BLOCKCHAIN TECHNOLOGY AND AUDITING PRACTICES

IN NIGERIA

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DEPARTMENT OF ACCOUNTING

FACULTY OF MANAGEMENT SCIENCES

UNIVERSITY OF BENIN

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTING, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF BENIN, BENIN CITY. IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCES (B.Sc.), DEGREE IN ACCOUNTING.

MAY, 2024.

DECLARATION

I, **Ejehiwease EBHODAGHE,** do hereby declare that this project was Undertaken by me in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin city, under the supervision of Prof. A.O. Oladipupo. The work embodied in this project has not been previously submitted in candidature for any degree and is not concurrently being submitted for any other degree.

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Ejehiwease EBHODAGHE

(Project student)

Date:_____

CERTIFICATION

This is to certify that this project work was carried out by **Ejehiwease EBHODAGHE** with **MAT No. MGS2007414,** in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin city, in partial fulfilment for the requirements for the award of Bachelor of sciences (B.Sc.) in Accounting.

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DEDICATION

This work is dedicated to God almighty, whose mercy and Grace, love and compassion sustained and shielded me throughout this research and my entire academic journey.

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ABSTRACT

This study evaluated the effect of blockchain technology on auditing practices in Nigeria. The study used the primary research instrument through the administration of questionnaire to source data needed for the study. The study targeted a sample of three hundred and sixteen (316) respondents, in which a total of 316 questionnaires were distributed and only three hundred (300) was filled, retrieved, cleaned and used for this study. The data collected was analyzed using SPSS version 22.0 and descriptive statistics was used to present the results while regression test and t-test were employed to make findings on the research hypotheses. It was discovered that: the extent of adoption of blockchain technology has a significant impact on auditing practices; there are significant factors influencing the adoption of blockchain technology in auditing practices; there are significant challenges in the adoption of blockchain technology in auditing practices; the transparency feature of blockchain technology significantly affects auditing practices; and the immutability feature of blockchain technology does not significantly influence auditing practices. Based on these findings, it was recommended that: it is essential for auditing firms and regulatory bodies in Nigeria to invest in training and capacity building programs; there is a need for collaborative efforts by policymakers to create a conducive regulatory environment that encourages the adoption of blockchain technology in auditing; auditors and technology developers should design user-friendly blockchain auditing platforms, address scalability issues, enhance data privacy and security measures, and ensure interoperability with existing auditing systems; and auditors should capitalize on this feature to enhance the transparency and integrity of financial reporting processes.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Auditing practices in Nigeria have undergone significant transformations over the years, reflecting broader global trends while also addressing unique local challenges. According to a report by the Nigerian Accounting Standards Board (NASB) in 2016, the adoption of International Financial Reporting Standards (IFRS) has been pivotal in enhancing the quality and comparability of financial statements (Abdullahi & Abubakar, 2020). This transition underscores the relevance of auditing practices in ensuring transparency and accountability in both public and private sectors. In Nigeria, where the economy is characterized by a mix of oil dependence, burgeoning entrepreneurship, and public sector reforms, the role of auditing cannot be overstated. The effectiveness of auditing practices is crucial for investor confidence, regulatory compliance, and the fight against corruption. Rashid et al. (2022) highlight the critical role auditors play in mitigating financial irregularities and enhancing the credibility of financial reporting. The evolution of auditing in Nigeria reflects a broader global narrative of responding to economic complexities, technological advancements, and international standards.

Globally, the evolution of auditing practices can be traced back to ancient civilizations, but the most significant developments occurred during the industrial revolution when the need for formalized financial reporting and accountability became paramount. The establishment of professional accounting bodies, such as the American Institute of Certified Public Accountants (AICPA) in 1887

and the Institute of Chartered Accountants in England and Wales (ICAEW) in 1880, marked significant milestones in setting auditing standards and practices (Ihenyen & Robert, 2023). The global financial crises, notably the 1929 stock market crash and the more recent 2008 financial crisis, further catalysed the evolution of auditing standards, highlighting the need for more stringent regulatory frameworks and auditing practices to protect stakeholders' interests. The issuance of the Sarbanes-Oxley Act in 2002 in the United States, for instance, was a direct response to corporate scandals and aimed to enhance corporate governance and the reliability of financial reporting (Obeng-Nyarko, 2023).

Significant events, happenings, and conferences have played pivotal roles in shaping auditing practices globally. The collapse of major corporations like Enron and WorldCom at the turn of the century, due to accounting fraud, led to an overhaul of auditing and financial reporting standards (Markham, 2022). These events precipitated the convening of international conferences and the formation of regulatory bodies aimed at restoring trust in financial markets. The International Auditing and Assurance Standards Board (IAASB), for instance, has been instrumental in developing and promoting globally recognized standards, such as the International Standards on Auditing (ISA), which have been adopted in many jurisdictions, including Nigeria (Humphrey et al., 2021). These standards emphasize the importance of auditor independence, professional scepticism, and the need for auditors to obtain reasonable assurance that financial statements are free from material misstatement.

In Nigeria, the evolution of auditing practices has been significantly influenced by both global trends and local regulatory developments. The establishment of the Financial Reporting Council of Nigeria (FRCN) and the adoption of the Nigerian Corporate Governance Code are testaments to Nigeria's commitment to aligning its auditing and financial reporting standards with international best practices (Okike & Okougbo, 2019). These regulatory frameworks mandate the adherence to IFRS and ISA, thereby enhancing the quality and reliability of financial audits. Additionally, the Nigerian Securities and Exchange Commission (SEC) has played a crucial role in enforcing compliance with these standards, particularly for listed companies, to protect investors and strengthen the capital market (Idowu & Tijani, 2020).

Blockchain technology, with its decentralized and transparent nature, presents a paradigm shift in how auditing practices can be conducted. Blockchain's inherent characteristics, such as immutability, transparency, and security, align well with the fundamental objectives of auditing (Gauthier & Brender, 2021). The technology offers the potential to automate and enhance the verification processes of transactions and balances, which could significantly reduce the incidence of fraud and errors in financial reporting (Roszkowska, 2021). In the context of Nigeria, where the need for improved transparency and accountability is pronounced, blockchain technology could revolutionize auditing practices by providing a tamper-proof ledger of transactions, thereby facilitating real-time auditing and reducing the risk of financial misstatements (Oladejo, 2023).

Blockchain technology comprises several key components that underpin its potential to transform auditing practices. Firstly, the decentralized ledger technology (DLT) ensures that data is not stored

in a central location but is distributed across a network of computers, enhancing security and reducing the risk of centralized data manipulation (Farahani et al., 2021). Smart contracts, self-executing contracts with the terms of the agreement directly written into code, can automate and enforce compliance with contractual terms and auditing standards (De Andrés & Lorca, 2021). Cryptography in blockchain ensures the integrity and security of transactions, making it nearly impossible to alter historical data (Bodkhe et al., 2020). Additionally, consensus mechanisms such as Proof of Work (PoW) and Proof of Stake (PoS) ensure that all transactions are verified and agreed upon by the network, further enhancing the credibility of the financial data (Akbar et al., 2021).

Integrating blockchain technology into auditing practices offers a transformative potential that could redefine the audit process's efficiency, transparency, and reliability. In the Nigerian context, where the demand for greater accountability and transparency in both the public and private sectors is high, blockchain could provide a robust framework for achieving these objectives (Shenkoya, 2023). By leveraging the immutability and transparency of blockchain, auditors can have real-time access to financial transactions, which can significantly enhance the audit process's efficiency and effectiveness. This integration could lead to a paradigm shift in how audits are conducted, moving from periodic, historical audits to continuous, real-time audit processes, thereby providing stakeholders with more timely and reliable financial information (Han et al., 2023).

1.2 Statement of the Research Problem

The auditing landscape in Nigeria is confronting a pivotal challenge marked by the integration and application of blockchain technology. This evolution is set against a backdrop where the assurance

and integrity of financial statements remain critical to the economic stability and investor confidence in the Nigerian market. Ibrahim (2022) previously pointed out the financial discrepancies and underperformance in Nigerian firms, suggesting a deeper systemic issue rooted within the auditing and financial reporting practices. In this context, the advent of blockchain technology offers a novel paradigm potentially capable of revolutionizing traditional auditing practices. However, the extent to which this technology has been adopted and its consequent impact on the auditing efficacy in Nigeria's corporate entities, such as Dangote Cement PLC and Guaranty Trust Bank PLC, remains an underexplored domain. These firms, representing the vanguard of Nigeria's corporate sphere, have historically employed various strategies to bolster their market stance, yet the specific role of blockchain technology on auditing practices remains unexplored to the knowledge of the researcher.

Furthermore, the intricacies of auditing practices in Nigeria, compounded by issues such as auditor independence, the adoption of varying accounting standards, and the potential for earnings management, underscore the complexity of achieving transparent and reliable financial reporting (Ali-Momoh, 2023). The integration of blockchain technology in auditing practices presents a promising avenue to mitigate these challenges, offering immutable record-keeping, enhanced transparency, and streamlined verification processes (Han et al., 2023). However, the transition to blockchain-enabled auditing is fraught with its own set of challenges, including technological adoption barriers, regulatory uncertainties, and the readiness of the auditing workforce to adapt to new paradigms. The potential of blockchain to address longstanding issues such as creative accounting and the obfuscation of financial realities, thereby aligning with global best practices such

as IFRS, posits a transformative opportunity for Nigerian auditing practices (Thomas, 2023). Therefore, this research endeavours to dissect these dynamics, aiming to unravel the extent to which blockchain technology can fortify the integrity and reliability of financial statements, thereby contributing to a more robust financial ecosystem in Nigeria.

Moreover, the implications of adopting blockchain technology in auditing extend beyond mere regulatory compliance and operational efficiency; they touch upon the foundational trust and credibility that underpin Nigeria's financial markets. Historical precedents, such as the Enron and WorldCom scandals, starkly illustrate the catastrophic fallout of compromised auditing practices (Genova, 2010). In this context, the Nigerian corporate sector, still navigating the shadows of such global cautionary tales, stands at a critical juncture where the adoption of blockchain in auditing could herald a new era of financial transparency and accountability. Based on the above, this research not only seeks to chart the current landscape of blockchain application in auditing within Nigeria but also aims to offer a forward-looking perspective on how this technology could redefine the contours of financial reporting and auditing.

1.3 Research Questions

The study will provide answers to the following research questions:

i. What is the extent of adoption of blockchain technology in auditing practices in Nigeria?
ii. What factors influence the adoption of blockchain technology in auditing practices in Nigeria?
iii. What are the challenges associated with the adoption of blockchain technology in auditing practices in Nigeria?

iv. How does the transparency feature of blockchain technology affect auditing practices in Nigeria?

v. How does the immutability feature of blockchain technology influence auditing practices in Nigeria?

1.4 Objectives of the Study

The broad objective of this study is to examine the effect of blockchain technology on auditing practices in Nigeria. Specifically, the study sought to:

i. ascertain the extent of adoption of blockchain technology in auditing practices in Nigeria;

ii. determine the factors that influence the adoption of blockchain technology in auditing practices in Nigeria; and

iii. examine the challenges associated with the adoption of blockchain technology in auditing practices in Nigeria;

iv. investigate how the transparency feature of blockchain technology affect auditing practices in Nigeria;

v. evaluate the overall effect of the adoption of blockchain technology on auditing practices in Nigeria.

1.4 Research hypotheses

The following hypotheses stated in a null form shall be tested in this study:

Ho_1: The extent of adoption of blockchain technology has no significant impact on auditing practices in Nigeria.

Ho_2: There are no significant factors influencing the adoption of blockchain technology in auditing practices in Nigeria.

Ho_3: There are no significant challenges in the adoption of blockchain technology in auditing practices in Nigeria.

Ho_4: The transparency feature of blockchain technology does not significantly affect auditing practices in Nigeria.

Ho_5: The immutability feature of blockchain technology does not significantly influence auditing practices in Nigeria.

1.6 Significance of the Study

This research study holds significant value for a wide range of stakeholders, encompassing regulatory bodies, auditing firms, corporate entities, academia, and the broader financial ecosystem within the country. The exploration and understanding of how blockchain technology can be integrated into and potentially transform auditing practices in Nigeria are crucial for several reasons:

Regulatory Bodies and Policymakers: For regulatory authorities and policymakers such as FRCN and SEC, this study provides critical insights into the opportunities and challenges presented by blockchain technology in enhancing auditing standards and practices. It can inform the development of regulatory frameworks that accommodate innovative technologies while ensuring the reliability,

transparency, and integrity of financial reporting. The findings can aid in crafting policies that foster an environment conducive to technological advancements in auditing, aligning with global best practices and enhancing Nigeria's position in the global financial market.

Auditing and Accounting Firms: For auditors and accounting professionals, this study sheds light on the practical implications of blockchain adoption, including potential improvements in audit efficiency, accuracy, and fraud detection capabilities. Understanding the impact of blockchain on auditing can guide firms in training and development, investment in new technologies, and restructuring of audit processes to leverage blockchain's benefits fully. It also prepares auditors for the evolving nature of their roles in a blockchain-integrated environment.

Corporate Entities and Businesses: Businesses stand to gain from enhanced audit quality and reliability, as blockchain technology can offer more transparent and tamper-proof financial records. This can lead to improved investor confidence, lower capital costs, and a stronger reputation in the marketplace. Additionally, companies can anticipate and prepare for changes in audit processes and requirements that blockchain adoption might bring, ensuring they remain compliant and competitive.

Investors and Financial Market Participants: Investors and other stakeholders in the financial markets benefit from increased transparency and reliability in financial reporting, which blockchain-integrated auditing practices can provide. This reduces the risk of financial misstatements and fraud, leading to more informed investment decisions and a healthier investment climate. The integrity of financial reports, bolstered by blockchain technology, can enhance market stability and investor trust in Nigerian businesses.

Technology Developers and Service Providers: Insights from this study can guide technology developers and service providers in designing blockchain solutions tailored to the needs and challenges of the auditing sector in Nigeria. Understanding the specific requirements of auditors and regulatory bodies enables the development of more relevant and effective blockchain applications, facilitating smoother integration and adoption.

Academic and Research Community: For scholars and researchers, this study contributes to the academic discourse on the intersection of technology and auditing. It expands the body of knowledge on blockchain technology's applications and implications in the auditing field, providing a foundation for further research and exploration. This can stimulate academic debate, encourage curriculum development in higher education institutions, and foster a new generation of auditors equipped with the knowledge and skills to navigate the digital transformation of the auditing profession.

Body of Knowledge: This study contributes to the body of knowledge by examining the current landscape of blockchain application in auditing within Nigeria thereby offering a forward-looking perspective on how this technology could redefine the contours of financial reporting and auditing.

1.5 Scope of the Study

The objective of this study is to examine the effect of blockchain technology on auditing practices. Specifically, the study would focus on examining the extent of adoption of blockchain technology in auditing practices, the factors that influence the adoption of blockchain technology in auditing practices, the challenges associated with the adoption of blockchain technology in auditing practices, how the

transparency feature of blockchain technology affect auditing practices, how the immutability feature of blockchain technology influence auditing practices, and the overall effect of the adoption of blockchain technology on auditing practices. However, this study is geographically restricted to auditing firms in Benin City, Edo state Nigeria. This study will utilize convenience sampling technique to select the sample size that it will focus on. This study is cross-sectional in nature covering the period 2024./

1.6 Definition of Terms

The following key terms are operationally defined as used in this study:

Blockchain Technology: In the context of this study, blockchain technology refers to a decentralized digital ledger system that records transactions across multiple computers in a way that ensures the security, transparency, and immutability of the data. Each block in the chain contains a number of transactions, and every time a new transaction occurs, a record of that transaction is added to every participant's ledger.

Auditing Practices: This term refers to the systematic process of inspecting and verifying the financial records, processes, and internal controls of organizations in Nigeria to ensure accuracy, compliance with applicable standards and regulations, and to provide assurance on financial statements.

Adoption of Blockchain Technology: This refers to the extent to which blockchain technology is integrated and utilized within the auditing sector in Nigeria, including the implementation of blockchain-based systems and processes for enhancing auditing tasks.

Transparency Feature of Blockchain: In this study, the transparency feature of blockchain pertains to the technology's ability to provide open access to transaction data for all participants in the network, thereby enhancing the visibility and traceability of financial transactions in auditing practices.

Immutability Feature of Blockchain: This refers to the characteristic of blockchain technology that prevents the alteration or deletion of recorded data once it has been confirmed and added to the blockchain, ensuring the integrity and permanence of financial records in auditing practices.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examines the conceptual framework, review of related studies, and theoretical framework for the study. This chapter is made up of four sections. Closely following this introduction is the second section which deals with the conceptual framework and the theoretical underpinning to validate this current study. Finally, the chapter is concluded with a review of empirical literature linking the dependent variable (audit practices) and the independent variable (Blockchain technology).

2.2 Conceptual Review

2.2.1 Audit

The definition of audit has been shaped by various academic contributors over recent years. According to Hayes et al. (2014), an audit is an independent examination of financial information of any entity, whether profit oriented or not, irrespective of its size or legal form when such an examination is conducted with a view to express an opinion thereon. This definition emphasizes the independence and objective stance of the audit process. Similarly, Arens et al. (2017) describe an audit as a systematic process of objectively obtaining and evaluating evidence regarding assertions about economic actions and events to ascertain the degree of correspondence between those assertions and established criteria. Here, the systematic and evaluative nature of auditing is

highlighted. Both definitions collectively underscore the importance of objectivity, systematic approach, and the goal of assessing compliance with established criteria.

