Johnson & Okoye, 2023).

The meaning of quality of financial reporting lies in the idea of transparency and accountability in financial communication (Hasan, Aly & Hussainey, 2022). It indicates how well financial data reflects the true nature of transactions, events, and conditions affecting an entity. Financial reports of high quality are free from material misstatements, bias, or manipulation, and are presented in a manner that provides a clear and understandable view of the firm's operations (Alkafaji, Dashtbayaz, & Salehi, 2023). This quality is critical to building trust between the company and its stakeholders, including investors, creditors, regulators, and the public.

Another fundamental aspect of this concept is its alignment with accounting principles and standards. The quality of financial reporting is inherently tied to the application of consistent accounting frameworks, such as the International Financial Reporting Standards (IFRS) or local equivalents. When financial reporting adheres to these standards, it enhances comparability, verifiability, and comprehensibility, which are essential attributes of quality (Herath & Albarqi, 2017). Thus, the concept of financial reporting quality also implies adherence to recognized rules and conventions that promote consistency over time and across entities.

Importantly, the quality of financial reporting also reflects the company's commitment to ethical and professional conduct in accounting and disclosure practices. It signals an organization's intention to provide a true and fair view of its financial activities, rather than to mislead or obscure unfavorable realities (Hasan, Aly & Hussainey, 2022). Therefore, the term encompasses both the technical accuracy of reports and the ethical intent behind their preparation. In this regard, the concept extends beyond numbers and calculations to include the integrity and professionalism embedded in the reporting process. Thus, the quality of financial reporting refers to the overall integrity, accuracy, and usefulness of financial information communicated by a business entity (Johnson & Okoye, 2023). It conveys how truthfully the financial statements portray the firm's economic condition and how well they support informed decision-making. This concept plays a vital role in corporate governance and the financial ecosystem by fostering transparency, accountability, and trust in financial communication.

2.1.6 Reliability of Financial Reporting

Reliability of financial reporting refers to the extent to which financial information presented in an organization's reports can be depended upon as an accurate, complete, and faithful representation of its financial performance and position (Nyor, 2013). It reflects the trustworthiness of the data and the assurance that the financial statements are free from error, bias, or manipulation. Reliable financial reporting enables stakeholders to confidently use the information for evaluating business activities and making economic decisions (Abdullah, Almsafir & Al-Smadi, 2015).

The concept of reliability in financial reporting is anchored in the idea that financial statements should present what actually occurred in an entity's economic life, not what management wishes to portray (Ismael, 2017). This means that the information contained in the reports must be objective, verifiable, and consistent with the underlying facts and events. Reliability ensures that financial data is not only presented in a technically correct manner but is also grounded in actual transactions and events, thereby offering a true reflection of business realities (Nyor, 2013).

Reliability of financial reporting also implies that the financial data has been prepared using sound accounting principles and with adequate internal controls in place. These internal controls provide reasonable assurance that the information is generated and recorded

correctly, and that any risk of fraud, error, or omission is minimized. Hence, the concept of reliability is closely linked to the company's systems of checks, documentation practices, and compliance with regulatory frameworks, which collectively contribute to the dependability of reported information (Ismael, 2017).

Furthermore, the reliability of financial reporting is a fundamental quality that underpins stakeholder confidence. Investors, lenders, auditors, regulators, and other users of financial statements rely on the accuracy and faithfulness of financial reports to assess an organization's financial health, profitability, and risk. When reporting is unreliable, it undermines trust and can lead to poor decision-making, financial losses, or reputational damage. Therefore, the reliability of financial information is not just a technical requirement, but a crucial component of business credibility and transparency (Abdullah, Almsafir & Al-Smadi, 2015). This is because reliability of financial reporting is the attribute that ensures financial statements can be trusted to provide an accurate and unbiased reflection of an entity's economic activities (Nyor, 2013). It represents the faith stakeholders can place in the numbers and narratives presented in financial reports. This concept highlights the importance of truthfulness, objectivity, and consistency in accounting practices, forming a cornerstone of effective financial communication and decision-making.

2.2 Theoretical Framework

2.2.1 Technology Acceptance Model

The Technology Acceptance Model (TAM) was introduced by Fred Davis in 1986 during his doctoral research at the Massachusetts Institute of Technology (MIT) and was officially presented to the academic community in 1989 (Legris, Ingham & Collerette, 2003). Over the years, TAM has gained prominence as a foundational framework for examining how individuals come to accept and use new technological systems. Its wide applicability has made it a key model for analyzing the adoption of innovations across various fields, particularly within information systems. Researchers and practitioners have employed TAM to understand user attitudes toward technologies such as accounting software, enterprise resource planning (ERP) tools, and, more recently, blockchain-based solutions within organizational operations.

The main postulations of the Technology Acceptance Model are centered on two key constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Abdullah, Ward & Ahmed, 2016). Perceived Usefulness refers to the degree to which a person believes that using a particular technology will enhance their job performance, while Perceived Ease of Use is the extent to which a person believes that using the system will be free of effort (Alia, 2017). According to the theory, these two perceptions significantly influence an individual's attitude toward using the technology, which in turn affects their behavioral intention to use it, and eventually their actual usage behavior. TAM emphasizes that even if a technology offers significant benefits, its adoption will be limited unless users find it easy to use and perceive it as useful for their work tasks (Legris, Ingham & Collerette, 2003).

The relevance of the Technology Acceptance Model to this study lies in its ability to explain how and why accounting professionals in manufacturing firms choose to adopt or resist blockchain technology in financial reporting. As blockchain is a relatively new and disruptive innovation in the accounting field, its integration depends largely on the users' perception of its usefulness in enhancing the reliability, transparency, and integrity of financial reports, as well as the ease with which it can be implemented within existing accounting systems (Johnson & Okoye, 2023). By applying TAM, the study can assess how perceptions about blockchain technology influence its acceptance and use, and consequently, how its adoption affects the quality of financial reporting. The model thus provides a solid theoretical

foundation for investigating the behavioral and organizational factors that mediate the relationship between blockchain technology and improvements in financial reporting outcomes.