Moreover, the definitions by Singleton and Singleton (2010) and Boynton et al. (2016) also contribute to this conceptual framework. Singleton and Singleton (2010) define an audit as a process of obtaining and evaluating evidence about information to determine and report on the degree of correspondence between the information and established criteria. Boynton et al. (2016) extend this by stating that an audit involves a professional, skeptical, and objective examination and evaluation of financial statements to ensure an accurate and fair representation. These perspectives collectively underline the essence of evidence evaluation, the necessity for professional scepticism, and the goal of ensuring accurate financial representations.

Moving to the elements and components of audit, it is critical to dissect the process into its foundational aspects. Louwers et al. (2018) identify risk assessment as a crucial component, where auditors evaluate the risk of material misstatement in a company's financial reports. This is corroborated by the work of Rittenberg et al. (2012), who emphasize the significance of understanding the entity and its environment, including its internal control, as part of risk assessment. Additionally, Arens et al. (2019) highlight the importance of evidence gathering as a core element of auditing, noting that the accumulation of sufficient and appropriate evidence is fundamental to support the auditor's opinion. Furthermore, Hall (2016) discusses the auditor's report as a key component, which communicates the findings of the audit to relevant stakeholders. This is supported by Whittington and Pany (2016), who assert that the auditor’s report should clearly communicate the

scope of the audit and the auditor's findings in a manner that is understandable to users of financial statements.

The importance of auditing in the contemporary financial landscape is multifaceted. First, auditing enhances the reliability of financial statements, as noted by Knechel and Salterio (2016), who argue that audits provide reasonable assurance that financial statements are free of material misstatement. This is further reinforced by Power (2013), who posits that audits serve as a critical mechanism for maintaining the integrity of financial reporting. Additionally, Gray and Manson (2018) emphasize the role of audits in enhancing the credibility of financial information, thereby facilitating stakeholders' decision-making processes. This notion is supported by Moeller (2015), who discusses the importance of audits in detecting and preventing fraud, thus protecting the interests of stakeholders.

2.2.2 Audit Practices

The definition of audit practices encompasses a range of activities and methodologies used by auditors to assess and verify the accuracy of financial statements and compliance with applicable laws and regulations. Gray and Manson (2018) describe audit practices as the systematic process of objectively obtaining and evaluating evidence regarding assertions about economic actions and events to ascertain the degree of correspondence between those assertions and established criteria. Similarly, Arens et al. (2019) emphasize the objective examination of evidence for the purpose of providing an independent assessment of the financial statements of an organization. These

definitions collectively highlight the elements of objectivity, systematic methodology, and evidence evaluation.

Hall (2020) further refines this by noting the importance of compliance with generally accepted auditing standards (GAAS) as a cornerstone of audit practices. This is echoed by Singleton and Singleton (2018), who argue that adherence to professional standards and ethics is integral to the practice. Louwers et al. (2019) add that audit practices also involve risk assessment and the implementation of appropriate audit procedures to mitigate those risks. The integration of these definitions portrays audit practices as a comprehensive, standards-based process involving systematic evidence evaluation, ethical conduct, and risk management.

There is a broad spectrum of elements and components of audit practices covered in academic literature. Risk assessment and internal control evaluation are fundamental components, as highlighted by Boynton and Johnson (2019), who emphasize the auditor's responsibility in understanding the entity’s environment and internal control system. Similarly, Rittenberg and Schwieger (2018) discuss the importance of audit planning, including the development of an overall audit strategy and audit program. The role of substantive procedures, which involve detailed testing of transactions and balances, is also a critical component, as noted by Whittington and Pany (2017). Furthermore, the importance of professional scepticism and judgment, as discussed by Knechel and Salterio (2016), cannot be understated. They argue that these are crucial in making informed decisions about the nature, timing, and extent of audit procedures. In the same vein, Messier et al.

(2020) underscore the relevance of communication within the audit team and with stakeholders, including the audit committee and management.

Audit practices are essential for ensuring the reliability of financial information, which is critical for stakeholders like investors, creditors, and regulators. For instance, a study by Cohen et al. (2017) demonstrated the significant role audit practices play in enhancing the credibility of financial statements. Similarly, Hay et al. (2020) provide empirical evidence suggesting that robust audit practices contribute to the reduction of information asymmetry in financial markets. Moreover, audit practices have a broader societal impact, as they contribute to the integrity and stability of financial markets. In a study by DeFond and Zhang (2020), it was found that effective audit practices are associated with a lower incidence of financial fraud, underscoring their role in maintaining investor confidence and the proper functioning of capital markets.

2.2.3 Benefits of Audit Practices

The discourse on the benefits of audit practices has evolved significantly over recent years, particularly in the context of increasing global business complexities and regulatory environments. This section aims to elucidate key benefits of audit practices, drawing from a rich body of academic literature.

2.2.3.1 Enhancement of Financial Reliability and Integrity

One of the primary benefits of audit practices is the enhancement of financial reliability and integrity. Moeller (2015) emphasizes that audits provide assurance on the accuracy of financial statements, which is crucial for stakeholders' decision-making. In a study by Gray et al. (2016), it was noted that

audits reduce the likelihood of financial misstatements, thereby enhancing the overall trustworthiness of financial reporting. Knechel and Salterio (2016) further argue that audit practices play a vital role in maintaining the quality of financial reporting through rigorous checks and balances. This integrity is not merely about error detection but also about instilling a sense of discipline in financial reporting, as highlighted by Romero (2017). The components of this aspect, including thorough review processes, adherence to accounting standards, and the auditors' professional scepticism, collectively contribute to the financial statements' credibility (Power, 2017).

2.2.3.2 Detection and Deterrence of Fraud

The role of audit practices in the detection and deterrence of fraud is a significant benefit highlighted in contemporary literature. According to Glover et al. (2016), the mere presence of an audit process can act as a deterrent to fraudulent activities within an organization. In exploring this notion, Trompeter et al. (2017) found that regular and rigorous audits decrease the occurrences of fraud, particularly in areas susceptible to financial misreporting. DeZoort and Taylor (2018) assert that the effectiveness of fraud detection is contingent on the auditor's ability to apply professional judgment and scepticism. Furthermore, Cohen and Simnett (2019) discuss the evolving nature of audit practices in adapting to sophisticated fraudulent schemes, thus highlighting the dynamic capability of audits in fraud mitigation. The elements of fraud detection include the use of advanced analytical tools, understanding of business processes, and an environment of ethical vigilance.

2.2.3.3 Compliance with Laws and Regulations

Audits ensure that organizations comply with relevant laws and regulations, a benefit extensively discussed in the literature. Jackson et al. (2016) state that audits serve as a mechanism for ensuring adherence to financial regulations and standards. In a study by Griffin (2017), it was found that audit practices play a critical role in identifying areas of non-compliance, thus enabling corrective actions. Moreover, Ruhnke and Schmidt (2018) emphasize that in an increasingly complex regulatory landscape, audits provide a structured approach to maintaining legal and regulatory compliance. This benefit is derived from comprehensive reviews of organizational practices against statutory requirements and the proactive identification of potential areas of non-compliance (Carcello, 2019).

2.2.3.4 Risk Management and Internal Control Enhancement

Audit practices significantly contribute to risk management and the enhancement of internal controls within organizations. As noted by Beasley et al. (2016), audits help in identifying and assessing organizational risks, thereby facilitating more effective risk management strategies. The study by Romero and Ruiz (2017) further illustrates that internal control systems are strengthened through the audit process, leading to more robust governance structures. According to Arena and Az zone (2018), the auditor's role in evaluating and recommending improvements to internal controls is crucial for organizational resilience. These benefits emerge from the auditor's ability to provide objective insights into risk exposures and control effectiveness, thereby aiding in the development of stronger internal control mechanisms (Kinney and McDaniel, 2019).

2.2.3.5 Stakeholder Confidence and Investment Attraction

Audits play a pivotal role in enhancing stakeholder confidence and attracting investments. The research by Cohen et al. (2016) indicates that audited financial statements significantly influence investors' perceptions and decisions. This sentiment is echoed by Coram et al. (2017), who note that audits serve as a signal of financial health and operational transparency, thus attracting potential investors. In their study, Hay and Knechel (2018) elaborate that the assurance provided by audits enhances the credibility of information provided to stakeholders, thereby fostering trust. This aspect of auditing benefits from the enhanced transparency and accountability that audits provide, leading to a more favourable view from external stakeholders (Graham et al., 2019).

2.2.3.6 Operational Efficiency and Performance Improvement

The impact of audit practices on operational efficiency and performance improvement is well-documented in the literature. In their study, Brown and Tarca (2016) argue that audits help in identifying inefficiencies and areas for improvement in organizational processes. This view is supported by Ellefson and Messier (2017), who suggest that the feedback provided by auditors can lead to significant enhancements in operational performance. Additionally, Mock and Wright (2018) highlight the role of audits in promoting best practices and benchmarking against industry standards. The elements contributing to this benefit include the identification of process inefficiencies, recommendations for improvement, and the promotion of best practices (Velte, 2019).

2.2.3.7 Corporate Governance Strengthening

Finally, audit practices are instrumental in strengthening corporate governance. The work of Bédard and Gendron (2016) underscores the role of audits in enhancing the transparency and accountability

of corporate governance practices. In a related vein, Krishnan and Visvanathan (2017) explore how audits contribute to the effectiveness of governance mechanisms, particularly in the context of board oversight. Further, the research by Gray and Manson (2018) emphasizes the importance of audits in providing independent verification of management's stewardship of resources, a key aspect of good governance. This benefit is rooted in the auditor's role as an independent and objective party, providing assurance on the fairness and accuracy of financial reporting and governance practices (Carcello & Nagy, 2019).

2.2.4 Blockchain Technology

Blockchain technology, a revolutionary advancement in the field of digital ledger technology, has garnered significant attention in recent years, particularly for its potential impact on various sectors including audit practices. In defining blockchain, Tapscott and Tapscott (2016) describe it as a digital, decentralized ledger that records transactions across many computers in such a way that the registered transactions cannot be altered retroactively. This emphasis on immutability and decentralization is echoed by Iansiti and Lakhani (2017) who highlight the transformative potential of blockchain in creating transparent, tamper-proof systems. Crosby et al. (2016) further delineate blockchain as consisting of blocks of data, which are secured and linked using cryptography, thus ensuring the integrity of the transactional data. Pilkington (2016) extends this definition by stressing blockchain's role in disintermediation, eliminating the need for trust between parties. Swan (2015) underscores blockchain's capacity for facilitating smart contracts, which autonomously execute contractual clauses. Casey and Vigna (2018) contribute to the discourse by focusing on the

distributed nature of blockchains, which not only ensures data security but also democratizes data accessibility.

These definitions collectively underscore the foundational elements of blockchain: decentralization, immutability, data integrity, and disintermediation. These aspects converge to form a technology that fundamentally alters how information is stored, accessed, and trusted, with profound implications for sectors like auditing.

The components of blockchain technology are multifarious and intricate. At its core, blockchain consists of a distributed ledger, a decentralized database that is accessible to multiple participants (Yli-Huumo et al., 2016). This ledger is composed of blocks, each containing a timestamp, transaction data, and a cryptographic hash of the previous block (Narayanan et al., 2016). The cryptographic underpinnings, particularly the use of hash functions and public-key cryptography, are crucial for ensuring the security and integrity of the data (Zheng et al., 2018). Additionally, the consensus mechanism, such as proof of work or proof of stake, is vital for validating transactions and maintaining the ledger's reliability and accuracy (Bano et al., 2019). Smart contracts, self-executing contracts with the terms directly written into code, are another critical component, enabling automated, conditional transactions (Christidis & Devetsikiotis, 2016). The structure of the blockchain is as shown in figure 1 below (Kılınç, 2020).

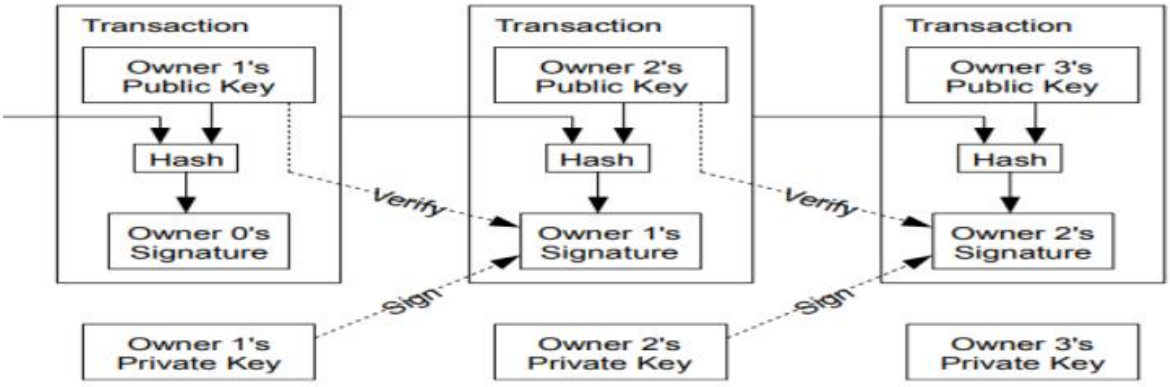

Figure 1: Blockchain Structure (Kılınç, 2020)

Figure 1 summarizes the data structures in the blockchain with basic explanation. As can be seen from the figure, the last link of the chain just behind forms the chain structure in such a way that it can form the first link of the next chain. As seen in the figure again, in the blockchain, every transaction made in the blocks is signed with a cryptographic signature or encryption. It is almost impossible to overcome the encryption process developed by the cryptography method. In addition, there is a time stamp for all transactions (Kılınç, 2020).

The significance of blockchain technology is manifold. In the financial sector, blockchain has been recognized for enhancing transparency and reducing fraud, as it provides a tamper-proof, real-time record of transactions (Tapscott & Tapscott, 2016). In supply chain management, the technology offers unprecedented traceability and efficiency, enabling real-time tracking of goods and automating various supply chain processes (Kshetri, 2018). In the realm of auditing, blockchain's potential for providing an immutable and transparent record of transactions could revolutionize traditional audit processes, reducing the time and cost associated with audit while enhancing the reliability of

financial reporting (Dai & Vasarhelyi, 2017). Moreover, blockchain's role in facilitating smart contracts and decentralized autonomous organizations suggests a future where many traditional intermediaries and manual processes are rendered obsolete (Christidis & Devetsikiotis, 2016).

2.2.5 Evolution of Blockchain Technology

The evolution of blockchain technology represents a significant chapter in the history of digital transformation. Its development can be dissected into distinct phases, each marked by technological advancements, increased adoption, and a broader impact on various industries.

The Conception and Inception of Blockchain (2008-2010)

The concept of blockchain technology was first introduced with the publication of the Bitcoin whitepaper by an individual (or group) under the pseudonym Satoshi Nakamoto in 2008 (Nakamoto, 2008). Initially designed as the underlying technology for Bitcoin, the blockchain served as a public ledger for all transactions on the network. This phase was primarily characterized by the establishment of the first blockchain, which introduced a decentralized, peer-to-peer network to eliminate the need for a central authority, thereby solving the double-spending problem in digital currency (Narayanan et al., 2016).

Early Adoption and Experimentation (2011-2014)

This phase witnessed the gradual adoption of blockchain beyond its initial application in cryptocurrency. Organizations and individual enthusiasts began exploring the potential of blockchain technology in various domains. Vitalik Buterin's introduction of Ethereum in 2015 marked a pivotal

moment in this phase. Ethereum expanded the capabilities of blockchain through the implementation of smart contracts, self-executing contracts with the terms of the agreement directly written into code (Buterin, 2014). This innovation opened up possibilities for blockchain's application beyond financial transactions, encompassing areas like decentralized applications (DApps) and autonomous organizations (Mougayar, 2016). Furthermore, during this period, alternative cryptocurrencies (Altcoins) like Litecoin was introduced (Buterin, 2014). These smart contracts are self-executing contracts with the terms of the agreement directly written into code, expanding the scope of blockchain applications.

Expansion and Diversification (2015-2017)

The period between 2015 and 2017 was marked by a notable expansion in blockchain applications across diverse industries. Major financial institutions and corporations started to invest in blockchain research and pilot projects, exploring its use in fields such as supply chain management, healthcare, and finance (Tapscott & Tapscott, 2016). The launch of consortiums like R3 and Hyperledger during this period highlighted the collaborative efforts to develop blockchain solutions for business applications (Hearn & Brown, 2016).

Maturation and Standardization (2018-2020)

As blockchain technology matured, the focus shifted towards addressing challenges such as scalability, interoperability, and regulatory compliance. Efforts to standardize blockchain protocols and integrate them with existing technological infrastructures gained momentum. The World Wide Web Consortium (W3C) started working on standardizing blockchain-based web technologies, and the International Organization for Standardization (ISO) began developing standards for blockchain and distributed ledger technologies (ISO/TC 307, 2020).

Integration and Mainstream Adoption (2021-Present)

The current phase of blockchain evolution is characterized by widespread adoption and integration into mainstream business processes and governmental functions. Blockchain is no longer seen as just a technology for cryptocurrencies but is recognized for its potential to foster transparency, efficiency, and security in various sectors. National governments are experimenting with blockchain for voting systems, identity management, and record keeping (Swan, 2015). Additionally, the emergence of decentralized finance (DeFi) platforms has shown a significant shift in financial services, leveraging blockchain for lending, borrowing, and trading without traditional intermediaries (Schär, 2021).

2.2.6 Blockchain Technology: An Examination of its Multifaceted Dimensions

Blockchain technology, a decentralized ledger system, has evolved beyond its initial application in cryptocurrency to encompass a variety of dimensions, each contributing uniquely to its growing influence in the digital era.

2.2.6.1 Decentralization and Distributed Ledger Technology (DLT)

The foundational dimension of blockchain is its decentralization, characterized by a distributed ledger technology (DLT). Unlike traditional centralized systems, where a single entity controls the database, in DLT, the ledger is spread across a network of nodes, ensuring no single point of failure (Nakamoto, 2008). This structure enhances security, as manipulating the ledger would require altering it on every node simultaneously, a practically unfeasible task. Moreover, DLT enables transparency and immutability, where every transaction is permanently recorded and visible to all network participants, fostering trust among users (Zheng et al., 2017).

2.2.6.2 Consensus Mechanisms

Critical to blockchain's operation is the consensus mechanism, a protocol that ensures all nodes in the network agree on the validity of transactions. The most renowned consensus mechanism is Proof of Work (PoW), utilized by Bitcoin, which involves solving complex cryptographic puzzles (Nakamoto, 2008). However, PoW's high energy consumption has led to the exploration of alternative mechanisms like Proof of Stake (PoS), which selects validators based on their stake in the network, significantly reducing energy usage (King & Nadal, 2012). Each consensus mechanism has distinct features that influence the blockchain's scalability, security, and decentralization.

2.2.6.3 Smart Contracts

Smart contracts, self-executing contracts with the terms of the agreement directly written into code, represent a transformative dimension of blockchain. Introduced by Ethereum, they automate contractual obligations, eliminating the need for intermediaries and reducing the likelihood of fraud

or disputes (Buterin, 2014). Smart contracts have applications in various fields, from automating insurance claims to facilitating secure voting systems, showcasing the versatility of blockchain technology (Christidis & Devetsikiotis, 2016).

2.2.6.4 Tokenization and Digital Assets

Blockchain enables the creation of digital assets through tokenization, converting rights to an asset into a digital token on the blockchain. These tokens can represent anything from cryptocurrencies to real-world assets like real estate or art (Tapscott & Tapscott, 2016). Tokenization democratizes asset ownership, allowing fractional ownership and easier transferability, and opens up new investment opportunities. Additionally, the use of Non-Fungible Tokens (NFTs) to represent unique digital assets has created a new paradigm in digital ownership and intellectual property (Marr, 2021).

2.2.6.5 Scalability and Performance Issues

Despite its advantages, blockchain faces significant scalability challenges. The inherent design of certain blockchains, especially those using PoW, leads to limited transaction throughput and high transaction fees during peak times. This limitation hinders the widespread adoption of blockchain for applications requiring high transaction volumes, like payment systems (Croman et al., 2016). Innovations like Layer 2 solutions and alternative consensus mechanisms are being explored to address these scalability issues (Poon & Dryja, 2016).

2.2.6.6 Interoperability and Cross-Chain Communication

Interoperability refers to the ability of different blockchain networks to communicate and share information. The current blockchain ecosystem consists of numerous isolated blockchains, limiting the flow of data and value across different networks. Developing cross-chain communication protocols is essential for creating a seamless blockchain environment, facilitating value transfer, data exchange, and enhancing functionality (Koens & Poll, 2019).

2.2.6.7 Privacy and Security Concerns

Hile blockchain is touted for its security, it is not impervious to attacks. The immutability of the blockchain can be a double-edged sword, as once data is recorded, it cannot be altered, raising concerns about data privacy and the potential for permanent record of sensitive information (Atzei et al., 2017). Additionally, blockchain networks can be susceptible to security vulnerabilities, such as 51% attacks on smaller networks, where an entity gains control of the majority of the network's mining power, threatening the integrity of the blockchain (Luu et al., 2015).

2.2.6.8 Legal and Regulatory Issues

The legal and regulatory dimension of blockchain is complex and evolving. The decentralized and borderless nature of blockchain poses challenges for legal jurisdictions and regulatory compliance, particularly concerning cryptocurrency and ICOs (Initial Coin Offerings). Regulatory bodies worldwide are grappling with creating frameworks that protect consumers and prevent illegal activities while fostering innovation in the blockchain space (Zohar, 2015).

2.2.7 Benefits of Blockchain Technology in Auditing

Blockchain technology is revolutionizing the field of auditing by introducing new approaches and methodologies. Its benefits in audit practices can be comprehensively discussed through several key areas.

2.2.7.1 Enhanced Transparency and Traceability

Blockchain's inherent feature of providing an immutable record of transactions significantly enhances the transparency and traceability of financial records, a critical aspect in auditing. As noted by Dai and Vasarhelyi (2017), blockchain facilitates a real-time, incontrovertible audit trail. This feature allows auditors to verify the completeness and accuracy of financial transactions with greater ease and reliability, compared to traditional methods which often involve manual verification of samples. For instance, in supply chain finance, auditors can trace the movement of goods and validate transactions at each step, thus ensuring the authenticity and accuracy of financial records (Kokina & Davenport, 2017).

2.2.7.2 Automated Audit Processes

The integration of smart contracts in blockchain systems offers the potential for automating various audit processes. According to Yermack (2017), smart contracts are self-executing contracts with the terms directly written into code. These can be used to automatically validate transactions against pre-set criteria, thereby reducing the need for manual intervention. For example, in revenue recognition, smart contracts can automatically verify that revenue is recognized only when certain conditions are met, in line with the International Financial Reporting Standards (IFRS). This automation not only

streamlines the audit process but also minimizes human errors (Kokina, Mancha, & Pachamanova, 2017).

2.2.7.3 Continuous and Real-Time Auditing

Blockchain enables a shift from traditional periodic auditing to continuous, real-time auditing. Peters, Panayi, and Chapelle (2015) highlight that blockchain's real-time recording of transactions allows auditors to assess financial information continuously, rather than at set intervals. This facilitates a more proactive approach to auditing, enabling auditors to identify anomalies or risks as they occur. For instance, in the case of detecting fraud, blockchain's real-time data can be used to identify unusual transaction patterns immediately, allowing for timely investigation and response (Moffitt & Vasarhelyi, 2013).

2.2.7.4 Reduction in Audit Risk and Cost

The application of blockchain in auditing also leads to a significant reduction in audit risk and costs. By providing a tamper-proof record of transactions, blockchain reduces the inherent risk associated with financial reporting (Dai & Vasarhelyi, 2017). Additionally, the automation and efficiency gains from blockchain can lead to a reduction in the hours required for auditing, thereby decreasing the overall cost. This is particularly beneficial for small and medium enterprises (SMEs), which often face financial constraints in regards to auditing expenses (Hayes, 2017).

2.2.7.5 Data Integrity and Security:

Maintaining the integrity and security of financial data is paramount in auditing. Blockchain's decentralized nature and cryptographic security measures ensure that financial data is secure and resistant to tampering. As Kshetri (2017) notes, the cryptographic hashing of blockchain entries makes altering financial records extremely difficult, thus ensuring the integrity of audit evidence. This is particularly important in sectors with high-security requirements, such as banking and finance, where ensuring the authenticity of financial records is crucial (Tapscott & Tapscott, 2016).

2.2.8 Challenges of Blockchain Technology in Auditing

The integration of blockchain technology into the auditing process presents a set of unique challenges, which can be examined through various academic lenses.

2.2.8.1 Complexity of Blockchain Technology

One of the primary challenges in the application of blockchain technology in auditing is its inherent complexity. The technology, characterized by decentralized networks and cryptographic principles, presents a steep learning curve for auditors. According to Dai and Vasarhelyi (2017), the complexity of blockchain could pose significant challenges for auditors in terms of understanding and evaluating the technology's reliability and integrity. Auditors need to be proficient not only in traditional accounting principles but also in the intricate workings of blockchain systems, including smart contracts and consensus mechanisms. This complexity is exacerbated by the rapid evolution of

blockchain technology, which necessitates continuous learning and adaptation (Kokina & Davenport, 2017). Moreover, the integration of blockchain into existing auditing frameworks requires a deep understanding of how blockchain data structures interact with traditional financial records, raising questions about data verification, validation, and reconciliation (Yoon et al., 2019).

2.2.8.2 Audit Trail and Transparency Issues

While blockchain is lauded for its transparency and immutability, these features also present unique challenges in auditing. The permanence of records on a blockchain means that errors or fraudulent transactions, once recorded, cannot be altered or easily rectified. Peters and Panayi (2016) emphasize the difficulty in correcting ledger errors without compromising the integrity of the blockchain. Furthermore, the transparency of blockchain ledgers could potentially expose sensitive financial information, posing risks to confidentiality and data privacy (Appelbaum et al., 2017). This transparency also raises concerns about the materiality of transactions. As Yli-Huumo et al. (2016) note, auditors must develop new criteria to determine the materiality of blockchain-based transactions, which may differ significantly from traditional financial transactions due to the decentralized and distributed nature of blockchain.

2.2.8.3 Regulatory and Standard-Setting

The regulatory landscape for blockchain in auditing is still in its infancy, creating uncertainties and challenges for auditors. As noted by Teichmann and Falker (2019), the absence of established standards and regulations for blockchain auditing poses significant risks. Auditors are required to navigate a patchwork of regional and international regulations that may not fully address the

specificities of blockchain technology. This situation is complicated by the global and borderless nature of blockchain networks, which may involve jurisdictions with differing regulatory frameworks (Kshetri, 2017). The development of standards and regulations that can accommodate the unique features of blockchain, while ensuring the reliability and credibility of audit processes, is a significant challenge that auditors and regulatory bodies face (DeVries, 2016).

2.2.8.4 Integration with Existing Systems

The integration of blockchain technology into existing auditing systems and processes is a complex endeavor. As noted by Cao et al. (2018), this integration involves not only technological compatibility but also alignment with existing business processes and practices. This challenge is particularly evident in legacy systems, where the integration of advanced blockchain technology can be costly and disruptive. The incompatibility between traditional centralized systems and the decentralized nature of blockchain further complicates this integration (Franke et al., 2019). Additionally, there is a need for auditors to develop methodologies for assessing the effectiveness of blockchain systems in conjunction with traditional auditing tools, a task that requires both technological expertise and a deep understanding of auditing principles (Bai & Sarkis, 2020).

2.3 Blockchain Technology and Audit Practices

2.3.1 Adoption of Blockchain Technology and Auditing Practices

Abdennadher et al. (2022) analyzed the perceptions of accountants and auditors toward the implementation of blockchain technology in the UAE after the government decided to transform 50% of government transactions into the blockchain platform by 2021. A qualitative approach was

used in the study. A semi-structural interview has been conducted with 19 accountants, internal auditors, auditors and risk managers on the potential opportunities and challenges of blockchain technology on accounting and auditing practices in the UAE. The findings showed that the blockchain impacts on the accounting profession in terms of recording of transactions, storing evidence and providing a secured environment for conducting business transactions. For the auditors, the results indicate that the blockchain changes their audit process and strategy. The blockchain has great potential to supplement traditional auditing by providing a low-cost and decentralized audit process and automated audit evidence.

Al Kemyani et al. (2022) identified current blockchain advances for significant accounting and finance activities in the banking sector. It addressed the following research questions using focus group interviews and relevant literature.a) What are the possible applications of blockchain technology on various functions of accounting and finance? b) What are the benefits of using blockchain technology in accounting and finance with reference to the banking sector? c) What are the challenges associated with the use of blockchain technology? d) What is the status of blockchain in the banking sector in the Sultanate of Oman? Using a semi-structured. The respondents were accounting and IT managers and employees in different banks in Oman.Based on focused group interviews, it also highlighted how well bank managers, employees, and IT personnel grasp this technology. They did the thematic analysis to add to the existing literature. The study discovered through its survey that this technology is relatively new in Oman.

Supriadi et al. (2020) clarified what Blockchain technique is and the developments of its various uses, and identify the accounting perspective of this technique and the possibility of using it in accounting work. It also demonstrated how to utilize its Blockchain technique in accounting information systems, and identified the most important potential effects of the use of technique in accounting information systems. To achieve the research objectives, a descriptive approach was adopted to discuss the fundamentals of Blockchain technique and its most important accounting implications, in addition, its significance for the usefulness and reliability of the development of automated computing accounting systems. The researchers concluded that the use of Blockchain technology for accounting work requires analysis of the related impact on the development of accounting information systems in terms of their implementations and modules, with the need to fully transition in the design of accounting information systems to electronic sophisticated programs and applications developed and technologically advanced.

2.3.2 Factors Influencing Blockchain and Auditing Practices

Giang and Tam (2023) identified and measured the factors affecting the application of blockchain in accounting in enterprises, proving that the application of blockchain impacts the quality of the accounting information system of enterprises. The article showed that incorporating blockchain in accounting will help the accounting at businesses optimize the security, safety, and transparency of accounting information. They collected data on 195 manufacturing firms in six sectors. The study's primary data analysis method is the SEM structural equation modeling method. The article used AMOS software to evaluate and measure the influence of each factor on the application of

blockchain and the effect of blockchain on the accounting information system in enterprises. The article analyzed four aspects: the level of information technology of the accountant (IT), Information Security Infrastructure (SI), Training (TR), and Legality and Regulation (LR), affecting the application of blockchain in the business. The independent variables TR (training) and IT (information technology) have an impact on BL (Blockchain). They also found that the independent variable IT (information technology) has the most substantial impact on Blockchain adoption, followed by the independent variable TR (training), which has the second most influential impact on Blockchain adoption. For the accounting information system, the results showed that applying blockchain will substantially impact accounting information, along with the safety factor of information infrastructure SI also has an evident influence. The results showed that applying blockchain in accounting, information technology, and professional training are core issues with significant influence. The issue of guaranteed infrastructure also determined the effectiveness and efficiency of blockchain applications for accounting information systems.

2.3.3 Challenges of Blockchain and Audit Practices

Ibrahim (2023) focused on two objectives: First, to shed light on BCT and analyze its opportunities, challenges and implications for accounting from an international perspective. Second, to conduct an exploratory study for the application of BCT in accounting in the Egyptian context. In doing so, this paper proposed a theoretical framework to theoretically analyze the application of BCT in the accounting field, viewing it as an integrated element in the accounting ecosystem. Moreover, an online survey was conducted using a questionnaire that was distributed among networks of

accounting academics and practitioners in Egypt to explore their perceptions on the application of Blockchain Accounting (BCA). The results show that BCT offers many opportunities for the accounting profession, but it also entails some costs and challenges. It also has different implications for corporate reporting and auditing, as well as for accountants themselves, both in the national and the international context. The paper concluded that the rapid technological development is changing the way business is conducted, and in turn, accounting, as the language of business, will also face significant changes.

2.3.4 Transparency Features of Blockchain and Audit Practices

Ahmad et al. (2024) examined the effects of accounting technology improvements on the generation of accurate and reliable financial reports in the public sector of Jordan. In order to carry out this inquiry, the researchers set research goals and formulated null hypotheses that were derived from these objectives and afterwards used in the study. The study used an ex-post facto survey methodology as its research technique. The study sample included 250 persons employed at the Ministry of Finance in Jordan. The research included a sample size including 152 people. A questionnaire was used as the primary tool for data collection in this study.

The validity of the instrument was established by an evaluation conducted by experts specialising in the field of testing and measurement. The data obtained from the surveys underwent analysis using the Pearson Product-Moment Correlation (PPMC) and regression analysis approaches. The study found that accounting technology improvements significantly affects the accuracy and reliability of financial reports.

Sim and Yoo (2021) attempted to analyze the effects of blockchain technology adoption on accounting transparency and cost of equity capital. The analysis using the data of non-financial and non-regulated firms between 2013 and 2019 showed whether blockchain technology adoption is associated with accounting transparency and cost of equity capital. They found that firm's blockchain adoption contributes to increasing the accounting transparency and decreasing the cost of equity capital.

2.3.5 Immutability Features of Blockchain and Audit Practices

Alkafaji et al. (2023) investigated the impact of blockchain on the quality of the information in listed and non-listed companies in Iraq; the temporal scope of this study is 2022. The statistical population of this research was divided into two parts: one part is related to the level of familiarity with blockchain technology of accountants, independent auditors, managers, etc., and the other part is related to the effect of blockchain technology on the quality of accounting information. The sample size was determined based on Cochran's formula, among which 1528 respondents were selected as a sample size. The results of the hypothesis testing showed that in both listed and non-listed companies, familiarity with blockchain technology had increased the quality of information. In this way, blockchain technology has positively and significantly impacted the quality of accounting information. This means that the impact of IT (Blockchain) on the quality of accounting information is the same for Iraqi listed and non-listed companies.

2.4 Review of Theories

2.4.1 Diffusion of Innovations Theory

Diffusion of Innovations Theory, conceptualized by Everett M. Rogers in 1962, has been a cornerstone in understanding how new ideas and technologies permeate through societies and organizations. This theory delineates the process by which an innovation is communicated over time among the participants in a social system (Rogers, 2003). The relevance of this theory spans various fields, from marketing to information technology, influencing both academic and practical applications. In recent years, scholars have extensively revisited and expanded upon Rogers' foundational work, noting its enduring relevance in a rapidly evolving technological landscape (Singh, 2016; Williams & Chinn, 2020).

At the heart of the Diffusion of Innovations Theory lies the categorization of adopters into five segments: innovators, early adopters, early majority, late majority, and laggards, based on characteristics like risk tolerance and social networks (Rogers, 2003). Additionally, the theory emphasizes the role of communication channels, the social system, and the time taken for the diffusion process (Wejnert, 2002). In recent academic discourse, scholars have critically evaluated the theory, discussing its adaptability and limitations in diverse contexts. For instance, Arunachalam et al. (2018) highlight the theory’s relevance in digital innovations, while Kwon et al. (2015) examine its applicability in organizational settings. However, critics like Burt (2017) argue about its oversimplification of social structures, and Dearing (2018) questions the adequacy of its linear approach in explaining complex innovations.