2.3 Empirical Review

Umoren, Ukpeh, and Ewang (2024) carried out an investigation to assess how Blockchain technology influences the effectiveness of accounting operations in Nigeria. The researchers employed a qualitative methodology and obtained primary data through the administration of a structured questionnaire. This instrument was distributed among finance professionals, including accountants and Blockchain experts, who were employed in various accounting firms. Out of 100 distributed questionnaires, 86 were successfully completed and retrieved for analysis. Both descriptive and inferential statistical methods were utilized to analyze the responses. The outcome of the study showed that Blockchain technology significantly contributes to improving the efficiency of accounting activities within the country.

Lootah (2024) examined how Blockchain technology affects the accuracy, openness, and integrity of financial reporting in the United Arab Emirates. The study focused on a diverse population that included professionals involved in financial reporting, auditors, regulatory officials, financial technology specialists, and academic scholars. A representative sample was selected from this population to ensure that multiple viewpoints were incorporated into the research. A structured questionnaire was used to collect data, and this tool underwent thorough testing for both reliability and validity. The findings revealed a strong and statistically significant relationship between Blockchain technology and improvements in reporting accuracy ($b = 0.714$), transparency ($b = 0.698$), and reduction in fraud ($b = 0.702$), with all significance levels at $P < 0.000$. These results point to the significant role Blockchain can play in transforming financial reporting by creating records that are secure, immutable, and easily verifiable.

Temitayo, Adedayo, and Stephen (2024) investigated the role of Blockchain technology in shaping the operations of financial service providers (FSPs) in Lagos. A mixed-methods research design was used, combining structured survey instruments with semi-structured interviews conducted with personnel from traditional banks, credit cooperatives, microfinance institutions, and fintech firms. The study found that while there was moderate awareness of Blockchain among these institutions, approximately 60% had adopted the technology, particularly in areas such as transaction processing and maintaining records. The data showed that 80% of the organizations experienced better operational efficiency, while 75% reported cost savings. Despite these benefits, the study also highlighted significant hurdles, including unclear regulatory frameworks and technical challenges. The researchers concluded that Blockchain offers a considerable opportunity for financial service providers to gain a competitive edge, provided that proactive measures are taken to address adoption barriers.

Udo (2023) undertook a study to understand the influence of Blockchain integration on accounting operations in Nigeria. Using a qualitative approach, the researcher distributed structured questionnaires to targeted respondents that included finance professionals and Blockchain practitioners working within accounting firms. A total of 100 questionnaires were shared, and 86 valid responses were received. The data collected were analyzed using descriptive and inferential techniques. The research found that incorporating Blockchain technology significantly improved accounting practices in the Nigerian context. In light of this, the study advocated for the adoption of Blockchain systems by accounting firms to enhance operational efficiency, ensure transparency in financial processes, and secure sensitive data.

Akinadewo, Dagunduro, and Osatuyi (2023) explored how Blockchain technology impacts the quality and effectiveness of accounting functions within Nigerian accounting firms. The research adopted a qualitative design and used structured questionnaires as the primary data collection instrument. The study population included all 178 registered accounting firms in Nigeria as of December 31, 2022. Using purposive sampling, the researchers selected 123 firms and distributed three questionnaires to each, yielding a total of 369 questionnaires as the sample size. The collected data were processed using both descriptive and inferential statistical tools. The study's findings indicated that Blockchain technology has a significantly positive impact on accounting efficiency. As a result, the researchers encouraged Nigerian accounting firms to invest in Blockchain infrastructure, emphasizing the benefits of improved data security, enhanced transparency, and streamlined operational procedures.

Johnson and Okoye (2023) conducted a study to explore how blockchain's distributive features influence the quality of financial reporting in Nigeria. Focusing on professional accountants in Abia and Enugu States, the researchers drew a sample of 105 individuals from a larger population of 600 registered accountants. Data were collected using a five-point Likert scale questionnaire and analyzed using simple multivariate regression. The findings indicated that the distributive element of blockchain have a significant impact on the transparency, reliability, and timeliness of financial reports. The study concludes that many professional accountants view blockchain as a disruptive innovation poised to transform traditional financial reporting systems.

Celestin and Gidisu (2023) investigated how blockchain technology can be integrated into financial accounting systems in Ghana's evolving corporate environment. This research was motivated by the growing incidence of financial fraud, which amounted to over GH¢320 million between 2018 and 2022, underscoring the need for more transparent and tamper-proof financial systems. Using a descriptive research design, the study employed secondary data from 2018 to 2023 and applied various statistical tools including regression analysis, correlation tests, t-tests, and time series analysis. Key results showed that blockchain adoption significantly reduced financial reporting errors from 15% to 5%, shortened audit processes by approximately 15 days, and lowered fraud rates by 25% in organizations with high levels of blockchain integration. A strong positive correlation ($r = 0.87$) and a robust regression model ($R^2 = 0.79$, $F(3,96) = 41.52$, $p < 0.001$) were observed between blockchain usage and improvements in performance.

Oladejo (2023) explored whether blockchain technology serves as a disruptive force or a supportive tool within the fields of accounting and auditing. The study also examined the relevance of auditing in a blockchain-driven environment, particularly in terms of fraud detection and prevention, and considered what technical skills might be required for professionals in this space. The research incorporated semi-structured interviews with a diverse range of participants, including IT professionals, accountants, auditors, financial analysts, consultants, and academics from 13 countries. NVIVO software was used for thematic analysis. Applying an extended version of the Technological, Organizational, and Environmental (TOE) framework, four significant themes emerged. First, while blockchain is increasingly used to analyze financial records, it does not eliminate the role of auditors. Second, blockchain is more capable of identifying anomalies than preventing fraud.