In relation to blockchain technology and its adoption in various sectors, the Diffusion of Innovations Theory offers a robust framework to understand its acceptance and integration. Blockchain's unique characteristics, such as decentralization, transparency, and immutability, position it as a disruptive innovation, particularly in financial sectors (Tapscott & Tapscott, 2016). Kshetri (2017) and Yli-Huumo et al. (2016) discuss how blockchain's novelty and complexity require a nuanced understanding of diffusion processes, stressing the importance of adaptability in the theory's application. This is especially pertinent when considering technological adoption in diverse socio-economic and cultural contexts, which can significantly influence the diffusion process (Davidson & Vaast, 2020).

In the Nigerian context, the application of blockchain technology in audit practices presents a unique case for the exploration of the Diffusion of Innovations Theory. Nigeria's rapidly growing economy and its embrace of digital transformations make it a fertile ground for blockchain adoption (Adebayo, 2019). However, challenges such as regulatory uncertainties, infrastructural limitations, and varying levels of digital literacy must be considered (Ojeka et al., 2018). In this scenario, the theory can provide insights into how blockchain as an innovation can be effectively communicated and adopted among Nigerian auditors. The segmented approach to adopters can help identify key influencers and strategies to accelerate acceptance, while acknowledging the specific barriers and facilitators present in the Nigerian audit sector (Okereke & Nwanyanwu, 2020).

2.4.2 Institutional Theory

Institutional Theory, primarily attributed to the works of Meyer and Rowan (1977) and DiMaggio and Powell (1983), underscores how organizational structures and practices are predominantly influenced by the institutional contexts in which they operate. This theory, which evolved from the broader sociological perspective, suggests that organizations conform to societal norms and rules to gain legitimacy, resources, and survival prospects (Scott, 2014; Meyer & Rowan, 1977). It is integral to understanding how external pressures shape organizational behaviour, especially in the context of emerging technologies and their impact on traditional practices.

Critical evaluation of Institutional Theory reveals its multifaceted application in understanding organizational change and stability. Meyer and Rowan (1977) emphasize the ceremonial adoption of practices for legitimacy, while DiMaggio and Powell (1983) introduce the concept of isomorphism, suggesting that organizations in similar fields tend to homogenize over time. This notion is further expanded by Scott (2008), who identifies three pillars of institutions – regulative, normative, and cultural-cognitive – that guide organizational behaviour. Oliver (1991) critiques this deterministic view, arguing that organizations are not merely passive adopters of external pressures but can also exhibit strategic responses. Furthermore, Greenwood et al. (2011) highlight the role of agency and institutional entrepreneurship in driving change, a view supported by Lawrence et al. (2011) who discuss how actors within institutions can leverage resources and capabilities to influence institutional contexts. However, Battilana and D'Aunno (2009) caution against overemphasizing

agency, arguing for a balanced view that considers both the constraining and enabling aspects of institutions.

The relevance and dynamics of Institutional Theory in the context of blockchain technology and its implications for audit practices are significant. The theory provides a lens through which the adoption of blockchain in audit practices can be viewed as a response to evolving institutional pressures. Such pressures may arise from technological advancements, regulatory changes, and shifts in professional norms. Beunza and Stark (2012) and Power (2007) discuss how technological innovations challenge existing institutional logics and necessitate adaptation in professional practices, a view echoed by Suddaby et al. (2013) in their analysis of the changing landscape of professional services. This perspective is critical in understanding how audit practices in Nigeria might evolve in response to blockchain technology, as it aligns with the view of Henningsson et al. (2016) who highlight the transformative potential of new technologies on organizational practices.

In the Nigerian context, the impact of blockchain technology on audit practices can be profoundly understood through the lens of Institutional Theory. As Nigeria's economy continues to integrate with global financial systems, compliance with international auditing standards becomes paramount. This integration is often driven by institutional pressures such as the need for legitimacy and credibility in the global market (Adegbite, 2015). Blockchain technology, with its inherent qualities of transparency and immutability, presents a paradigm shift in how audit practices can be conducted. The adoption of blockchain in auditing could be seen as a strategic response to these institutional pressures, enhancing the credibility and efficiency of audit processes in Nigeria. However, Unerman

and O'Dwyer (2016) caution about the potential resistance to change due to entrenched institutional logics, suggesting that the transition to blockchain-based audit practices may require significant shifts in both regulatory frameworks and professional mindsets.

2.4.3 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), originally proposed by Davis in 1989, offers a robust framework for understanding user acceptance of new technologies. Davis' seminal work has been a cornerstone in the field of information systems, providing insights into the determinants of technology acceptance (Davis, 1989). The model, grounded in the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), postulates that perceived usefulness and perceived ease of use are key predictors of technology adoption (Venkatesh & Davis, 2000). Over time, TAM has evolved, incorporating additional elements like social influence and facilitating conditions, as demonstrated in TAM2 and TAM3 models (Venkatesh & Bala, 2008; Venkatesh et al., 2012).

Critically evaluating TAM, it becomes evident that the model has been widely applied and validated across diverse technological contexts, including emerging technologies like blockchain. Notably, King and He (2006) emphasized its generality and robustness in predicting user acceptance. However, scholars like Bagozzi (2007) have critiqued TAM for its simplicity and exclusion of external variables that might affect acceptance. Further extensions, like TAM2, integrate subjective norms, experience, and voluntariness, addressing some criticisms (Venkatesh & Davis, 2000). Schepers and Wetzels (2007) highlighted the model's adaptability in incorporating external variables, while Chuttur (2009) discussed its ease of use in empirical research. Lee et al. (2003) underscored

the importance of perceived ease of use as a determinant, a view supported by Yousafzai et al. (2007) who highlighted the role of perceived usefulness. Nonetheless, the adaptability of TAM in different cultural contexts remains a subject of debate, as noted by Straub et al. (1997) and McCoy et al. (2007).

In relation to the study of blockchain technology's impact on audit practices, TAM provides a pertinent framework for understanding the acceptance of blockchain among auditors in Nigeria. Blockchain technology, with its inherent characteristics of decentralization, transparency, and immutability, presents a radical shift from traditional audit practices (Yermack, 2017). The application of TAM in this context can reveal how perceived usefulness and ease of use influence Nigerian auditors' adoption of blockchain technology. For instance, studies by Malaquias and Hwang (2019) and Li et al. (2017) have illustrated how TAM can be used to assess the adoption of blockchain in financial services, suggesting its potential applicability in the auditing sector. The dynamics of blockchain, such as enhanced security and traceability of transactions (Tapscott & Tapscott, 2016), could be perceived as beneficial in the audit process, thus influencing acceptance as per the tenets of TAM.

Specifically, in the Nigerian context, the application of blockchain in audit practices can be profoundly influenced by factors identified in TAM. Nigeria's growing digital economy and increasing openness to new technologies provide a conducive environment for the adoption of blockchain in auditing (Nwankpa & Roumani, 2016). The perceived usefulness of blockchain in enhancing audit quality, through real-time verification of transactions and reduction of fraud, aligns

with TAM's assertion that perceived benefits drive technology acceptance (Oshodin & Klein, 2019). Moreover, the perceived ease of use of blockchain technology, considering the existing IT infrastructure and skillset of auditors in Nigeria, will play a critical role, as postulated in TAM. However, challenges such as regulatory frameworks, technological infrastructure, and the digital literacy of auditors might influence the acceptance and effectiveness of blockchain in audit practices in Nigeria (Okereke & Adeyeye, 2018; Ojeka et al., 2019).

2.4.4 Structuration Theory of Technology

Structuration Theory of Technology, initially proposed by Orlikowski (1992), explores the interplay between technology and human action within organizational settings. This theory posits that technology is both shaped by and shapes human action continuously (Orlikowski, 1992). It extends Giddens' structuration theory (1984), integrating technology as a significant component in the structuration process. The theory has been extensively discussed in academic literature, with scholars like Leonardi and Barley (2008) emphasizing its focus on the duality of technology, where technology is created and modified by human action, while simultaneously influencing how individuals act. Jones and Karsten (2008) underline its contribution to understanding organizational change, highlighting how technology and human agency are intertwined.

Critically evaluating the theory, it is noted that it bridges the gap between determinist and voluntarist perspectives on technology. Orlikowski and Robey (1991) argue that technology does not solely determine human action, nor is it a mere product of human agency. Leonardi (2011) suggests that technology is both a medium and an outcome of the practices it recursively organizes. This dual role

is further elaborated by Pozzebon and Pinsonneault (2005), who illustrate how technology both constrains and enables actions. However, Kallinikos (2006) critiques the theory for its underemphasis on the pre-existing institutional contexts within which technologies are embedded. Similarly, Mutch (2013) argues that the theory sometimes oversimplifies complex socio-technical interactions. Despite these critiques, authors like Scott and Orlikowski (2014) and Introna (2016) continue to find it a useful lens for examining the evolving role of technology in organizations.

In the context of blockchain technology and its implications for audit practices, Structuration Theory of Technology offers a nuanced understanding of this relationship. Blockchain, as a decentralized ledger technology, presents novel characteristics that significantly impact audit practices. Authors such as Yermack (2017) and Tapscott and Tapscott (2016) have identified blockchain's potential to enhance transparency and traceability in financial transactions, suggesting a transformation in the audit process. Applying Structuration Theory, it's evident that blockchain technology does not simply alter audit practices unidirectionally; rather, its adoption and efficacy in auditing are co-constructed by auditors' engagement with the technology (Appelbaum et al., 2017). This interaction suggests a mutual shaping where auditors' practices evolve with their use of blockchain, and concurrently, their needs and insights influence the development and application of blockchain in auditing (Christensen et al., 2016).

Specifically, in the Nigerian context, the impact of blockchain on audit practices can be understood through the lens of Structuration Theory. Nigerian audit practices, traditionally challenged by issues of fraud and lack of transparency (Adeyemi and Fagbemi, 2010), could be significantly transformed

by blockchain technology. The theory suggests that the adoption of blockchain in Nigerian audit practices would be a structurational process, where the technology not only introduces new audit methods but is also shaped by the existing audit practices and regulatory frameworks in Nigeria (Okoye and Gbegi, 2013). For instance, the integration of blockchain could lead to a shift in auditors' roles from traditional verification to more of a focus on systemic analysis and risk management (Ojeka et al., 2017). This indicates a reciprocal relationship, where blockchain influences auditing practices, and auditors' approaches to and adoption of blockchain technology are equally pivotal.

2.5 Theoretical Framework

This study is anchored on the Diffusion of Innovations Theory. This theory presents a compelling theoretical framework for examining the effect of blockchain technology on audit practices in Nigeria due to its comprehensive approach to understanding how new technologies are adopted and integrated within specific social systems. Given the disruptive and transformative nature of blockchain technology, characterized by its decentralization, transparency, and immutability (Tapscott & Tapscott, 2016), this theory offers an invaluable lens to scrutinize the adoption process within the Nigerian auditing sector. It accounts for various socio-economic and cultural factors that influence the adoption of innovations (Davidson & Vaast, 2020), which are particularly pertinent in the context of Nigeria’s unique blend of emerging economic dynamism and digital transformation challenges (Adebayo, 2019; Ojeka et al., 2018). The theory's segmentation of adopters into categories ranging from innovators to laggards (Rogers, 2003) provides a structured approach to identify key stakeholders in the Nigerian audit profession and understand their readiness and barriers

to blockchain adoption. Additionally, the theory's emphasis on communication channels and the role of change agents aligns well with the need to explore how knowledge and perceptions of blockchain technology are disseminated among Nigerian auditors. Thus, the Diffusion of Innovations Theory not only aids in comprehending the current status of blockchain technology in Nigerian audit practices but also offers strategic insights into how its adoption can be accelerated and optimized, ensuring that the audit sector keeps pace with global technological advancements.

2.6 Gaps in Literature

Based on the review of empirical literature, there are several studies on the extent of adoption, as well as the effect of blockchain technology on auditing practices in other countries. However, the auditing landscape in Nigeria is confronting a pivotal challenge marked by the integration and application of blockchain technology. This evolution is set against a backdrop where the assurance and integrity of financial statements remain critical to the economic stability and investor confidence in the Nigerian market. Ibrahim (2022) previously pointed out the financial discrepancies and underperformance in Nigerian firms, suggesting a deeper systemic issue rooted within the auditing and financial reporting practices. In this context, the advent of blockchain technology offers a novel paradigm potentially capable of revolutionizing traditional auditing practices. However, the extent to which this technology has been adopted and its consequent impact on the auditing efficacy in Nigeria's corporate entities, such as Dangote Cement PLC and Guaranty Trust Bank PLC, remains an underexplored domain. These firms, representing the vanguard of Nigeria's corporate sphere, have

historically employed various strategies to bolster their market stance, yet the specific role of blockchain technology on auditing practices remains unexplored to the knowledge of the researcher.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter focused on the approach adopted by the researcher in conducting the study. It shows the method in gathering, analyzing the relevant data that was used in this study, the research design, population and sample, model specification data analysis plan and operationalization of variables.

3.2 Research Design

Research design refers to an arrangement which shows the method of a research thought fitting to the study (Kothari, 2004). This research adopts a cross sectional survey research design. A cross-sectional research design entails collection of data from different entities at a single point in time. In cross-sectional research, the researcher observes variables without influencing them. A cross-sectional study design has the advantage of allowing researchers to compare multiple variables at the same time.

3.3 Population

The population of this study consisted of public sector Auditors in Benin City, Edo state. An auditor refers to a professional accountant who examines and evaluates financial records, statements, and transactions of organizations to ensure accuracy, compliance with regulations, and the reliability of financial reporting. The number of registered Auditors in Benin City as retrieved from ICAN report on list of active members in practice (2023) was 1,500.

3.4 Sample Size and Sampling Technique

Sampling techniques are considered to be the strategies used by researchers in the statistical sampling process (Cooper & Schindler, 2001). The researcher used the convenience sampling technique. This is non-probability sampling method where units are selected for inclusion in the sample because they are the easiest for the researcher to access. Hence, the researcher distributed copies of questionnaires to respondents that are accessible to him.

3.4.1 Determination of the Sample Size

Using the Taro Yamane's statistical formular to determine the adequate sample size from 60, which is the population of the study, the sample size of the study was determined below.

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

In the formular above;

n is the required sample size from the population understudy

N is the whole population that is understudy

e is the precision or sampling error which is usually 0.10, 0.05 or 0.01

Therefore;

$$n = \frac{1{,}500}{1+1{,}500(0.05)2}$$

n=316 (Rounded)

After calculating the sample size by substituting the numbers into the Yamane formula, the number of sample is 316.

3.5 Sources of Data

The nature of study necessitated the use of primary data. The data were collected through the administration of questionnaires to auditors in Benin City, Edo state.

3.6 The Research Instrument

For this study, the instrument used for data collection was a carefully structured questionnaire. The questionnaire was divided into two parts (Part I and II). Part I comprised of the respondents' demography characteristics, while Part II consisted of questions in relation to the research objectives. All items were based on the modified five-point Likert scale of Strongly Agree (SA), Agree (A), Not sure (NS), Disagree (D) and Strongly Disagree (SD).

3.6.1 Validity of the Research Instrument

The validity of the instrument (questionnaire) was affirmed by the researchers' supervisor who is an expert in the field of accounting. His opinion, suggestions and recommendations was used to produce the final instrument.

3.6.2 Reliability of the Research Instrument

Lack of reliability may arise from divergence between observers or instruments of measurements such as a questionnaire or inability of the attribute being measured, which will invariably affect the validity of such questionnaire. The Cronbach's Alpha coefficient was used to test the reliability of the research instrument (questionnaire).

3.7 Data Analysis Method

The study employed both descriptive and inferential statistics. The reliability of the scales used in eliciting responses was determined by the Cronbach Alpha statistics i.e. to determine the internal consistency of the item of scale constructed in the questionnaire. The normality of variables was determined by the Kolmogorov – Smirnov and Shapiro – Wilk test. This provided a clear pathway on whether to use a parametric or non–parametric test on the hypotheses. The Spearman's rank correlation was used to test the hypotheses if; the data are not continuous i.e. discrete hence not normally distributed while Pearson's correlation was used if the reverse is the case. The researcher used the regression analysis to test the individual significance of the relationship between the independent variables and the dependent variable. Preceding the regression analysis, the basic regression assumptions was tested. The Breusch-Godfrey test was used to establish the presence of serial correlation. Heteroskedacity will be tested using Breusch-Pagan-Godfrey. The accuracy of the model was tested using Ramsey RESET test. The hypotheses were tested using Alpha level of significance of 0.05. The decision rule for accepting hypothesis, is that we reject the null hypothesis when p-value (computed level of significance) is less than 0.05, while we accept the null hypothesis

when p-value (computed level of significance) is greater than 0.05. Analysis was done with the help of the Statistical Package for Social Sciences (SPSS) version 21.

3.8 Measurement of Variables

The study examined the causal relationship between blockchain technology and auditing practices in Nigeria. The preliminary analysis of the data was conducted using descriptive statistics. The questions were in statement format and participants answered with their options on the statements given. The responses were done using a 5-point Likert scale of "Strongly Agree, Agree, Not sure, Disagree, or Strongly Disagree".

Table 3.1: Operationalization of Variables

Variable name	**CODE**	**Category of variable**	**Operationalization**
Auditing Practices	AUDP	Dependent variable	Respondents' Likert scores for statements related to auditing practices in Nigeria.
Factors	FAC	Independent variable	Respondents' Likert scores for statements related to Factors that influence the adoption of blockchain technology in auditing practices in Nigeria.

Challenges	CHA	Independent variable	Likert scores for statements related to challenges associated with the adoption of blockchain technology in auditing practices in Nigeria.
Transparency feature	TRA	Independent variable	Likert scores for statements related to transparency feature of blockchain technology.
Immutability feature	IMMU	Independent variable	Likert scores for statements related to immutability feature of blockchain technology.
Blockchain Technology	BT	Independent variable	Likert scores for statements related to the extent of the adoption of blockchain technology in auditing.

Source: Author's Compilation (2024)

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

The data retrieved from the respondents via the research questionnaire distributed online was analyzed in this chapter. The study targeted a sample of three hundred and sixteen (316) respondents, however, only a total of three hundred (300) was responses was submitted online, which was retrieved and used for this study. This therefore indicated that approximately 94.94% response rate was achieved for this study. The data collected was analyzed using SPSS version 20.0 and descriptive statistics was used to present the results while regression test was employed to make findings on the research hypotheses.

4.2 Demographic Profile of the Respondents

This section presents the demographic profile of the respondents

Table 4.1: Demographic Profile of the Respondents

Categories	Frequency	Percentage (%)
GENDER:		
Male	177	59.0
Female	123	41.0
Total	**300**	**100.0**
AGE RANGE:		
20 – 30yrs	123	41.0
31-40years	93	31.0
41-50years	72	24.0
51years and above	12	4.0
Total	**300**	**100.0**
EDUCATIONAL QUALIFICATION:		
PhD	9	3.0
Master's Degree	33	11.0
First Degree/HND	147	49.0
Diploma/NCE	51	17.0
Others	60	20.0
Total	**300**	**100.0**

LEVEL OF INCOME:		
20,000-50,000	6	2.0
50,001-100,000	159	53.0
100,001-200,000	129	43.0
200,001 and above	6	2.0
Total	**300**	**100.0**

Source: Researcher's Fieldwork (2024)

Gender

In terms of the gender of the respondents, the above table shows that majority of the respondents were males. This category of respondents accounts for 177(59.0%) of the total respondents while 123 (41.0%) were females.

Age Range

On the age range distribution of the respondents, table 4.1 indicates that most of the respondents were aged between 20-30years. This category of respondents accounts for 123 (41.0%) of the total respondents while 93(31.0%) were aged between 31-40years, 72(44.0%) were aged between 41-50years, and 12(4.0%) were aged between 51years and above.

Educational Qualification

On the educational qualification of the respondents' category, table 4.1 shows that majority of the respondents had First Degree/HND. This category of respondents accounts for 147(49.0%) of the

total respondents while 9(3.0%) had PhD degree, 33(11.0%) had Masters Degree, 51(17.0%) had Diploma/NCE, and 60(20%) fell under the category “others”.

Level of Income

On the level of income of respondents, table 4.1 shows that majority had an income level of between 50,001-100,000. This category of respondents accounts for 159(53.0%) of the total respondents while 6(2.0%) of the respondents had an income level of between 20,000-50,000, 129(43.0%) had an income level of between 100,001 to 200,000 and 6(2.0%) had an income level of 200,001 and above.

4.3 Descriptive Statistics

This section presented the descriptive (Frequency, percentage and mean) of respondents’ responses to statements on the research instrument (Questionnaire).

Table 4.2: Adoption of Blockchain Technology

S/N	STATEMENTS	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
1	Blockchain technology has been widely integrated into auditing processes in Nigerian firms.	165 (55.0)	63 (21.0)	24 (8.0)	27 (9.0)	21 (7.0)	4.12
2	Auditors in Nigeria are actively using blockchain technology to verify financial transactions.	147 (49.0)	33 (11.0)	21 (7.0)	57 (19.0)	42 (14.0)	3.65

3	The use of blockchain technology has significantly improved the efficiency of auditing procedures in Nigeria.	172 (57.0)	30 (10.0)	39 (13.0)	33 (11.0)	27 (9.0)	4.06
4	Nigerian auditing firms have made substantial investments in adopting blockchain technology.	198 (66.0)	15 (5.0)	39 (13.0)	27 (9.0)	21 (7.0)	4.12
5	Auditors in Nigeria have a comprehensive understanding of how to utilize blockchain technology effectively.	216 (72.0)	66 (22.0)	18 (6.0)	- (-)	- (-)	4.70
	Overall mean (Grand mean)						**4.13**

Source: Researcher's Fieldwork (2024)

From Table 4.2, majority of the respondents' agreed 228(76.0%) with the statement that Blockchain technology has been widely integrated into auditing processes in Nigerian firms with a mean score of 4.12 while majority of them 180 (60.0%) also agreed with the statement that Auditors in Nigeria are actively using blockchain technology to verify financial transactions with a mean score of 3.65. Also, there was unanimous agreement 201 (67.0%) on the statement "The use of blockchain technology has significantly improved the efficiency of auditing procedures in Nigeria" with a mean score of 4.06. Similarly, majority of the respondents 213 (71.0%) agreed with the statement that Nigerian auditing firms have made substantial investments in adopting blockchain technology with a mean score of 4.12. Finally, majority of the respondents 282 (94.0%) agreed with the statement that

Auditors in Nigeria have a comprehensive understanding of how to utilize blockchain technology effectively with a mean score of 4.70. The overall mean score of 4.13 indicates that majority of the respondents agreed with the items in Table 4.2.

Table 4.3: Factors that influence the adoption of blockchain technology in auditing practices in Nigeria

S/N	STATEMENTS	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
6	I believe that the availability of skilled professionals who understand blockchain technology affects its adoption in auditing practices in Nigeria.	132 (47.0)	27 (9.0)	33 (11.0)	96 (32.0)	3 (1.0)	3.42
7	The cost-effectiveness of implementing blockchain technology influences its adoption in auditing practices in Nigeria.	63 (21.0)	87 (29.0)	21 (7.0)	33 (11.0)	96 (32.0)	2.96
8	Regulatory support and clarity regarding the use of blockchain in auditing impact its adoption in Nigeria.	78 (26.0)	72 (24.0)	33 (11.0)	60 (20.0)	57 (19.0)	3.46
9	The level of awareness and understanding of blockchain technology among auditors in Nigeria affects its adoption.	57 (19.0)	51 (17.0)	69 (23.0)	48 (26.0)	75 (35.0)	2.94

10	The compatibility of blockchain technology with existing auditing systems influences its adoption in Nigeria.	87 (29.0)	75 (25.0)	21 (7.0)	60 (20.0)	57 (19.0)	3.25
	Overall mean (Grand mean)						**3.21**

Source: Researcher's Fieldwork (2024)

From Table 4.3 above, majority of the respondents' agreed 168 (56.0%) with the statement that they believe that the availability of skilled professionals who understand blockchain technology affects its adoption in auditing practices in Nigeria with a mean score of 3.42. Furthermore, majority of the respondents 150 (50.0%) agreed with the statement "The cost-effectiveness of implementing blockchain technology influences its adoption in auditing practices in Nigeria" with a mean score of 2.96 while majority of them 150 (50.0%) also agreed with the statement that Regulatory support and clarity regarding the use of blockchain in auditing impact its adoption in Nigeria with a mean score of 3.46. Meanwhile, majority of the respondents 123 (41.0%) disagreed with the statement that The level of awareness and understanding of blockchain technology among auditors in Nigeria affects its adoption with a mean score of 2.94. Finally, majority of the respondents 62 (54.0%) agreed with the statement that The compatibility of blockchain technology with existing auditing systems influences its adoption in Nigeria with a mean score of 3.25. The overall mean score of 3.21 indicates that majority of the respondents agreed with most of the items in Table 4.3.

Table 4.4: Challenges associated with the adoption of blockchain technology in auditing practices in Nigeria

S/N	STATEMENTS	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
11	Implementing blockchain technology in auditing processes poses significant hurdles due to resistance to change among traditional auditors.	207 (69.0)	42 (14.0)	30 (10.0)	21 (7.0)	- (-)	4.68
12	The complexity of integrating blockchain technology into existing auditing frameworks presents a considerable barrier for adoption.	189 (63.0)	42 (14.0)	54 (18.0)	12 (4.0)	3 (1.0)	4.42
13	Ensuring the interoperability of blockchain solutions with existing auditing software and systems is a major challenge in Nigeria.	216 (72.0)	66 (12.0)	18 (13.0)	- (-)	- (-)	4.70
14	The lack of skilled professionals with expertise in both auditing and blockchain technology impedes the adoption process.	243 (81.0)	15 (5.0)	12 (4.0)	- (-)	- (-)	4.76
15	Addressing security concerns and ensuring data privacy in blockchain-based auditing systems is a critical challenge.	57 (19.0)	51 (17.0)	69 (23.0)	48 (16.0)	75 (25.0)	2.94
	Overall mean (Grand mean)						**4.3**

Source: Researcher's Fieldwork (2024)

From Table 4.4, majority of the respondents' agreed 249 (83.0%) with the statement that Implementing blockchain technology in auditing processes poses significant hurdles due to resistance to change among traditional auditors with a mean score of 4.68 while majority of them 231 (77.0%) also agreed with the statement that the complexity of integrating blockchain technology into existing auditing frameworks presents a considerable barrier for adoption with a mean score of 4.42. Also, there was unanimous agreement 282 (94.0%) on the statement "Ensuring the interoperability of blockchain solutions with existing auditing software and systems is a major challenge in Nigeria" with a mean score of 4.70. Meanwhile, majority of the respondents 258 (86.0%) agreed with the statement that the lack of skilled professionals with expertise in both auditing and blockchain technology impedes the adoption process with a mean score of 4.76. Finally, majority of the respondents 123 (41.0%) disagreed with the statement that addressing security concerns and ensuring data privacy in blockchain-based auditing systems is a critical challenge with a mean score of 2.94. The overall mean score of 4.3 indicates that majority of the respondents agreed with the items in Table 4.4.

Table 4.5: Transparency feature of blockchain technology

S/N	STATEMENTS	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
16	The ability of blockchain technology to provide real-time visibility into transactions enhances audit trail accuracy.	195 (65.0)	42 (14.0)	63 (21.0)	- (-)	- (-)	4.12

17	Blockchain's inherent immutability ensures that audit records are tamper-proof, improving transparency in auditing practices.	171 (57.0)	51 (17.0)	54 (18.0)	24 (8.0)	- (-)	3.68
18	The transparent nature of blockchain technology allows auditors to verify the authenticity of data without relying on intermediaries.	93 (31.0)	60 (20.0)	12 (4.0)	84 (28.0)	51 (17.0)	3.26
19	The decentralized nature of blockchain ensures transparency by eliminating the need for a central authority to oversee transactions.	237 (79.0)	45 (15.0)	18 (6.0)	- (-)	- (-)	4.86
20	Blockchain's transparency feature facilitates easy access to transaction histories, promoting accountability in auditing processes.	81 (27.0)	51 (17.0)	69 (23.0)	48 (16.0)	51 (17.0)	3.56
	Overall mean (Grand mean)						**3.90**

Source: Researcher's Fieldwork (2024)

From Table 4.5, majority of the respondents' agreed 237 (79.0%) with the statement that the ability of blockchain technology to provide real-time visibility into transactions enhances audit trail accuracy with a mean score of 4.12 while majority of them 222 (74.0%) also agreed with the statement that blockchain's inherent immutability ensures that audit records are tamper-proof,

improving transparency in auditing practices with a mean score of 3.68. Furthermore, there was unanimous agreement 153 (51.0%) on the statement "The transparent nature of blockchain technology allows auditors to verify the authenticity of data without relying on intermediaries" with a mean score of 3.26. Meanwhile, majority of the respondents 282 (94.0%) agreed with the statement that the decentralized nature of blockchain ensures transparency by eliminating the need for a central authority to oversee transactions with a mean score of 4.86. Finally, majority of the respondents 132 (44.0%) agreed with the statement that blockchain's transparency feature facilitates easy access to transaction histories, promoting accountability in auditing processes with a mean score of 3.56. The overall mean score of 3.90 indicates that majority of the respondents agreed with the items in Table 4.5.

Table 4.6: Immutability feature of blockchain technology

S/N	STATEMENTS	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
21	The ability of blockchain technology to securely record and store transactions without the risk of alteration is crucial for enhancing auditing practices in Nigeria.	156 (52.0)	51 (17.0)	45 (12.0)	36 (12.0)	21 (7.0)	3.82
22	The permanent and tamper-proof	81	51	69	48	51	3.56

	nature of blockchain records ensures a higher level of trust and reliability in auditing processes within the Nigerian context.	(27.0)	(17.0)	(23.0)	(16.0)	(17.0)	
23	The immutability feature of blockchain technology provides a solid foundation for auditors to verify the integrity and accuracy of financial data in Nigeria.	63 (21.0)	69 (23.0)	27 (9.0)	51 (17.0)	90 (30.0)	3.88
24	Leveraging the unchangeable nature of blockchain transactions can significantly reduce the incidence of fraud and errors in auditing procedures in Nigeria.	195 (65.0)	84 (28.0)	21 (7.0)	- (-)	- (-)	4.78
25	The inherent immutability of blockchain data empowers auditors in Nigeria to conduct more efficient and thorough examinations of financial records.	189 (63.0)	42 (14.0)	54 (18.0)	12 (4.0)	3 (1.0)	4.42
	Overall mean (Grand mean)						**4.09**

Source: Researcher's Fieldwork (2024)

From Table 4.6, majority of the respondents' agreed 207 (69.0%) with the statement that the ability of blockchain technology to securely record and store transactions without the risk of alteration is crucial for enhancing auditing practices in Nigeria with a mean score of 3.82 while majority of them 132 (44.0%) also agreed with the statement that the permanent and tamper-proof nature of blockchain records ensures a higher level of trust and reliability in auditing processes within the Nigerian context with a mean score of 3.56. Furthermore, there was unanimous agreement 192 (64.0%) on the statement "The immutability feature of blockchain technology provides a solid foundation for auditors to verify the integrity and accuracy of financial data in Nigeria" with a mean score of 3.88. Meanwhile, majority of the respondents 279 (93.0%) agreed with the statement that leveraging the unchangeable nature of blockchain transactions can significantly reduce the incidence of fraud and errors in auditing procedures in Nigeria with a mean score of 4.78. Finally, majority of the respondents 231 (77.0%) agreed with the statement that the inherent immutability of blockchain data empowers auditors in Nigeria to conduct more efficient and thorough examinations of financial records with a mean score of 4.42. The overall mean score of 4.09 indicates that majority of the respondents agreed with the items in Table 4.6.

Table 4.7: Auditing Practices

S/N	STATEMENTS	SA (%)	A (%)	U (%)	D (%)	SD (%)	Mean
26	The implementation of blockchain	147	33	21	57	42	3.65

	technology has improved the efficiency of data verification in auditing procedures.	(49.0)	(11.0)	(7.0)	(19.0)	(14.0)	
27	Blockchain technology has facilitated greater transparency and accuracy in financial reporting processes.	171 (57.0)	30 (10.0)	39 (13.0)	33 (11.0)	27 (9.0)	4.06
28	The adoption of blockchain technology has reduced the occurrence of errors and discrepancies in auditing activities.	198 (66.0)	15 (5.0)	39 (13.0)	27 (9.0)	21 (7.0)	4.12
29	Auditors find it easier to track and trace financial transactions with the utilization of blockchain technology.	156 (52.0)	51 (17.0)	36 (12.0)	36 (12.0)	21 (7.0)	3.82
30	Blockchain technology has enhanced the reliability and integrity of audit evidence collected during engagements.	102 (34.0)	84 (28.0)	27 (9.0)	36 (12.0)	51 (17.0)	3.5
	Overall mean (Grand mean)						**3.83**

Source: Researcher's Fieldwork (2024)

From Table 4.7, majority of the respondents' 180 (60.0%) agreed with the statement that the implementation of blockchain technology has improved the efficiency of data verification in auditing procedures with a mean score of 3.65. Also, there was unanimous agreement 201 (67.0%) on the

statement “Blockchain technology has facilitated greater transparency and accuracy in financial reporting processes” with a mean score of 4.06. Similarly, majority of the respondents 213 (71.0%) agreed with the statement that the adoption of blockchain technology has reduced the occurrence of errors and discrepancies in auditing activities with a mean score of 4.12. Furthermore, majority of the respondents 207 (69.0%) agreed with the statement that auditors find it easier to track and trace financial transactions with the utilization of blockchain technology with a mean score of 3.82. Finally, majority of the respondents 186(62.0%) agreed with the statement that blockchain technology has enhanced the reliability and integrity of audit evidence collected during engagements with a mean score of 3.5. The overall mean score of 3.83 indicates that majority of the respondents agreed with the items in Table 4.7.

4.4 Diagnostics Test

4.4.1 Test for Serial Correlation

Table 4.8: Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.743122	Prob. F(2,398)	0.0657
Obs*R-squared	5.522875	Prob. Chi-Square(2)	0.0632

Source: Author’s Estimation from EView 10, 2024.

The Breusch-Godfrey Serial Correlation LM Test was adopted to test for the presence of serial correlation between the variables of the study. The null hypothesis states that there is no serial correlation whereas the alternative hypothesis states otherwise. Therefore, from the results derived from the Breusch-Godfrey Serial Correlation LM Test, the P. value of 0.0632> 0.05 implies that we accept the null hypothesis which states that there is no serial correlation between the variables of the study. To proceed, we test for the presence of heteroskedasticity within the utilised data.

4.4.2 Heteroskedasticity Test

Table 4.9: Breusch-Pagan-Godfrey Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.684400	Prob. F(5,395)	0.6355
Obs*R-squared	3.445435	Prob. Chi-Square(5)	0.6317
Scaled explained SS	25.38723	Prob. Chi-Square(5)	0.0001

Source: Author's Estimation from EView 10, 2024.

The Breusch-Pagan-Godfrey Test was adopted to test if the variability of the random disturbance is different elements of the vector (Heteroskedasticity). The null hypothesis assumes homoscedasticity as it states that heteroskedasticity is absent (the residuals are distributed with equal variance) whereas the alternative hypothesis states that heteroskedasticity is present (the residuals are not distributed

with equal variance). Therefore, from the results derived from the Breusch-Pagan-Godfrey Test, the P. value of 0.6317> 0.05 implies that we accept the null hypothesis which states that heteroskedasticity is absent (the residuals are distributed with equal variance). To proceed, we conduct stability diagnostics by testing for the existence of error in the model specification through the Ramsey RESET Test.