Alkafaji, Dashtbayaz, and Salehi (2023) examined the effect of blockchain technology on the quality of accounting information among both listed and unlisted companies in Iraq. The study focused on two key areas: familiarity with blockchain among finance professionals, and its impact on financial data quality. A total of 1,528 individuals, including accountants, auditors, and managers, were selected based on Cochran's formula for determining sample

size. The findings indicated a positive and significant relationship between awareness of blockchain and the enhancement of accounting information quality in both categories of firms. The results suggest that blockchain has the potential to improve the accuracy, reliability, and overall quality of accounting data, making it a valuable innovation for organizations in developing markets like Iraq.

Lan and Le Hue (2023) explored how blockchain technology influences the effectiveness of Accounting Information Systems and business outcomes in Vietnam's E-commerce sector. The researchers collected data from managers and accounting staff across 139 businesses operating digital platforms. Using Structural Equation Modelling (SEM), the analysis revealed a strong positive link between blockchain adoption and the efficiency of accounting systems. Additionally, enhanced accounting system performance was shown to contribute positively to overall business success. These findings imply that blockchain technology can serve as a strategic tool for operational improvement and better financial management in the E-commerce industry.

Fang, Liu, Ma, and Zhuo (2023) conducted a comprehensive analysis of how the implementation of blockchain technology influences the quality of accounting information among publicly listed A-share firms in China. Drawing from a robust dataset comprising 33,242 firm-year observations spanning from 2007 to 2019, the research established that companies adopting blockchain witnessed notable improvements in the quality of their accounting data. Further examinations revealed that this enhancement is facilitated by stronger corporate governance mechanisms and effective collaboration with major audit firms. However, the study also identified that this positive influence may be reduced in sectors characterized by high levels of information technology development or among companies that recently changed their auditing firms..

Chowdhury, Stasi, and Pellegrino (2023) explored how blockchain technology might transform traditional accounting systems in both immediate and long-term contexts. The study utilized a structured literature review approach, employing search terms such as "Blockchain in Accounting," "Triple Entry System," and "Artificial Intelligence in Accounting" to gather relevant academic sources. From an initial pool of 58 publications, 46 were selected for their significance and relevance to the integration of blockchain in accounting practices. The findings suggest that while blockchain holds the potential to revolutionize the accounting and auditing landscape through improved data integrity and automation, its widespread adoption is constrained by several key issues. These include the absence of standardized protocols, difficulties in scalability, and persistent concerns around data privacy.

Dyball and Seethamraju (2022) focused on how blockchain usage by clients might reshape the auditing process within Australian accounting firms. Using qualitative data gathered through semi-structured interviews with audit partners from leading and mid-tier firms, the study analyzed how blockchain impacts different stages of the audit cycle—including engagement acquisition, planning, risk evaluation, evidence collection, and reporting. The findings suggest that blockchain introduces unique risks and complexities not traditionally encountered in audit engagements, prompting firms to reconsider their methodologies and adapt their practices accordingly.

Zhang and Shah (2022) assessed the evolving role of internal audit functions (IAF) in the context of blockchain adoption, particularly focusing on the deployment of blockchain smart contracts within the financial sector. The study used thematic analysis, drawing upon existing literature and aligning with the International Professional Practices Framework (IPPF) for

internal auditing standards. It was discovered that the internal audit function is closely aligned with core principles of blockchain technology, and the emergence of smart contracts facilitates a shift toward a continuous auditing model. The study addresses the dual reality of blockchain in internal auditing—highlighting both its transformative potential and the challenges associated with integrating it into existing audit frameworks.

Surana and Bhanawat (2022) carried out an exploratory investigation into how aware accounting professionals are of blockchain-based accounting systems. Their research aimed to understand the extent of knowledge professionals possess regarding this emerging technology. They applied descriptive statistical methods alongside the Chi-Square test for data analysis. Additionally, the researchers used non-hierarchical K-means cluster analysis to segment respondents into homogeneous groups based on their awareness levels. Two prevailing theoretical approaches emerged: the Yuji Ijiri momentum accounting theory and the William McCarthy REA ontology. The findings suggested that many professionals recognize the potential of blockchain and its relevance to triple-entry accounting, particularly within the REA framework.

Ramchandra, Kumar, Sarkar, Mukherjee, and Agarwal (2022) evaluated the implications of blockchain technology within the banking industry. The study employed a thematic analysis method and emphasized the importance of selecting the right keywords and databases to obtain quality data. Their review showed that blockchain has garnered interest from various sectors, including energy and fintech startups, due to its potential to reduce financial constraints and innovate business processes. The technology is recognized for providing secure and transparent systems, beneficial not only to financial services but also to other sectors such as energy.

2.4 Gap in Literature

Although blockchain technology has been widely studied in relation to its impact on various aspects of accounting, including financial reporting quality, there remains a noticeable gap in the literature regarding its specific application within manufacturing firms in Anambra State, Nigeria. Numerous studies, such as those by Umoren, Ukpeh, and Ewang (2024), Lootah (2024), and Temitayo, Adedayo, and Stephen (2024), have examined blockchain's effects on accounting operations and financial reporting in broader contexts, with findings suggesting improvements in efficiency, transparency, and data security. However, research focusing specifically on how blockchain integration influences the reliability of financial reporting in the context of manufacturing firms in Anambra State is scarce. Notably, studies by Udo (2023) and Akinadewo, Dagunduro, and Osatuyi (2023) have highlighted improvements in transparency and efficiency in Nigerian accounting practices but do not address the sector-specific challenges and impacts within manufacturing. Additionally, while authors like Johnson and Okoye (2023) and Celestin and Gidisu (2023) have demonstrated blockchain's role in enhancing financial reporting reliability in various countries, their findings have not specifically focused on the Nigerian manufacturing sector. The current literature also lacks a comprehensive analysis of how blockchain-based accounting systems specifically influence the reliability of financial reporting within this sub-sector. Furthermore, empirical studies examining the distributive elements of blockchain in financial reporting, such as those by Johnson and Okoye (2023), Alkafaji, Dashtbayaz, and Salehi (2023) and Lan and Le Hue (2023), do not delve deeply into the subtle influence within Nigeria’s manufacturing firms, where unique challenges such as regulatory barriers and technological adoption hurdles may be prevalent. This study, therefore, seeks to fill this gap by exploring the direct impact of blockchain technology on the reliability of financial reporting in selected manufacturing firms in Anambra State, Nigeria.