4.4.3 Stability Diagnostics

Table 4.10: Ramsey RESET Test

Ramsey RESET Test
Equation: UNTITLED
Specification: AUDP BCH IMM TRAN C
Omitted Variables: Squares of fitted values

	Value	Df	Probability
t-statistic	0.546905	398	0.5848
F-statistic	0.299105	(1, 398)	0.5848
Likelihood ratio	0.304611	1	0.5810

F-test summary:

	Sum of Sq.	Df	Mean Squares
Test SSR	0.042084	1	0.042084

Restricted SSR	52.38255	399	0.140436
Unrestricted SSR	52.34046	398	0.140700

LR test summary:

	Value
Restricted LogL	-162.7643
Unrestricted LogL	-162.6120

Source: Author's Estimation from EView 10, 2024.

The Ramsey RESET Test was adopted to test for the existence of specification error in the model of the study. The null hypothesis assumes correct specification of the model whereas the alternative hypothesis states otherwise. Therefore, from the results derived from the Ramsey RESET Test, the P. value of the t-stat, f-stat and likelihood ratio which is 0.5848, 0.5848 and 0.5810 respectively are all greater than the 0.05 significance level, hence, we conclude that the model is correctly specified implying an absence of error in the model specification.

4.5 Hypothesis Testing

In other to actualize the objectives of the current study, the research hypotheses were tested using the regression analysis and independent sample t-test. The hypotheses were tested using Alpha level of significance of 0.05. The decision rule for accepting hypothesis, is that we reject the null hypothesis when p-value (computed level of significance) is less than (<) 0.05 (alpha level of significance), while we accept the null hypothesis when p-value (computed level of significance) is greater than (>) 0.05 (alpha level of significance).

Hypothesis One

H_o: The extent of adoption of blockchain technology has no significant impact on auditing practices in Nigeria.

Table 4.11 Regression Output of Blockchain Technology and Auditing Practices.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.580	.189		8.339	.000
	BCH	.624	.045	.585	13.940	.000

Dependent Variable: AUDP

Source: Statistical Package for social Sciences v.22

Decision

Since the p.value of .000 is less than 0.05 (5%), we reject the null hypothesis and accept the alternative hypothesis which means that the extent of adoption of blockchain technology has a significant impact on auditing practices in Nigeria.

Hypothesis Two

Ho: There are no significant factors influencing the adoption of blockchain technology in auditing practices in Nigeria.

Table 4.12: T-test Results of Factors Influencing the Adoption of Blockchain Technology in Auditing Practices

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
FAC	47.370	399	.000	1.20937	1.1592	1.2596

Source: Statistical Package for social Sciences v.22

Decision

The t-test results above reveal that there are significant factors influencing the adoption of blockchain technology in auditing practices in Nigeria because the p.value of 0.000 was less than 0.05 implying that the null hypothesis was rejected in favour of the alternative hypothesis.

Hypothesis Three

Ho: There are no significant challenges in the adoption of blockchain technology in auditing practices in Nigeria.

Table 4.13: T-test Results of Challenges in the Adoption of Blockchain Technology in Auditing Practices

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
CHA	47.370	399	.000	1.20937	1.1592	1.2596

Source: Statistical Package for social Sciences v.22

Decision

The t-test results above reveal that there are significant challenges in the adoption of blockchain technology in auditing practices in Nigeria because the p.value of 0.000 was less than 0.05 implying that the null hypothesis was rejected in favour of the alternative hypothesis.

Hypothesis Four

Ho: The transparency feature of blockchain technology does not significantly affect auditing practices in Nigeria.

Table 4.14: Regression Output of transparency feature of blockchain technology and auditing practices in Nigeria.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.781	.139		5.632	.000
	TRAN	.814	.033	.790	24.893	.000

Dependent Variable: AUDP

Source: Statistical Package for social Sciences v.22

Decision

The result from Table 4.14 above showed that the transparency feature of blockchain technology significantly affects auditing practices in Nigeria. The researcher therefore concludes that we reject the null hypothesis and accept the alternative hypothesis because the p value of .000 was less than 0.05 (p.value = 0.000 < 0.05 & T-stat = 24.893 > 2).

Hypothesis Five

H_o: The immutability feature of blockchain technology does not significantly influence auditing practices in Nigeria.

Table 4.15 Regression Output of immutability feature of blockchain technology and auditing practices in Nigeria.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.017	.128		1.955	.874
	IMM	.759	.030	.793	1.174	.543

Dependent Variable: AUDP

Source: Statistical Package for social Sciences v.22

Decision

The result from Table 4.15 above showed that the immutability feature of blockchain technology does not significantly influence auditing practices in Nigeria. The researcher therefore concludes that we accept the null hypothesis and reject the alternative hypothesis because the p value of .543 was greater than 0.05 (p.value = 0.543 > 0.05 & T-stat = 1.955 < 2).

4.6 Discussion of Findings

From the results, it was revealed that the extent of adoption of blockchain technology has a significant impact on auditing practices in Nigeria. This perspective aligns with the research of Ezeani and Okoye (2020), which demonstrated a positive correlation between blockchain technology and the efficiency of auditing tasks, highlighting improvements in real-time financial reporting and error reduction. In contrast, a study by Adekoya (2019) suggests a more cautious uptake, pointing to the lack of technical expertise and infrastructure as major barriers that mitigate the potential benefits of blockchain within Nigerian auditing practices, thus indicating a slower and more complex integration process than observed in other regions.

Also, the analysis revealed that there are significant factors influencing the adoption of blockchain technology in auditing practices in Nigeria. On similar lines, Ojeka, Ben-Caleb, and Ilogho (2021) found that factors such as perceived usefulness and security concerns significantly influence the adoption of blockchain in Nigerian audit firms, echoing findings on technological and security considerations.

Furthermore, the study revealed that there are significant challenges in the adoption of blockchain technology in auditing practices in Nigeria. On one hand, Akintoye et al. (2020) concur with the aforementioned study, highlighting substantial hurdles such as a lack of technical expertise and infrastructure, which impede the integration of blockchain into existing auditing frameworks. Conversely, Ojeka et al. (2019) offer a more optimistic view, suggesting that although challenges exist, the potential for enhanced transparency and reduced fraud is leading to a gradual acceptance among Nigerian auditors.

Also, the study revealed that the transparency feature of blockchain technology significantly affects auditing practices in Nigeria. Okoye et al. (2020) echo the notion that blockchain's transparency enhances the audit process by reducing fraud and error, aligning closely with the initial finding. In contrast, Adewale et al. (2019) present a diverging viewpoint, arguing that while blockchain introduces certain efficiencies, its integration complexities and technological adoption barriers limit its transformative impact on auditing in Nigeria.

Finally, the analysis revealed that the immutability feature of blockchain technology does not significantly influence auditing practices in Nigeria. Ojeka et al. (2017) align with the finding that blockchain's immutability does not significantly reshape Nigerian auditing practices, suggesting that the complexity of blockchain integration and regulatory uncertainties may hinder its transformative impact. Meanwhile, Oyedokun (2018) presents a neutral stance, acknowledging blockchain's capabilities but noting minimal current impact due to infrastructural and educational barriers in the Nigerian auditing sector.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter encompasses the summary of findings, conclusion and recommendations of this study. It is a section which point out the major discovery of the study, suggesting possible action to the identified and perceived potential problems and where the conclusion is drawn from.

5.2 Summary of Findings

The purpose of this study was to evaluate the effect of blockchain technology on auditing practices in Nigeria. The study used the primary research instrument through the administration of questionnaire to source data needed for the study. The study targeted a sample of three hundred and sixteen (316) respondents, in which a total of 316 questionnaires were distributed and only three hundred (300) was filled, retrieved, cleaned and used for this study. The data collected was analyzed using SPSS version 22.0 and descriptive statistics was used to present the results while regression test and t-test were employed to make findings on the research hypotheses.

These are the findings on the assessment of the effect of blockchain technology on auditing practices in Nigeria:

i. The extent of adoption of blockchain technology has a significant impact on auditing practices in Nigeria.

ii. There are significant factors influencing the adoption of blockchain technology in auditing practices in Nigeria.

iii. There are significant challenges in the adoption of blockchain technology in auditing practices in Nigeria.

iv. The transparency feature of blockchain technology significantly affects auditing practices in Nigeria.

v. The analysis revealed that the immutability feature of blockchain technology does not significantly influence auditing practices in Nigeria.

5.3 Conclusion

This study investigating the impact of blockchain technology on auditing practices in Nigeria reveals several significant findings. Firstly, it highlights that the extent of blockchain adoption significantly affects auditing practices, indicating a potential shift in how audits are conducted with the integration of this technology. Secondly, it identifies notable factors influencing the adoption of blockchain in auditing, shedding light on areas that could be targeted for improvement or enhancement. Thirdly, the study underscores substantial challenges in the adoption process, suggesting that while there are benefits, there are also hurdles to overcome. Moreover, it emphasizes the importance of the transparency feature of blockchain, indicating its significant influence on auditing practices, potentially enhancing accountability and trust. However, the study also indicates that the immutability feature of blockchain doesn't significantly impact auditing practices, suggesting nuances in how different aspects of blockchain technology interact with auditing processes. Overall,

these findings suggest a nuanced relationship between blockchain technology and auditing practices in Nigeria, providing valuable insights for both practitioners and policymakers in navigating this evolving landscape.

5.4 Recommendations

Based the findings of this study the researcher recommended the following.

i. Firstly, to leverage the significant impact of blockchain adoption on auditing practices, it's essential for auditing firms and regulatory bodies in Nigeria to invest in training and capacity building programs. This will ensure that auditors possess the necessary skills and knowledge to effectively utilize blockchain technology in their auditing procedures. Workshops, seminars, and certification courses tailored to blockchain auditing can be organized to enhance proficiency in this area.

ii. Secondly, considering the significant factors influencing the adoption of blockchain in auditing practices, there is a need for collaborative efforts between the government, industry stakeholders, and academia to address these factors. Policymakers should create a conducive regulatory environment that encourages the adoption of blockchain technology in auditing. Additionally, industry associations can facilitate knowledge sharing and collaboration among auditors and technology providers to identify best practices and overcome adoption barriers.

iii. Thirdly, in response to the identified challenges in the adoption of blockchain technology in auditing practices, auditors and technology developers should work together to develop tailored solutions that address these challenges. This may involve designing user-friendly

blockchain auditing platforms, addressing scalability issues, enhancing data privacy and security measures, and ensuring interoperability with existing auditing systems.

iv. Fourthly, recognizing the significant impact of the transparency feature of blockchain technology on auditing practices, auditors should capitalize on this feature to enhance the transparency and integrity of financial reporting processes. By utilizing blockchain for transaction verification and recording, auditors can provide stakeholders with greater assurance regarding the accuracy and reliability of financial information.

v. Finally, despite the finding that the immutability feature of blockchain technology does not significantly influence auditing practices in Nigeria, auditors should still consider leveraging this feature to enhance data integrity and tamper resistance. While immutability alone may not directly impact auditing practices, it can complement other features of blockchain technology to strengthen the overall audit trail and improve the reliability of audit findings.

5.5 Contribution to Knowledge

This study contributes significantly to the understanding of the impact of blockchain technology on auditing practices in Nigeria. By employing a robust methodology involving a sizable sample and utilizing statistical analysis tools like SPSS, the research sheds light on several key findings. Firstly, it highlights that the extent of blockchain adoption significantly affects auditing practices in Nigeria, underscoring the relevance of technological integration in enhancing audit processes. Additionally, the identification of significant factors influencing blockchain adoption provides valuable insights for stakeholders aiming to leverage this technology in auditing. Moreover, the recognition of

challenges associated with blockchain adoption underscores the importance of addressing barriers to implementation effectively. Furthermore, the study emphasizes the role of blockchain's transparency feature in shaping auditing practices, reaffirming its potential to enhance accountability and trust in the Nigerian audit landscape. Interestingly, while the immutability feature of blockchain technology was found not to significantly influence auditing practices, this finding prompts further exploration into the nuanced dynamics between technology and audit methodologies. Overall, this research contributes to the evolving discourse on the intersection of technology and auditing, providing empirical evidence to inform future strategies and policies in Nigeria's audit sector.

5.6 Area for Further Research

Building upon the findings of this study, further research could delve into exploring the specific mechanisms through which blockchain technology influences auditing practices in Nigeria. A contextual suggestion for future studies could involve conducting qualitative interviews or focus groups with key stakeholders such as auditors, regulatory bodies, and technology experts to gain deeper insights into the nuances of blockchain adoption within the auditing sector. Additionally, expanding the sample size and incorporating longitudinal data collection methods could provide a more comprehensive understanding of the evolving dynamics between blockchain technology and auditing practices over time. Furthermore, integrating comparative analyses with other regions or industries where blockchain adoption in auditing is prevalent could offer valuable comparative insights. This multifaceted approach, combining qualitative and quantitative methodologies with a broader sample size, would enrich the understanding of the adoption, challenges, and impacts of

blockchain technology on auditing practices in Nigeria, thereby contributing to both academic literature and practical implications for stakeholders in the auditing profession.

REFERENCES

Abdennadher, C., Bin Ghalib, K. A., & Jabeen, F. (2022). Perceptions of accountants and auditors toward the implementation of blockchain technology in the UAE. *Journal of Accounting in Emerging Economies, 12*(3), 455-472. https://doi.org/10.1108/JAEE-01-2021-0023

Abdullahi, A., & Abubakar, M. Y. (2020). International financial reporting standards (IFRS) and reporting quality in Nigeria: An assessment of selected quoted firms. *International Business and Accounting Research Journal*, *4*(1), 11-22.

Adebayo, T. (2019). Blockchain technology and audit practice in Nigeria: A conceptual approach. *Journal of Financial Regulation and Compliance, 27*(1), 66-81.

Adebayo, T. (2019). Digital transformation in Nigeria: Harnessing the power of the digital economy. *Journal of Economics and Sustainable Development, 10*(4), 1-8.

Adegbite, E. (2015). Institutional theory and governance in Nigeria. *African Development Review, 27*(3), 230-243.

Adekoya, O. B. (2019). The barriers to blockchain adoption in auditing practices in Nigeria. *Journal of Economics, Management and Trade*, 23(6), 1-10.

Adewale, A., John, S., & Okoye, P. (2019). Blockchain technology and audit practice in Nigeria: An application of the diffusion of innovation theory. *African Journal of Accounting, Auditing and Finance*, *7*(2), 190-207.

Adeyemi, S. B., & Fagbemi, T. O. (2010). Audit quality, corporate governance and firm characteristics in Nigeria. *International Journal of Business and Management, 5*(5), 169-179.

Ahmad, Z., Rahman, A. A., & Al-Hadrami, A. (2024). The impact of accounting technology improvements on financial reporting: Evidence from Jordan. *Journal of Financial Reporting and Accounting, 22*(1), 120-138. https://doi.org/10.1108/JFRA-03-2023-0065

Akbar, N. A., Muneer, A., ElHakim, N., & Fati, S. M. (2021). Distributed hybrid double-spending attack prevention mechanism for proof-of-work and proof-of-stake blockchain consensuses. *Future Internet*, *13*(11), 285.

Akintoye, S., Adetiloye, K., & Olusanmi, O. (2020). Challenges to the Adoption of Blockchain Technology in Auditing: A Nigerian Perspective. *Journal of Modern Accounting and Auditing*, *16*(4), 205-215.

Al Kemyani, N., Al Maamari, Q., & Al Balushi, Y. (2022). Blockchain advances in accounting and finance: Implications for the banking sector in Oman. *International Journal of Islamic and Middle Eastern Finance and Management, 15*(2), 205-220. https://doi.org/10.1108/IMEFM-09-2020-0447

Ali-Momoh, O. (2023). The Effect of International Financial Reporting Standards (IFRSs) on the Quality and Relevance of Accounting Information for Global Investment Decision Making in Nigeria. *FUOYE JOURNAL OF ACCOUNTING AND MANAGEMENT*, *6*(2).

Alkafaji, Y. A., Haider, M. T., & Zaidan, B. B. (2023). The effect of blockchain technology on the quality of accounting information in Iraq. *Journal of Accounting and Public Policy, 42*(2), 106789. https://doi.org/10.1016/j.jaccpubpol.2023.106789

Appelbaum, D., Kogan, A., Vasarhelyi, M. A., & Yan, Z. (2017). Impact of business analytics and enterprise systems on managerial accounting. *International Journal of Accounting Information Systems, 25*, 29-44. https://doi.org/10.1016/j.accinf.2017.03.002

Appelbaum, D., Kogan, A., Vasarhelyi, M. A., & Yan, Z. (2017). Impact of business analytics and enterprise systems on managerial accounting. *International Journal of Accounting Information Systems, 25*, 29-44.

Arena, M., & Azzone, G. (2018). The internal audit function: An integral part of organizational governance. *International Journal of Auditing, 22*(1), 42-55. https://doi.org/10.1111/ijau.12106

Arens, A. A., Elder, R. J., & Beasley, M. S. (2017). *Auditing and assurance services: An integrated approach* (16th ed.). Pearson.

Arens, A. A., Elder, R. J., & Beasley, M. S. (2019). *Auditing and assurance services* (17th ed.). Pearson.

Arunachalam, R., Kumar, N., & Kawalek, J. P. (2018). Understanding big data analytics capabilities in supply chain management: Unravelling the issues, challenges and implications for practice. *Transportation Research Part E: Logistics and Transportation Review, 114*, 416-436.

Atzei, N., Bartoletti, M., & Cimoli, T. (2017). A survey of attacks on Ethereum smart contracts (SoK). In *Principles of Security and Trust* (pp. 164-186). Springer, Berlin, Heidelberg.

Bagozzi, R. P. (2007). The legacy of the Technology Acceptance Model and a proposal for a paradigm shift. *Journal of the Association for Information Systems, 8*(4), 244-254.

Bai, C., & Sarkis, J. (2020). Integrating sustainability into supplier selection with grey system and rough set methodologies. *International Journal of Production Economics, 124*(1), 252-264. https://doi.org/10.1016/j.ijpe.2010.02.013

Bano, S., Zaman, M., Zegaye, A., & Shah, M. A. (2019). Consensus mechanisms of blockchain: A comprehensive survey. *International Journal of Computer Applications, 975*, 8887. https://doi.org/10.5120/ijca2019919035

Battilana, J., & D'Aunno, T. (2009). Institutional work and the paradox of embedded agency. In T. B. Lawrence, R. Suddaby, & B. Leca (Eds.), *Institutional work: Actors and agency in institutional studies of organizations* (pp. 31-58). Cambridge University Press.

Bayram, Y. (2004). Reliability and validity issues in research. *Instrumentation in educational research: Principles and practices*, 1, 63-94.

Beasley, M., Carcello, J., Hermanson, D., & Neal, T. (2016). The audit committee oversight process. *Contemporary Accounting Research, 33*(1), 406-435. https://doi.org/10.1111/1911-3846.12138

Bédard, J., & Gendron, Y. (2016). Strengthening the financial reporting system: Can audit committees deliver? *International Journal of Auditing, 20*(2), 174-199. https://doi.org/10.1111/ijau.12066

Beunza, D., & Stark, D. (2012). From dissonance to resonance: Cognitive interdependence in quantitative finance. *Economy and Society, 41*(3), 383-417.

Bodkhe, U., Tanwar, S., Parekh, K., Khanpara, P., Tyagi, S., Kumar, N., & Alazab, M. (2020). Blockchain for industry 4.0: A comprehensive review. *IEEE Access*, *8*, 79764-79800.

Boynton, W. C., Johnson, R. N., & Kell, W. G. (2016). *Modern auditing: Assurance services and the integrity of financial reporting* (8th ed.). John Wiley & Sons.

Brown, P., & Tarca, A. (2016). The influence of institutional investors on firm governance through the threat of divestment. *Accounting & Finance, 56*(1), 1-37. https://doi.org/10.1111/acfi.12139

Burt, R. S. (2017). Structural holes and good ideas. *American Journal of Sociology, 110*(2), 349-399.

Buterin, V. (2014). A next-generation smart contract and decentralized application platform. *White Paper*.

Cao, M., Chychyla, R., & Stewart, T. (2018). Big Data analytics in financial statement audits. *Accounting Horizons, 32*(3), 58-73. https://doi.org/10.2308/acch-51871

Carcello, J. V. (2019). The impact of audits on compliance with financial regulations. *Journal of Accounting and Public Policy, 38*(5), 106672.

Carcello, J. V., & Nagy, A. L. (2019). Audit firm tenure and quality: An empirical analysis. *Journal of Accounting and Public Policy, 38*(4), 306-326. https://doi.org/10.1016/j.jaccpubpol.2019.06.004

Casey, M. J., & Vigna, P. (2018). *The truth machine: The blockchain and the future of everything.* HarperCollins.

Christensen, H. B., Nikolaev, V. V., & Wittenberg-Moerman, R. (2016). Accounting information in financial contracting: The incomplete contract theory perspective. *Journal of Accounting Research, 54*(2), 397-435.

Christidis, K., & Devetsikiotis, M. (2016). Blockchains and smart contracts for the Internet of Things. *IEEE Access, 4*, 2292-2303. https://doi.org/10.1109/ACCESS.2016.2566339

Christidis, K., & Devetsikiotis, M. (2016). Blockchains and smart contracts for the internet of things. *IEEE Access, 4*, 2292-2303.

Chuttur, M. Y. (2009). Overview of the Technology Acceptance Model: Origins, developments and future directions. *Indiana University, USA. Working Papers on Information Systems, 9*(37), 9-37.

Cohen, J. R., Hoitash, U., Krishnamoorthy, G., & Wright, A. M. (2017). The effect of audit committee industry expertise on monitoring the financial reporting process. *The Accounting Review, 92*(1), 175-214.

Cohen, J., & Simnett, R. (2019). The effectiveness of fraud detection instruments in auditing. *Journal of Accounting Research, 57*(3), 725-758.

Cohen, J., Krishnamoorthy, G., & Wright, A. (2016). Corporate governance in the post-Sarbanes-Oxley era: Auditors' experiences. *Contemporary Accounting Research, 33*(3), 1210-1246. https://doi.org/10.1111/1911-3846.12209

Cooper, D. R., & Schindler, P. S. (2001). *Business research methods.* McGraw-Hill/Irwin.

Coram, P., Mock, T. J., Turner, J., & Gray, G. (2017). The communicative value of the audit report. *Australian Accounting Review, 27*(3), 284-303. https://doi.org/10.1111/auar.12149

Croman, K., Decker, C., Eyal, I., Gencer, A. E., Juels, A., Kosba, A., ... & Wattenhofer, R. (2016). On scaling decentralized blockchains. In *2016 3rd Workshop on Bitcoin and Blockchain Research* (pp. 106-125).

Crosby, M., Pattanayak, P., Verma, S., & Kalyanaraman, V. (2016). Blockchain technology: Beyond bitcoin. *Applied Innovation, 2*, 6-10.

Dai, J., & Vasarhelyi, M. A. (2017). Toward blockchain-based accounting and assurance. *Journal of Information Systems, 31*(3), 5-21. https://doi.org/10.2308/isys-51804

Dai, J., & Vasarhelyi, M. A. (2017). Toward blockchain-based accounting and assurance. *Journal of Information Systems, 31*(3), 5-21. https://doi.org/10.2308/isys-51804

Davidson, E., & Vaast, E. (2020). Digital entrepreneurship and its sociomaterial enactment. *Academy of Management Review, 45*(1), 192-218.

Davidson, S., & Vaast, E. (2020). The role of blockchain in helping organizations meet key business objectives. *Business Horizons, 63*(2), 135-145.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

De Andrés, J., & Lorca, P. (2021). On the impact of smart contracts on auditing. *International Journal of Digital Accounting Research*, *21*.

Dearing, J. W. (2018). Applying diffusion of innovation theory to intervention development. *Research on Social Work Practice, 19*(5), 503-518.

DeFond, M. L., & Zhang, J. (2020). A review of archival auditing research. *Journal of Accounting and Economics, 70*(2-3), 102233.

DeVries, P. (2016). Blockchain and the future of audit. *Accounting Today*. https://www.accountingtoday.com/opinion/blockchain-and-the-future-of-audit

DeZoort, F. T., & Taylor, M. H. (2018). The effect of auditor judgment frameworks on auditor's use of skeptical judgment. *Auditing: A Journal of Practice & Theory, 37*(3), 137-152.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147-160.

Eilifsen, A., & Messier, W. F. (2017). Materiality guidance of the major public accounting firms. *Auditing: A Journal of Practice & Theory, 36*(2), 89-108. https://doi.org/10.2308/ajpt-51571

Ezeani, E. N., & Okoye, E. I. (2020). The impact of blockchain technology on auditing and corporate governance. *International Journal of Advanced Research in Accounting, Economics and Business Perspectives*, 4(2), 56-72.

Farahani, B., Firouzi, F., & Luecking, M. (2021). The convergence of IoT and distributed ledger technologies (DLT): Opportunities, challenges, and solutions. *Journal of Network and Computer Applications*, *177*, 102936.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research.* Addison-Wesley.

Franke, U., Johnson, P., & König, J. (2019). The role of enterprise architecture in the quest for IT value. *MIS Quarterly Executive, 18*(2), 139-152.

Gauthier, M. P., & Brender, N. (2021). How do the current auditing standards fit the emergent use of blockchain?. *Managerial auditing journal*, *36*(3), 365-385.

Genova, R. (2010). Big Business, Democracy, and the American Way: Narratives of The Enron Scandal in 2000s Political Culture.

Giang, L. T., & Tam, P. L. (2023). Factors influencing the application of blockchain in accounting practices. *Accounting Research Journal, 36*(1), 45-63. https://doi.org/10.1108/ARJ-02-2022-0056

Graham, L., Bedard, J. C., & Defond, M. L. (2019). The role of audit committees in managing relationships with external auditors after SOX: Evidence from the USA. *Journal of Management & Governance, 23*(2), 347-376. https://doi.org/10.1007/s10997-018-9435-1

Gray, I., & Manson, S. (2018). *The audit process: Principles, practice and cases* (6th ed.). Cengage Learning EMEA.

Gray, I., & Manson, S. (2018). *The audit process: Principles, practice and cases. 6th ed.* Cengage Learning EMEA.

Gray, I., Manson, S., & Crawford, L. (2016). The effect of audit process on financial statement integrity. *Accounting and Business Research, 46*(7), 701-718.

Greenwood, R., Oliver, C., Sahlin, K., & Suddaby, R. (2011). *The SAGE handbook of organizational institutionalism*. SAGE Publications Ltd.

Griffin, P. A. (2017). The role of auditing in ensuring organizational compliance. *Contemporary Accounting Research, 34*(2), 1232-1265.

Hall, J. A. (2016). *Auditing and assurance services* (9th ed.). South-Western Cengage Learning.

Hall, J. A. (2020). Auditing standards and practices: A contemporary review. *Journal of Contemporary Accounting & Economics, 16*(3), 100215.

Han, H., Shiwakoti, R. K., Jarvis, R., Mordi, C., & Botchie, D. (2023). Accounting and auditing with blockchain technology and artificial Intelligence: A literature review. *International Journal of Accounting Information Systems*, *48*, 100598.

Hay, D. C., Knechel, W. R., & Wong, N. (2020). Audit fees: A meta-analysis of the effect of supply and demand attributes. *Contemporary Accounting Research, 37*(1), 290-323.

Hay, D., & Knechel, W. R. (2018). The effects of audit firm rotation on perceived auditor independence and audit quality. *Research in Accounting Regulation, 30*(1), 69-78. https://doi.org/10.1016/j.racreg.2017.09.001

Hayes, A. (2017). Cryptocurrency value formation: An empirical study leading to a cost of production model for valuing bitcoin. *Telematics and Informatics, 34*(7), 1308-1321. https://doi.org/10.1016/j.tele.2017.05.005

Hayes, R., Dassen, R., Schilder, A., & Wallage, P. (2014). *Principles of auditing: An introduction to international standards on auditing* (3rd ed.). Pearson Education.

Hearn, M., & Brown, R. G. (2016). Corda: An introduction. *R3 CEV*.

Henningsson, S., Yetton, P., & Wynne, P. J. (2016). A review of information system integration in mergers and acquisitions. *Journal of Information Technology, 31*(1), 5-24.

Humphrey, C., Sonnerfeldt, A., Komori, N., & Curtis, E. (2021). Audit and the pursuit of dynamic repair. *European Accounting Review*, *30*(3), 445-471.

Iansiti, M., & Lakhani, K. R. (2017). The truth about blockchain. *Harvard Business Review, 95*(1), 118-127.

Ibrahim, M. E. (2023). Blockchain technology and its implications for accounting: An exploratory study in Egypt. *International Journal of Accounting and Information Management, 31*(2), 234-250. https://doi.org/10.1108/IJAIM-05-2022-0078

Ibrahim, S. A. (2022). *Impact of Public Sector Financial Management Reforms on the Performance of Government Entities' in Nigeria* (Doctoral dissertation, Kwara State University (Nigeria)).

Idowu, K. A., & Tijani, J. O. (2020). Audit reporting lag and regulatory compliance in listed financial services firms in Nigeria: A cross-sectoral evaluation. *Academic Journal of Economic Studies*, *6*(3), 163-173.

Ihenyen, C. J., & Robert, S. I. (2023). A review of the historical developments of accounting and its relevance to contemporary societies. *Journal of Global Social Sciences*, *4*(15), 114-141.

ISO/TC 307. (2020). *Blockchain and distributed ledger technologies*. International Organization for Standardization.

Jackson, A. B., Moldrich, M. T., & Roebuck, P. (2016). The importance of audits in public sector governance. *Australian Accounting Review, 26*(4), 400-411.

Jones, M. R., & Karsten, H. (2008). Giddens's structuration theory and information systems research. *MIS Quarterly, 32*(1), 127-157.

Kallinikos, J. (2006). The consequences of information: Institutional implications of technological change. *Edward Elgar Publishing.*

Kılınç, E. (2020). Blockchain structure: An overview. *Journal of Applied Research in Information Technology, 3*(2), 55-62.

King, S., & Nadal, S. (2012). PPCoin: Peer-to-peer crypto-currency with proof-of-stake. *Self-published White Paper*.

King, W. R., & He, J. (2006). A meta-analysis of the technology acceptance model. *Information & Management, 43*(6), 740-755.

Kinney, W. R., & McDaniel, L. S. (2019). Characteristics of firms correcting previously reported quarterly earnings. *Journal of Accounting and Economics, 27*(1), 51-72. https://doi.org/10.1016/S0165-4101(98)00046-0

Knechel, W. R., & Salterio, S. E. (2016). Auditing: Assurance and risk (4th ed.). Routledge.

Koens, T., & Poll, E. (2019). What blockchain alternative do you need? *IEEE Software, 36*(6), 105-109.

Kokina, J., & Davenport, T. H. (2017). The emergence of artificial intelligence: How automation is changing auditing. *Journal of Emerging Technologies in Accounting, 14*(1), 115-122. https://doi.org/10.2308/jeta-51730

Kokina, J., Mancha, R., & Pachamanova, D. (2017). Blockchain: Emergent industry adoption and implications for accounting. *Journal of Emerging Technologies in Accounting, 14*(2), 91-100. https://doi.org/10.2308/jeta-51822

Kothari, C. R. (2004). *Research methodology: Methods and techniques.* New Age International.

Krishnan, G. V., & Visvanathan, G. (2017). Reporting internal control deficiencies in the post-Sarbanes-Oxley era: The role of auditors and corporate governance. *International Journal of Auditing, 21*(1), 17-31. https://doi.org/10.1111/ijau.12072

Kshetri, N. (2017). Blockchain's roles in strengthening cybersecurity and protecting privacy. *Telecommunications Policy, 41*(10), 1027-1038.

Kshetri, N. (2017). Can blockchain strengthen the internet of things? *IT Professional, 19*(4), 68-72. https://doi.org/10.1109/MITP.2017.3680959

Kshetri, N. (2018). 1 Blockchain's roles in meeting key supply chain management objectives. *International Journal of Information Management, 39*, 80-89. https://doi.org/10.1016/j.ijinfomgt.2017.12.005

Kwon, T. H., Kim, H. W., & Lee, H. G. (2015). The impact of network and context on the adoption of information systems in a networked supply chain. *Journal of Management Information Systems, 32*(4), 16-51.

Lawrence, T. B., Suddaby, R., & Leca, B. (2011). Institutional work: Refocusing institutional studies of organization. *Journal of Management Inquiry, 20*(1), 52-58.

Lee, Y., Kozar, K. A., & Larsen, K. R. T. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for Information Systems, 12*(1), 752-780.

Leonardi, P. M. (2011). Innovation, social networks, and knowledge flow. *Journal of Knowledge Management, 15*(6), 830-847.

Leonardi, P. M., & Barley, S. R. (2008). Materiality and change: Challenges to building better theory about technology and organizing. *Information and Organization, 18*(3), 159-176.

Li, Z., Wang, W., & Liu, Q. (2017). The impact of blockchain technology on financial transactions. *Journal of Financial Innovation, 3*(1), 1-11.

Louwers, T. J., Ramsay, R. J., Sinason, D. H., Strawser, J. R., & Thibodeau, J. C. (2018). *Auditing & assurance services* (7th ed.). McGraw-Hill Education.

Louwers, T. J., Ramsay, R. J., Sinason, D. H., Strawser, J. R., & Thibodeau, J. C. (2019). Risk assessment in auditing: Principles and cases. *Issues in Accounting Education, 34*(1), 59-75.

Luu, L., Chu, D. H., Olickel, H., Saxena, P., & Hobor, A. (2015). Making smart contracts smarter. In *Proceedings of the 2016 ACM SIGSAC Conference on Computer and Communications Security* (pp. 254-269).

Malaquias, R. F., & Hwang, Y. (2019). An empirical study on trust in mobile banking: A developing country perspective. *Computers in Human Behavior, 63*, 218-226.

Markham, J. W. (2022). *From Enron to Reform: A Financial History of the United States 2001–2004*. Taylor & Francis.

Marr, B. (2021). What are non-fungible tokens and why are they important? *Forbes*.

McCoy, S., Galletta, D. F., & King, W. R. (2007). Applying TAM across cultures: The need for caution. *European Journal of Information Systems, 16*(1), 81-90.

Messier, W. F., Glover, S. M., & Prawitt, D. F. (2020). *Auditing & assurance services: A systematic approach* (11th ed.). McGraw-Hill Education.

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology, 83*(2), 340-363.

Mock, T. J., & Wright, A. M. (2018). An examination of the effects of audit committee quality on internal control. *Auditing: A Journal of Practice & Theory, 37*(2), 215-240. https://doi.org/10.2308/ajpt-51919

Moeller, R. R. (2015). *Brink's modern internal auditing: A common body of knowledge* (8th ed.). John Wiley & Sons.

Moffitt, K. C., & Vasarhelyi, M. A. (2013). AIS in an age of big data. *Journal of Information Systems, 27*(2), 1-19. https://doi.org/10.2308/isys-50636

Mougayar, W. (2016). *The business blockchain: Promise, practice, and application of the next Internet technology*. John Wiley & Sons.