3.0 Methodology

This study adopts a survey research design to examine the influence of blockchain technology in accounting on financial reporting quality in selected manufacturing firms in Anambra State. A survey design is suitable because it enables the systematic collection of data from a large and diverse group of respondents, including accountants, managers, and information technology staff in manufacturing firms. These individuals are directly involved in or have a significant role in the implementation of blockchain-based accounting systems.

The population for this study comprises 427 staff members from selected manufacturing firms in Anambra State. These firms include a mix of small, medium, and large enterprises that are involved in various manufacturing activities. The staff members include managers, accountants, and IT staff who are directly responsible for the financial management and technological innovations within their organizations. The population breakdown is presented below, providing the total number of staff for each firm selected for the study.

Table 3.1: Population of the Study

S/N	Names of Selected Manufacturing Firms	Address	Population
1	Asama Foods and Beverages	Oba, Onitsha	24
2	Ezenwa Plastic Industries Nigeria Ltd	Amobi Street, Onitsha	34
3	Juhel Nigeria Limited	Awka, Anambra	21
4	Millennium Industries	Ifite Road, Awka	35
5	Orange Drugs	Atani, Ogbaru	25
6	Rexton Industries Limited	Nkwelle Ezunaka	31
7	Sabmiller Plc.	Ogbaru	52
8	Sabrud Consortium Nigeria Ltd	Awka	35
9	Suxxess Brands Nigeria Limited	Nnewi	43
10	Sylflora Industries Limited	Ogidi, Idemili L.G.A.	30
11	Chiadi Manufacturing Company Ltd	Gibson Nwosu Avenue	37
12	Comfort Triumphant Company Ltd	Agu-Awka	33
13	Zontal Fobis Limited	Zik Avenue, Awka	27
Total			**427**

Source: Survey Findings (2025)

The total population for this study is 427, and the sample size will be determined using Taro Yamane's formula for sample size calculation:

$$S = \frac{N}{1 + N(e)^2}$$

Where:

- N is the population (427),
- e is the error term (0.05),
- S is the sample size.

After applying the formula, the sample size is calculated to be approximately 207 respondents. This study employed stratified sampling to ensure representation from various categories of employees. This method helps to minimize selection bias and ensures that each subgroup is adequately represented in the final sample. To ensure proportional representation across firms, Bowley's proportional allocation formula will be used for distributing the sample size across the firms.

$$nh = \frac{nNh}{N}$$

Where n = total sample size.
Nh = No. of items in each stratum in the population.
N = population size.

This ensures that each firm is appropriately represented based on its employee population.

Table 3.2 Strata Calculation

S/N	Names of Selected Manufacturing Firms	POPULATION	Strata Computation	Strata Size
1	Asama Foods and Beverages	24	(24/427) X 207	12
2	Ezenwa Plastic Industries Nigeria Ltd	34	(34/427) X 207	16
3	Juhel Nigeria Limited	21	(21/427) X 207	10
4	Millennium Industries	35	(35/427) X 207	17
5	Orange Drugs	25	(25/427) X 207	12
6	Rexton Industries Limited.	31	(31/427) X 207	15
7	Sabmiller Plc.	52	(52/427) X 207	25
8	Sabrud Consortium Nigeria Ltd	35	(35/427) X 207	17
9	Suxxess Brands Nigeria Limited	43	(43/427) X 207	21
10	Sylflora Industries Limited.	30	(30/427) X 207	15
11	Chiadi Manufacturing Company Ltd	37	(37/427) X 207	18
12	Comfort Triumphant Company Ltd	33	(33/427) X 207	16
13	Zontal Fobis Limited	27	(27/427) X 207	13
	Total	427		207

Source: Field Survey, 2025

Primary data was collected through structured questionnaires administered to the staff within the selected manufacturing firms. The questionnaire was designed to capture data on the integration of blockchain technology, its effects on the reliability of financial reporting, and other relevant factors. The questionnaire consists of two main sections: a demographic section to profile the respondents and a Likert scale section to gauge their perceptions and experiences regarding blockchain in accounting. The Likert-scale was based on a Five-point scale system which ranged from strongly agree to strongly disagree.

The reliability of the instrument will be tested using Cronbach's alpha coefficient, a statistical measure for determining the internal consistency of the questionnaire items. A Cronbach's alpha value of 0.70 or higher is often considered acceptable, indicating that the instrument is reliable and the data collected will be consistent across different respondents.

Table 3.3: Reliability Estimates for the Constructs

Constructs	Number of Items	Aggregate Cronbach's alpha
1. Influence of Blockchain Technology in Accounting on Financial Reporting Quality: a study of selected manufacturing firms in Anambra state	16	α = .953

Source: Researcher's Computation using SPSS 25, 2025

The reliability coefficients for the constructs, as presented in Table 3.3, demonstrate that the research instrument exhibits significantly high reliability coefficient, surpassing the minimum benchmark of 0.7. Hence, it can be affirmed that the data collection instrument was reliable, given that the coefficients exceeded the established minimum threshold.

The collected data were analyzed using both descriptive and inferential statistical techniques. Descriptive statistics, such as frequency distributions and mean scores, summarized the demographic characteristics of respondents and their views on blockchain technology's relationship with financial reporting. Inferential statistics, including Pearson Correlation, was used to test the study's hypotheses and examine the extent to which blockchain application in accounting influences financial reporting quality. Hypothesis testing was conducted at a 5% significance level. If the p-value is greater than 0.05, the null hypothesis will be accepted; if the p-value is less than or equal to 0.05, the alternative hypothesis will be accepted.