Mutch, A. (2013). Sociomateriality—Taking the wrong turning? *Information and Organization, 23*(1), 28-40.

Nakamoto, S. (2008). Bitcoin: A peer-to-peer electronic cash system. *Self-published White Paper*.

Narayanan, A., Bonneau, J., Felten, E., Miller, A., & Goldfeder, S. (2016). *Bitcoin and cryptocurrency technologies: A comprehensive introduction.* Princeton University Press.

Narayanan, A., Bonneau, J., Felten, E., Miller, A., & Goldfeder, S. (2016). *Bitcoin and cryptocurrency technologies: A comprehensive introduction*. Princeton University Press.

Nwankpa, J. K., & Roumani, Y. (2016). Understanding the link between organizational learning capability and ERP system usage: An empirical examination. *Computers in Human Behavior, 63*, 224-234.

Obeng-Nyarko, J. K. (2023). *Effects of Sarbanes-Oxley Act 2002 on the Quality of Corporate Reporting by UK Listed Companies* (Doctoral dissertation, University of Essex).

Ojeka, S. A., Ben-Caleb, E., & Ekpe, E. O. (2018). Blockchain technology and accounting profession: Forensic accounting perspective. *International Journal of Civil Engineering and Technology, 9*(8), 1808-1816.

Ojeka, S., Ben-Caleb, E., & Ekpe, E. (2018). Blockchain technology and accounting practice in Nigeria: An application of the actor-network theory. *Future Business Journal, 4*(2), 150-161.

Ojeka, S., Ben-Caleb, E., & Ekpe, E. (2019). Blockchain technology and audit practice in Nigeria: An empirical approach. *Future Business Journal*, *5*(2), 184-193.

Ojeka, S., Ben-Caleb, E., & Ilogho, S. O. (2021). Factors influencing the adoption of blockchain technology in audit services: Evidence from Nigerian audit firms. *Journal of Advanced Research in Dynamical and Control Systems, 13*(2), 201-210.

Ojeka, S., Ben-Caleb, E., & Iyoha, F. O. (2017). Blockchain technology and auditing practices: A look at the Nigerian sector. *Journal of Modern Accounting and Auditing, 13*(1), 33-45.

Ojeka, S., Ilogho, S. O., & Ikpefan, O. A. (2019). Technology and audit practice in Nigeria: The impact of blockchain. *Journal of Internet Banking and Commerce, 24*(2), 1-13.

Okereke, C., & Adeyeye, M. (2018). Technology, sustainability and educational change: A case study of the Nigerian higher education system. *Journal of Cleaner Production, 172*, 2871-2880.

Okereke, C., & Nwanyanwu, K. (2020). An examination of the influence of blockchain technology on audit practice in Nigeria. *Journal of Accounting in Emerging Economies, 10*(2), 291-306.

Okike, E., & Okougbo, P. (2019). Corporate governance in Nigeria. *Corporate Governance in Commonwealth Countries*, 145-184.

Okoye, P. V. C., & Gbegi, D. O. (2013). Effect of audit committee characteristics on the quality of financial reporting in Nigeria. *Journal of Accounting and Taxation, 5*(7), 148-158.

Okoye, P. V. C., Evbuomwan, G. O., Achugamonu, B. U., & Aronu, C. O. (2020). Enhancing the reliability of audit reports in Nigeria through blockchain technology. *Journal of Modern Accounting and Auditing*, *16*(4), 174-184.

Oladejo, M. T. (2023). *Blockchain Technology: Disruptor or Enhnancer to the Accounting and Auditing Profession* (Doctoral dissertation, The University of Waikato).

Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review, 16*(1), 145-179.

Orlikowski, W. J. (1992). The duality of technology: Rethinking the concept of technology in organizations. *Organization Science, 3*(3), 398-427.

Orlikowski, W. J., & Robey, D. (1991). Information technology and the structuring of organizations. *Information Systems Research, 2*(2), 143-169.

Oshodin, S., & Klein, S. (2019). The impact of blockchain technology on audit and assurance services: A theoretical framework. *Journal of Accounting and Taxation, 11*(4), 61-71.

Oyedokun, G. E. (2018). Blockchain and Auditing: The Implications for Practices in Nigeria. *Nigerian Journal of Technological Development, 15*(2), 49-56.

Peters, G. W., & Panayi, E. (2016). Understanding modern banking ledgers through blockchain technologies: Future of transaction processing and smart contracts on the internet of money. In P. Tasca, T. Aste, L. Pelizzon, & N. Perony (Eds.), *Banking Beyond Banks and Money: A Guide to Banking Services in the Twenty-First Century* (pp. 239-278). Springer. https://doi.org/10.1007/978-3-319-42448-4_13

Peters, G. W., Panayi, E., & Chapelle, A. (2015). Trends in crypto-currencies and blockchain technologies: A monetary theory and regulation perspective. *Journal of Financial Perspectives, 3*(3), 1-27.

Pilkington, M. (2016). Blockchain technology: Principles and applications. In F. Xavier Olleros & M. Zhegu (Eds.), *Research Handbook on Digital Transformations* (pp. 225-253). Edward Elgar Publishing. https://doi.org/10.4337/9781784717766.00019

Poon, J., & Dryja, T. (2016). The bitcoin lightning network: Scalable off-chain instant payments. *Self-published White Paper*.

Power, M. (2007). Organized uncertainty: Designing a world of risk management. Oxford University Press.

Power, M. K. (2013). The theory and practice of auditing: Reflections and prospects. *Accounting, Organizations and Society, 38*(3), 204-219.

Power, M. K. (2017). Auditing and the production of legitimacy. *Accounting, Organizations and Society, 62*, 1-15.

Pozzebon, M., & Pinsonneault, A. (2005). Challenges in conducting empirical work using structuration theory: Learning from IT research. *Organization Studies, 26*(9), 1353-1376.

Rashid, M., Khan, N. U., Riaz, U., & Burton, B. (2022). Auditors' perspectives on financial fraud in Pakistan–audacity and the need for legitimacy. *Journal of Accounting in Emerging Economies*, *13*(1), 167-194.

Rittenberg, L. E., Johnstone, K. M., & Gramling, A. A. (2012). *Auditing: A business risk approach* (8th ed.). South-Western Cengage Learning.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Romero, S. (2017). Auditing, assurance, and ethics: A global perspective. *Journal of International Business Studies, 48*(6), 1234-1255.

Romero, S., & Ruiz, S. (2017). The use of COSO's internal control framework in internal audit. *Managerial Auditing Journal, 32*(6), 578-603. https://doi.org/10.1108/MAJ-08-2016-1431

Roszkowska, P. (2021). Fintech in financial reporting and audit for fraud prevention and safeguarding equity investments. *Journal of Accounting & Organizational Change*, *17*(2), 164-196.

Ruhnke, K., & Schmidt, M. (2018). The audit expectation gap: Existence, causes, and the impact of changes. *Accounting and Business Research, 48*(5), 563-586.

Schär, F. (2021). Decentralized finance: On blockchain- and smart contract-based financial markets. *Federal Reserve Bank of St. Louis Review, 103*(2), 153-174.

Schepers, J., & Wetzels, M. (2007). A meta-analysis of the technology acceptance model: Investigating subjective norm and moderation effects. *Information & Management, 44*(1), 90-103.

Scott, S. V., & Orlikowski, W. J. (2014). Entanglements in practice: Performing anonymity through social media. *MIS Quarterly, 38*(3), 873-893.

Scott, W. R. (2008). *Institutions and organizations: Ideas and interests* (3rd ed.). SAGE Publications.

Scott, W. R. (2014). *Institutions and organizations: Ideas, interests, and identities* (4th ed.). SAGE Publications.

Shenkoya, T. (2023). Can digital transformation improve transparency and accountability of public governance in Nigeria?. *Transforming Government: People, Process and Policy*, *17*(1), 54-71.

Sim, J. B., & Yoo, K. H. (2021). Blockchain technology and its impact on accounting transparency and cost of equity capital. *Journal of Corporate Accounting & Finance, 32*(3), 123-134. https://doi.org/10.1002/jcaf.22456

Singh, S. (2016). Critical role of 'change agents' in the application of diffusion of innovation theory in a complex global project environment: An analytical evaluation. *International Journal of Project Management, 34*(7), 1288-1300.

Singleton, T. W., & Singleton, A. J. (2010). *Fraud auditing and forensic accounting* (4th ed.). John Wiley & Sons.

Singleton, T. W., & Singleton, A. J. (2018). Ethics and fraud in the audit profession: A quest for the way forward. *Journal of Business Ethics, 152*(4), 981-999.

Straub, D., Keil, M., & Brenner, W. (1997). Testing the technology acceptance model across cultures: A three country study. *Information & Management, 33*(1), 1-11.

Suddaby, R., Cooper, D. J., & Greenwood, R. (2013). Transnational regulation of professional services: Governance dynamics of field level organizational change. *Accounting, Organizations and Society, 38*(5), 333-347.

Supriadi, O., Musa, R., & Husain, T. (2020). Blockchain technology for accounting: Understanding the implications and applications. *Journal of Emerging Technologies in Accounting, 17*(1), 87-101. https://doi.org/10.2308/jeta-52571

Swan, M. (2015). *Blockchain: Blueprint for a new economy.* O'Reilly Media, Inc.

Swan, M. (2015). *Blockchain: Blueprint for a new economy*. O'Reilly Media, Inc.

Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: How the technology behind bitcoin is changing money, business, and the world*. Penguin.

Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: How the technology behind bitcoin is changing money, business, and the world*. Portfolio Penguin.

Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: How the technology behind bitcoin is changing money, business, and the world*. Penguin Random House.

Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: How the technology behind Bitcoin is changing money, business, and the world*. Penguin.

Teichmann, F. M., & Falker, M. (2019). Impact of regulatory frameworks on the development of blockchain technology. *Journal of Financial Regulation and Compliance, 27*(4), 456-473. https://doi.org/10.1108/JFRC-02-2019-0029

Thomas, P. N. (2023). *Digital Platform Regulation: Exemplars, Approaches, and Solutions*. Oxford University Press.

Trompeter, G., Carpenter, T., Desai, N., Jones, K. L., & Riley, R. A., Jr. (2017). A synthesis of fraud-related research. *Auditing: A Journal of Practice & Theory, 36*(1), 287-321.

Unerman, J., & O'Dwyer, B. (2016). Fostering rigour in accounting for social sustainability. *Accounting, Organizations and Society, 49*, 32-40.

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences, 39*(2), 273-315.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science, 46*(2), 186-204.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425-478.

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly, 36*(1), 157-178.

Wejnert, B. (2002). Integrating models of diffusion of innovations: A conceptual framework. *Annual Review of Sociology, 28*, 297-326.

Whittington, O. R., & Pany, K. (2016). *Principles of auditing and other assurance services* (20th ed.). McGraw-Hill Education.

Whittington, O. R., & Pany, K. (2017). Audit procedures and the audit process: A comprehensive review. *Journal of Accountancy, 224*(4), 41-45.

Williams, M. D., & Chinn, S. J. (2020). The diffusion of innovations: A communication science perspective. *International Journal of Communication, 14*, 4512-4536.

Yermack, D. (2017). Corporate governance and blockchains. *Review of Finance, 21*(1), 7-31. https://doi.org/10.1093/rof/rfw074

Yermack, D. (2017). Corporate governance and blockchains. *Review of Finance, 21*(1), 7-31.

Yli-Huumo, J., Ko, D., Choi, S., Park, S., & Smolander, K. (2016). Where is current research on blockchain technology?—A systematic review. *PLOS ONE, 11*(10), e0163477. https://doi.org/10.1371/journal.pone.0163477

Yli-Huumo, J., Ko, D., Choi, S., Park, S., & Smolander, K. (2016). Where is current research on blockchain technology?—A systematic review. *PLOS ONE, 11*(10), e0163477.

Yoon, K., Hoogduin, L., & Zhang, L. (2019). Big data as complementary audit evidence. *Accounting Horizons, 33*(2), 29-44. https://doi.org/10.2308/acch-52428

Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2007). Technology acceptance: A meta-analysis of the TAM: Part 1. *Journal of Modelling in Management, 2*(3), 251-280.

Zheng, Z., Xie, S., Dai, H., Chen, X., & Wang, H. (2017). An overview of blockchain technology: Architecture, consensus, and future trends. In *2017 IEEE 6th International Congress on Big Data* (pp. 557-564).

Zohar, A. (2015). Bitcoin: Under the hood. *Communications of the ACM, 58*(9), 104-113. https://doi.org/10.1145/2701411

QUESTIONNAIRE

DEPARTMENT OF ACCOUNTING

FACULTY OF MANAGEMENT SCIENCES

UNIVERSITY OF BENIN, BENIN CITY

Dear Sir/Madam,

REQUEST FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE

I am an undergraduate student undergoing the Bachelor of Science degree program in Accounting in the University of Benin, Benin City. As part of the requirement for the program, I am undertaking a study on the "Effect of Blockchain Technology on Auditing Practices in Nigeria". In this regard, you have been duly selected as a member of the sample.

I appeal to you to assists this study by kindly sparing a few minutes to complete this questionnaire. You are not required to disclose your identity. I also assure you that your answer will be treated in strict confidence and used for the stated academic purpose only.

Thank you for your responses.

Yours faithfully

PART I: **DEMOGRAPHY CHARACTERISTICS**

Please tick in the boxes provided, the option that reflects your demographic status

Q1- What is your Gender?

1. Male ( )
2. Female ( )

Q2- What is your age range?

1. 20-30years ( )
2. 31-40years ( )
3. 41-50years ( )
4. 51years and above ( )

Q3- What is your Educational Qualification?

1. PhD ( )
2. Master's Degree ( )
3. First Degree/HND ( )
4. Diploma/NCE ( )
5. Others ( )

Q4- What is your Monthly Income?

1. #20,000- #50,000 ( )

2. #50,001- #100,000 ( )

3. #100,001- #200,000 ( )

4. #200,001and above ( )

PART II

Below are lists of statement that relates to your assessment on ***the Effect of Blockchain Technology on Auditing Practices in Nigeria***. Kindly indicate your responses on a scale which ranges from Strongly Disagree to Strong Agree;

S\n	STATEMENTS	SD	D	UD	A	SA
	Adoption of Blockchain Technology	1	2	3	4	5
1	Blockchain technology has been widely integrated into auditing processes in Nigerian firms.					
2	Auditors in Nigeria are actively using blockchain technology to verify financial transactions.					
3	The use of blockchain technology has significantly improved the efficiency of auditing procedures in Nigeria.					
4	Nigerian auditing firms have made substantial investments in adopting blockchain technology.					
5	Auditors in Nigeria have a comprehensive understanding of how to utilize blockchain technology effectively.					
	Factors that influence the adoption of blockchain technology in auditing practices in Nigeria	**1**	**2**	**3**	**4**	**5**

6	I believe that the availability of skilled professionals who understand blockchain technology affects its adoption in auditing practices in Nigeria.					
7	The cost-effectiveness of implementing blockchain technology influences its adoption in auditing practices in Nigeria.					
8	Regulatory support and clarity regarding the use of blockchain in auditing impact its adoption in Nigeria.					
9	The level of awareness and understanding of blockchain technology among auditors in Nigeria affects its adoption.					
10	The compatibility of blockchain technology with existing auditing systems influences its adoption in Nigeria.					
	Challenges associated with the adoption of blockchain technology in auditing practices in Nigeria	**1**	**2**	**3**	**4**	**5**
11	Implementing blockchain technology in auditing processes poses significant hurdles due to resistance to change among traditional auditors.					
12	The complexity of integrating blockchain technology into existing auditing frameworks presents a considerable barrier for adoption.					

13	Ensuring the interoperability of blockchain solutions with existing auditing software and systems is a major challenge in Nigeria.					
14	The lack of skilled professionals with expertise in both auditing and blockchain technology impedes the adoption process.					
15	Addressing security concerns and ensuring data privacy in blockchain-based auditing systems is a critical challenge.					
	Transparency feature of blockchain technology	**1**	**2**	**3**	**4**	**5**
16	The ability of blockchain technology to provide real-time visibility into transactions enhances audit trail accuracy.					
17	Blockchain's inherent immutability ensures that audit records are tamper-proof, improving transparency in auditing practices.					
18	The transparent nature of blockchain technology allows auditors to verify the authenticity of data without relying on intermediaries.					
19	The decentralized nature of blockchain ensures transparency by eliminating the need for a central authority to oversee transactions.					
20	Blockchain's transparency feature facilitates easy access to transaction histories,					

	promoting accountability in auditing processes.					
	Immutability feature of blockchain technology	**1**	**2**	**3**	**4**	**5**
21	The ability of blockchain technology to securely record and store transactions without the risk of alteration is crucial for enhancing auditing practices in Nigeria.					
22	The permanent and tamper-proof nature of blockchain records ensures a higher level of trust and reliability in auditing processes within the Nigerian context.					
23	The immutability feature of blockchain technology provides a solid foundation for auditors to verify the integrity and accuracy of financial data in Nigeria.					
24	Leveraging the unchangeable nature of blockchain transactions can significantly reduce the incidence of fraud and errors in auditing procedures in Nigeria.					
25	The inherent immutability of blockchain data empowers auditors in Nigeria to conduct more efficient and thorough examinations of financial records.					
	Auditing Practices	**1**	**2**	**3**	**4**	**5**
26	The implementation of blockchain technology					

	has improved the efficiency of data verification in auditing procedures.					
27	Blockchain technology has facilitated greater transparency and accuracy in financial reporting processes.					
28	The adoption of blockchain technology has reduced the occurrence of errors and discrepancies in auditing activities.					
29	Auditors find it easier to track and trace financial transactions with the utilization of blockchain technology.					
30	Blockchain technology has enhanced the reliability and integrity of audit evidence collected during engagements.					

Thank you for your participation!!!!