4.0 Data Presentation and Analysis

The study examined the influence of blockchain technology in accounting on financial reporting quality: a study of selected manufacturing firms in Anambra state. The specific objective was to ascertain the influence of blockchain integration, blockchain distributive element and blockchain-based accounting system on the reliability of financial reporting among selected manufacturing firms in Anambra state. Primary data were collected using structured questionnaire (see Appendix A). Table 4.1 shows the response rate to the research instrument.

Table 4.1: Response Rate

Response	Frequency	Percentage (%)
Well Filled in Questionnaires	137	66.2
Wrongly-Filled in Questionnaires	1	0.5
Unreturned Questionnaires	69	33.3
Total	207	100

Source: Survey Findings, 2025

Table 4.1 details the response rate to the research instrument. Out of 207 questionnaires distributed to the target respondents, a significant portion—137 questionnaires, accounting for 66.2%—were properly completed and returned. This high response rate reflects a strong engagement with the research topic among participants. Only 1 questionnaire, representing 0.5%, was returned but filled incorrectly, suggesting that respondents generally understood the questions and instructions. However, 69 questionnaires (33.3%) were not returned at all, which, although relatively high, still leaves a robust sample size for analysis. Overall, the response rate can be considered satisfactory for survey-based research, especially within the corporate and professional context where availability and willingness to participate are often limited.

4.1 Descriptive Analysis of Data

The frequency data in Table 4.2 offers a detailed hint into how respondents perceive the influence of various dimensions of blockchain technology—namely blockchain integration, the distributive element of blockchain, and blockchain-based accounting systems—on the reliability of financial reporting within selected manufacturing firms in Anambra State. The responses are measured across a five-point Likert scale: Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D), and Strongly Disagree (SD), and the mean scores offer a consolidated view of the general sentiment.

Table 4.2 Analysis of Research Questions

S/N	**Blockchain Integration**	**SA**	**A**	**N**	**D**	**SD**	**Mean**
1	The integration of blockchain technology into accounting systems improves the overall accuracy of financial reporting in my firm.	4	57	0	76	0	2.92
2	Blockchain integration streamlines the financial reporting process by reducing manual errors.	23	68	0	46	0	3.5
3	Blockchain integration allows for real-time updates of financial records, improving the timeliness of financial reporting.	23	41	0	73	0	3.10
4	The adoption of blockchain technology increases the transparency of financial reporting in my organization.	6	58	0	73	0	2.98
	Blockchain Distributive Element	**SA**	**A**	**N**	**D**	**SD**	**Mean**
5	The distributive nature of blockchain allows for a more secure and transparent record-keeping system in financial reporting.	1	136	0	0	0	4.01
6	The decentralization feature of blockchain technology enhances the reliability of financial data across all departments in my firm.	17	47	0	73	0	3.06
7	The blockchain distributive element reduces the risk of fraud in financial reporting by allowing multiple parties to verify transactions.	6	76	0	55	0	3.24
8	The blockchain's distributive nature ensures that all financial data is accurately recorded and easily accessible by authorized users.	33	52	2	50	0	3.50
	Blockchain-Based Accounting System	**SA**	**A**	**N**	**D**	**SD**	**Mean**
9	The blockchain-based accounting system provides real-time and accurate financial data, improving the quality of financial reporting.	34	32	0	71	0	3.21
10	Blockchain-based accounting systems help reduce human intervention in financial record-keeping, leading to more accurate financial reports.	113	21	0	3	0	4.78
11	Blockchain-based accounting systems enable easier tracking of financial transactions and audit trails.	29	89	0	19	0	3.93
12	The use of blockchain-based accounting systems has reduced the occurrence of accounting discrepancies in my firm.	23	68	0	46	0	3.5
	Reliability of Financial Reporting	**SA**	**A**	**N**	**D**	**SD**	**Mean**
13	The implementation of blockchain technology improves the reliability of financial reports in my firm.	33	52	2	50	0	3.50
14	Financial reports generated using blockchain technology are more accurate and consistent compared to traditional methods.	95	0	0	42	0	4.08
15	Blockchain technology ensures that financial data is verifiable and trustworthy, enhancing the reliability of reports.	1	136	0	0	0	4.01
16	The integration of blockchain into financial reporting systems makes it easier to detect and correct errors in financial reports.	18	45	0	73	1	3.04

Source: Survey Findings, 2025

As shown in Table 4.2 above, under the Blockchain Integration dimension, the responses to item 1 reveal a cautious reception. While 57 respondents agreed that blockchain integration

improves the accuracy of financial reporting, a surprisingly high 76 respondents disagreed, resulting in a relatively neutral mean of 2.92, which suggests skepticism or limited observed impact in practice. Item 2 reflects a more favorable perception, with 23 strongly agreeing and 68 agreeing that integration reduces manual errors, yielding a mean of 3.5, indicating moderate agreement. Item 3, which evaluates the ability of blockchain to offer real-time updates, saw 23 strong agreements and 41 agreements, but 73 disagreed, showing that although a subset of respondents acknowledged the benefit, a larger portion remains unconvinced, with a modest mean of 3.10. Similarly, in item 4, 58 agreed that transparency is enhanced by blockchain, while 73 disagreed, pulling the mean down to 2.98, once again indicating that perceived benefits are not yet universally experienced or evident among the firms.

When analyzing the Blockchain Distributive Element, the responses display more decisive views. For item 5, which asserts that the distributive nature enhances secure and transparent record keeping, nearly unanimous agreement was recorded (136 agreed, 1 strongly agreed), resulting in a strong mean of 4.01. This suggests overwhelming support for the security and transparency potential of the distributive architecture of blockchain. Item 6 presents a more divided view; although 17 strongly agreed and 47 agreed, a substantial 73 respondents disagreed, leading to a lukewarm mean of 3.06, implying uncertainty about how decentralization affects reliability across departments. In item 7, the role of distribution in fraud reduction drew 76 agreements and 6 strong agreements, with 55 disagreeing, producing a mean of 3.24—suggesting mild optimism. Item 8 received 33 strong agreements and 52 agreements, although 50 respondents disagreed, yet the mean of 3.50 reflects a general acceptance that the distributive system supports accessible and accurate data.

The next block assesses the Blockchain-Based Accounting System. Item 9 indicates moderate belief in its ability to enhance data quality, with 34 strongly agreeing and 32 agreeing, contrasted with 71 disagreements, which brings the mean to 3.21. However, item 10 shows a remarkable level of endorsement: 113 strongly agreed and 21 agreed that blockchain systems reduce human error in record-keeping, pushing the mean up to a significant 4.78—the highest in the table, signaling near-universal appreciation for automation. Item 11 also reflects high approval, with 89 agreements and 29 strong agreements, yielding a robust mean of 3.93, affirming blockchain's role in transaction tracking and audit trails. Similarly, item 12 attracted 23 strong agreements and 68 agreements, though 46 disagreed, resulting in a balanced mean of 3.5, highlighting that while discrepancies seem reduced, not all firms may have observed this benefit equally.

Under the Reliability of Financial Reporting section, item 13 shows fair support: 33 strongly agreed and 52 agreed, but 50 disagreed, reflecting a mean of 3.50, indicating moderate belief in improved reliability. Item 14 is notable for its polarization: 95 strongly agreed, while 42 disagreed, and no neutral or weak responses were recorded. This produces a high mean of 4.08, underscoring the perceived superiority of blockchain-generated reports. Item 15 is also strongly endorsed—136 agreed, and 1 strongly agreed—with a mean of 4.01, reinforcing the perception of blockchain's trustworthiness. Finally, item 16 brings the overall tone back to a more divided sentiment, with 18 strongly agreeing, 45 agreeing, but 73 disagreeing, and 1 strongly disagreeing, resulting in a moderate mean of 3.04. This suggests that while some see blockchain as a tool for error detection and correction, the majority remain unconvinced or have yet to experience this benefit.

In summary, Table 4.5 illustrates that while certain aspects of blockchain—particularly its automation and transparency features—are well-regarded, there is still noticeable skepticism and varied adoption across firms. The high means in areas related to reducing human error,

audit tracking, and data trustworthiness imply strong potential, whereas lower means in areas concerning accuracy, real-time updates, and department-wide reliability suggest ongoing challenges in full-scale integration and realization of benefits in the study context.

4.2 Test of Hypotheses

4.2.1 Test of Hypothesis I

H01. Blockchain integration has no significant influence on the reliability of financial reporting among selected manufacturing firms in Anambra state.

Table 4.2 Test of Hypothesis I

		Reliability of Financial Reporting
Blockchain Integration	Pearson Correlation	.628**
	Sig. (2-tailed)	.000
	N	137

Source: SPSS V. 26 (2025)

In Table 4.2, the Pearson correlation coefficient between blockchain integration and the reliability of financial reporting is r = 0.628, with a p-value of 0.000. This correlation is statistically significant at the 5% level and positive in direction. The coefficient value of 0.628 indicates a moderately strong positive influence, suggesting that as the level of blockchain integration increases, the reliability of financial reporting also tends to improve among the firms studied. Since the p-value is below 0.05, the null hypothesis (H01) is rejected while the alternate hypothesis is accepted, confirming that Blockchain integration positively and significantly influences the reliability of financial reporting among selected manufacturing firms in Anambra state (r = 0.628, p = 0.000).

4.2.2 Test of Hypothesis II

H02. Blockchain distributive element has no significant influence on the reliability of financial reporting among selected manufacturing firms in Anambra state.

Table 4.3 Test of Hypothesis II

		Reliability of Financial Reporting
Blockchain Distributive Element	Pearson Correlation	.260**
	Sig. (2-tailed)	.002
	N	137

Source: SPSS V. 26 (2025)

In Table 4.3, the Pearson correlation coefficient between the blockchain distributive element and reliability of financial reporting is r = 0.260, with a p-value of 0.002. Although the coefficient is lower compared to the previous variable, it is still statistically significant at the 5% level. The coefficient of 0.260 reflects a weak but positive influence, indicating that a higher presence of distributive elements in blockchain systems is associated with slight improvements in the reliability of financial reporting. Given the significant p-value, the null hypothesis (H02) is also rejected while the alternate hypothesis is accepted, establishing that Blockchain distributive element positively and significantly influences the reliability of financial reporting among selected manufacturing firms in Anambra state (r = 0.260, p = 0.002).

4.2.3 Test of Hypothesis III

H03. Blockchain-based accounting system has no significant influence on the reliability of financial reporting among selected manufacturing firms in Anambra state.

Table 4.4 Test of Hypothesis III

		Reliability of Financial Reporting
Blockchain-Based Accounting System	Pearson Correlation	.504**
	Sig. (2-tailed)	.000
	N	137

Source: SPSS V. 26 (2025)

In Table 4.4, the Pearson correlation between the blockchain-based accounting system and the reliability of financial reporting is r = 0.504, with a p-value of 0.000. This is a statistically significant and moderately strong positive influence. The coefficient suggests that the use of blockchain-based accounting systems is associated with a notable improvement in the reliability of financial reporting. Since the p-value is less than 0.05, the null hypothesis (H03) is also rejected while the alternate hypothesis is accepted, confirming that Blockchain-based accounting system positively and significantly influences the reliability of financial reporting among selected manufacturing firms in Anambra state (r = 0.504, p = 0.000).

4.3 Discussion of Findings

The integration of blockchain technology significantly and positively impacts the reliability of financial reporting in selected manufacturing firms in Anambra State, with a correlation coefficient of 0.628 (p = 0.000). This finding underscores blockchain's capacity to enhance the credibility, consistency, and accuracy of financial data due to its inherent features—immutability, transparency, and real-time access to shared data. In manufacturing settings where operational complexity can lead to data manipulation or delayed reporting, blockchain reduces human intervention, ensures tamper-proof records, and supports automated verification through smart contracts. These attributes collectively enhance the reliability of financial statements, enabling stakeholders to trust the figures reported and make more informed decisions. This outcome is consistent with numerous empirical studies. For instance, Umoren, Ukpeh, and Ewang (2024) demonstrated that blockchain technology improves accounting efficiency, which directly correlates with data reliability. Similarly, Lootah (2024) found in the UAE context that blockchain improves the accuracy and transparency of financial reporting and reduces the possibility of fraud—factors vital to reliability. Udo (2023) also highlighted blockchain's contribution to transparency and data security, both foundational to trustworthy reporting. Fang et al. (2023) noted improvements in governance and audit collaboration due to blockchain, indirectly reinforcing financial report reliability. Moreover, Borhani et al. (2021) confirmed that blockchain enhances qualitative data features, which strengthens the integrity and usability of financial reports.

The distributive element of blockchain technology also significantly and positively influences the reliability of financial reporting in the same context (r = 0.260, p = 0.002). The distributive nature—where each participant maintains a copy of the ledger—promotes decentralization and eliminates single points of failure or manipulation. In the manufacturing sector, where data flow involves multiple departments and partners, a distributed ledger ensures synchronized records that are independently verifiable. This collective validation fosters transparency and accountability, reducing discrepancies and bolstering the trustworthiness of reported financial information. Several studies support this finding. Johnson and Okoye (2023) specifically examined the distributive features of blockchain and found that they enhanced the transparency, reliability, and timeliness of financial reports in Nigerian firms. Celestin and Gidisu (2023) observed that distributed ledger systems in Ghana's financial accounting context led to fewer audit errors and reduced fraud, supporting improved report reliability. Ramchandra et al. (2022) found that while blockchain reduces

financial constraints, its distributive nature provides resilience against centralized failures, indirectly ensuring reliable reporting. Similarly, Ronaghi and Mosakhani (2022) linked blockchain's transparency—largely due to its distributed architecture—to stronger ethical and governance standards, which again reinforces report reliability.

Lastly, the blockchain-based accounting system itself positively and significantly influences the reliability of financial reporting among these firms ($r = 0.504$, $p = 0.000$). Blockchain-based accounting replaces traditional double-entry with a triple-entry framework, where transactions are cryptographically sealed and instantly recorded on a shared ledger. This system reduces human error, audit lag, and fraudulent manipulations, enhancing overall financial data integrity. In manufacturing firms where high transaction volumes are typical, such a system ensures real-time recording and auditability, contributing to the robustness and dependability of financial reports. Empirical literature affirms this result. Lan and Le Hue (2023) reported that blockchain-based AIS in Vietnam enhanced accounting system performance and contributed to business success, driven by accurate and timely data. Fortin (2022) emphasized blockchain's role in real-time, triple-entry accounting and its potential to transform traditional accounting practices for better reliability. Xue (2021) observed improvements in data quality and management control with blockchain adoption, which are essential for reliable reporting. Additionally, Akinadewo et al. (2023) found that Nigerian accounting firms using blockchain-based systems experienced improved operational transparency and security—direct contributors to the quality of financial reports. Chowdhury et al. (2023) also noted that while blockchain poses some scalability challenges, it fundamentally transforms accounting toward a more reliable and data-driven model.

5.0 Conclusion and Recommendations

The findings of this study demonstrate that blockchain technology, in its various dimensions, exerts a significant and positive influence on the reliability of financial reporting within the context of selected manufacturing firms in Anambra State. This indicates a broader shift in how digital innovations are shaping core accounting processes, particularly in enhancing the trustworthiness, accuracy, and transparency of financial data. The positive correlations, especially those with moderate to strong magnitudes, imply that the adoption of blockchain-related practices is not merely technical but also transformative, influencing how financial information is generated, verified, and reported. The evidence suggests that firms embedding blockchain elements in their accounting frameworks experience a measurable improvement in the quality of financial reporting, thus strengthening internal controls and information integrity.

More broadly, these results have implications for the structure and operation of financial reporting systems in the manufacturing sector. The significant associations revealed in the study highlight the growing importance of technological competence in financial operations. As blockchain contributes to decentralized verification and immutable record-keeping, its integration into accounting appears to challenge traditional reporting mechanisms, introducing a new layer of reliability driven by automation and transparency. This paradigm shift suggests that blockchain technology is not simply an add-on feature but a fundamental force that is redefining the boundaries of accounting reliability in practice. The study recommends that:

1. Top management of manufacturing firms in Anambra State should prioritize the strategic integration of blockchain technology into their financial and operational systems by allocating budgetary support for the acquisition of blockchain platforms, recruiting or training blockchain-competent accounting personnel, and embedding blockchain into internal control systems.

2. Chief information officers and IT departments in manufacturing firms should implement decentralized ledger infrastructures that allow all authorized stakeholders access to real-time, synchronized financial data which will allow the firms decentralize access reduces dependence on centralized databases, minimizes data manipulation risks, and fosters transparency and accountability across financial transactions.

3. Professional accounting bodies such as ICAN and ANAN, in collaboration with the Nigerian Financial Reporting Council (FRC), should develop standardized frameworks and training programs for the adoption of blockchain-driven triple-entry accounting. This should include curriculum updates in accounting education, certification of blockchain-compliant software, and regulatory guidelines to guide implementation.

References

Abdullah, F., Ward, R., & Ahmed, E. (2016). Investigating the influence of the most commonly used external variables of TAM on students' Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) of e-portfolios. *Computers in human behavior*, *63*, 75-90.

Abdullah, Z. I. B., Almsafir, M. K., & Al-Smadi, A. A. M. (2015). Transparency and reliability in financial statement: Do they exist? Evidence from Malaysia. *Open Journal of Accounting*, *4*(4), 29-43.

Akinadewo, I. S., Dagunduro, M. E., & Osatuyi, Y. A. (2023). In what way does blockchain technology tie with the efficacy of accounting practice in Nigerian accounting firms?. *Journal of Business and Management Review*, *12*(1), 96-117.

Alia, A. (2017). *An investigation of the application of the Technology Acceptance Model (TAM) to evaluate instructors' perspectives on E-Learning at Kuwait University* (Doctoral dissertation, Dublin City University).

Alkafaji, B. K. A., Dashtbayaz, M. L., & Salehi, M. (2023). The impact of blockchain on the quality of accounting information: an Iraqi case study. *Risks*, *11*(3), 58.

Borhani, S. A., Babajani, J., RaeesiVanani, I., Sheri Anaqiz, S., & Jamaliyanpour, M. (2021). Adopting blockchain technology to improve financial reporting by using the technology acceptance model (TAM). *International Journal Of Finance & Managerial Accounting*, *6*(22), 155-171.

Celestin, M., &Gidisu, J. A. (2023). Integrating blockchain into financial accounting systems: A study of Ghana's emerging corporate sector. *International Journal of Current Research and Modern Education*, *8*(2), 88–101.

Chowdhury, E., Stasi, A., & Pellegrino, A. (2023). Blockchain technology in financial accounting: emerging regulatory issues. *Review of Financial Economics*, *21*, 862-868.

Dyball, M. C., & Seethamraju, R. (2022). Client use of blockchain technology: exploring its (potential) impact on financial statement audits of Australian accounting firms. *Accounting, Auditing & Accountability Journal*, *35*(7), 1656-1684.

Evans, O. (2018). *Blockchain technology and the financial market: an empirical analysis*. Published in: Actual Problems of the Economy No. 211 (12 October 2019): pp. 82-101.

Fang, B., Liu, X., Ma, C., & Zhuo, Y. (2023). Blockchain technology adoption and accounting information quality. *Accounting & Finance*, *63*(4), 4125-4156.

Fortin, M. (2022). *Blockchain Technology: Changes and Challenges for Accounting and Accountants* (Doctoral dissertation, Concordia University).

Hasan, A., Aly, D., & Hussainey, K. (2022). Corporate governance and financial reporting quality: a comparative study. *Corporate Governance: The International Journal of Business in Society*, *22*(6), 1308-1326.

Herath, S. K., & Albarqi, N. (2017). Financial reporting quality: A literature review. *International Journal of Business Management and Commerce*, *2*(2), 1-14.

Ismael, A. Y. A. (2017). The impact of creative accounting techniques on the reliability of financial reporting with particular reference to Saudi auditors and academics. *International Journal of Economics and Financial Issues*, *7*(2), 283-291.

Johnson, K. T., & Okoye, E. I. (2023). Effect of blockchain distributive technology on the quality of financial reporting in Nigeria. *UBS Journal of Business and Economic Policy*, *1*(4), 29-44.

Lan, A. D., & Le Hue, T. M. (2023). The Impact of Blockchain Technology on the Accounting Information System Efficiency and Business Performance: the Case of Businesses Owning E-Commerce Platforms in Vietnam. *PrzestrzeńSpołeczna (Social Space)*, *23*(4), 242-274.

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? A critical review of the technology acceptance model. *Information & management*, *40*(3), 191-204.

Lootah, R. E. A. (2024). The impact of blockchain technology on financial reporting practices in UAE. *International Journal of Digital Accounting and Fintech Sustainability*, *1*(1), 2-12.

Novak, A., Barišić, I., & Žager, K. (2022, September). Implications of blockchain application to accounting education and accounting practice. In *ECIE 2022 17th European Conference on Innovation and Entrepreneurship* (pp. 378-384). Academic Conferences and publishing limited.

Nyor, T. (2013). Financial Reporting Quality of Nigeria Banks: Users' Perception. *International Journal of Business and Social Science*, *4*(13), 273-280.

Oladejo, M. T. (2023). *Blockchain technology: Disruptor or enhancer to the accounting and auditing profession* (Doctoral dissertation, The University of Waikato).

Omaliko, E., Mordi, K., &Ezeala, G. (2025). Innovation and sustainability in Anambra State Civil Service. *International Journal of Financial, Accounting, and Management (IJFAM)*, *6*(4), 495-508.*https://doi.org/10.35912/ijfam.v6i4.2599*

Ramchandra, M. V., Kumar, K., Sarkar, A., Mukherjee, S. K., & Agarwal, K. (2022). Assessment of the impact of blockchain technology in the banking industry. *Materials Today: Proceedings*, *56*, 2221-2226.

Ronaghi, M. H., & Mosakhani, M. (2022). The effects of blockchain technology adoption on business ethics and social sustainability: evidence from the Middle East. *Environment, Development and Sustainability*, *24*(5), 6834-6859.

Surana, G., & Bhanawat, S. S. (2022). Awareness of blockchain technology-based accounting system among professionals. *IUP Journal of Accounting Research & Audit Practices*, *21*(4), 34-49.

Temitayo, O. S., Adedayo, L. Y., & Stephen, A. S. (2024). Effect of Blockchain Technology Adoption on the Competitive Advantage of Financial Services Providers in Lagos, Nigeria. *Int. J. Sci. Res. in Multidisciplinary Studies Vol*, *10*(8).

Udo, N. B. (2023). The Integration Of Blockchain Technology Into Accounting Practices In Nigeria. *Journal of Accounting and Financial Reporting*, *11*(3), 36-56.

Umoren, A., Ukpeh, G., & Ewang, A. I. (2024). *Blockchain technology and accounting practice in Nigeria*. *Journal of Accounting and Financial Management*, *10*(7), 90.

Xue, L. (2021, December). The application of blockchain technology in the financial field. In *2021 International Conference on Forthcoming Networks and Sustainability in AIoT Era (FoNeS-AIoT)* (pp. 130-134). IEEE.

Zhang, C., & Shah, S. M. (2022). The impact of blockchain technology on internal auditing in the financial sector. In *The Implementation of Smart Technologies for Business Success and Sustainability: During Covid-19 Crises in Developing Countries* (pp. 709-719). Cham: Springer International Publishing.