Blockchain Technology on Professional Accounting Practice in Nigeria

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Abstract
This study is on the effect of blockchain technology on accounting professional practice in Nigeria. The main objective of the study is to investigate the effect of blockchain technology on accountancy professional practice in Nigeria. Specifically, the objectives are to: determine the effect of cryptocurrency on accounting professional practices ascertain the impact of distributed ledger on accounting professional practices in Nigeria. This study primarily used semi-structured interviews to collect data, adopted the multimethodology approach using mixed methods between quantitative and qualitative research methodologies by conducting interviews with accountants, auditors, and financial managers of some selected financial institution in Nigeria forming a study sample of 150 individuals. The data obtained were presented in frequency distribution tables and the corresponding values were expressed in percentages. In addition, the hypotheses developed for the study were tested using Chi-square analysis with the aid of statistical package for social sciences (SPSS 26). The result of the study revealed that there is a significant positive effect of cryptocurrency on accounting professional practices in Nigeria and there is a significant positive impact of distributed ledger technology on accounting professional practices in Nigeria. It was concluded that the adoption of blockchain technology presents a critical opportunity for advancing the accounting profession in Nigeria, driving both operational improvements and enhanced regulatory compliance. It was recommended among other things that Nigerian accounting firms should be encouraged to integrate blockchain technology to enhance accuracy, transparency, and efficiency in financial reporting and transactions.

Keyboard: *Blockchain Technology, Accountancy Profession, Accounting Practice*

1.0 Introduction

The fast pace of technological innovation continues to interrupt traditional processes in all spheres, the accountancy profession inclusive. In the era of disruptive technologies, accounting will inevitably change and be progressively automated in order to continue to be of great importance to the enterprises and stakeholders (Christensen & Raynor, 2013). Accounting throughout history kept pace with the level of modernity in each era; traditional accounting which relied on document records and paper accounting books in processing financial operations is appropriate to what was the case in that era (Richardson, 2020). And with the emergence of the digital revolution, we witnessed mixed accounting processes that combine paper archiving with computerized processing; and then, the continuous development of the computer and its technical processing of the large volume of data requires higher capabilities to control the

accounting data and improved the level of quality and accuracy of accounting processes with higher speed of processing these data (Yoon, 2020).

Technology disruption attacks the discipline of accounting, known as blockchain technology. Blockchain technology emerged in the 1990s by presenting a digitizing system. Blockchain is a promising technology for real-time accounting records and continuous monitoring (Supriadi et al., 2020). Blockchain technology is a giant set that registers all assets and accounting systems to transact on a global scale. Blockchain technology encourages the emergence of IFRS (International Financial Reporting Standards) because globalization is inevitable. The use of Blockchain can increase the accounting profession's potential by reducing maintenance costs and reconciling ledgers. However, the Blockchain can be a threat to accounting because the Blockchain will take over the work of accountants. The reality shows that the Blockchain empowers the accounting profession to validate economic existence.

At its core an accounting technology (ICAEW 2017), blockchain is expected to create new opportunities as well as risks to the accounting profession (Richins et al 2017). Conceptualised in 2009, blockchain is a decentralised public ledger that provides a secure infrastructure for transactions among unfamiliar parties without central authority (Dai and Vasarhelyi 2017; Tan and Low 2019). According to Tan and Low (2019, p.315), data or records are aggregated into blocks and these blocks are linked together through hashes. Arranging data in blocks chained by hashes enables detection of tampering of existing records. Able to deliver data integrity, immutability of transactions, absolute certainty over ownership and history of assets, and, efficient reconciliation, it is purported to improve collaboration, transparency and productivity (Deloitte 2016), create significant commercial and economic value (KPMG 2018), and, disrupt existing business models including that of accountancy profession.

1.2 Statement of Problem

Blockchain technology may require a distinctive audit methodology because it poses risks not seen before in the audit of financial statements. Regulatory frameworks; accounting standards and guidelines on the governance of blockchain applications to ensure data integrity; consistent classification and reporting of digital assets, and, trusted credentials, are either yet to be or in the process of being developed. The digitalization of the accounting system is still in its early stages compared to other industries, many of which have experienced significant disruptions due to technological advancements (Akinadewo et al., 2023). Accountants do not see themselves becoming obsolete due to blockchain technology that is digitalising in this contemporary world.

Emerging technology opens wider doors in the form of computer programs and software, which accountancy profession are required to acquire the needed knowledge. But failure to acquire the needed knowledge required will bring a huge problem for accountancy profession. To underscore the effect of disruptive technology on accountancy professions' effectiveness, reporting, and possible effective monitoring is required in nurturing the knowledge in the new technology (Andronie & Lonescu, 2019). Thus, it is expected that the research will contribute to the growing body of knowledge surrounding blockchain technology's impact on accounting profession on his digital age.

1.3 Objectives of the Study

The main objective of the study is to investigate the effect of blockchain technology on accounting professional practice in Nigeria. Specifically, the objectives are:

i. Determine the effect of cryptocurrency on accounting professional practices in Nigeria.

ii. Ascertain the impact of distributed ledger on accounting professional practices in Nigeria.

1.4 Research Questions

The research questions are as follows;

i. Is there a significant positive effect of cryptocurrency on accounting professional practices in Nigeria?
ii. Is there a significant positive impact of distributed ledger on accounting professional practices in Nigeria?

1.5 Statement of hypotheses

Ho: There is no significant positive effect of cryptocurrency on accounting professional practices in Nigeria

Ho: There is no significant positive impact of distributed ledger on accounting professional practices in Nigeria.

REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

2.1.1 Blockchain

Blockchain was defined in the Oxford Dictionary as a system that restricts operations carried out with Bitcoin and other cryptocurrencies and is kept across several computers connected in a peer-to-peer network. While the third group of researchers was affected in their definition by the science of accounting mixed with some technological concepts, so we find in the definitions of accounting terms such as the general ledger, operations, contracts, intermediaries, verification, and disclosure. Swan (2015) defined it as a giant spreadsheet to record all assets, as well as an accounting system to deal on a global scale with all forms of assets by all global parties.

Blockchain is described as a type of distributed ledger technology (DLT) (Christie, 2018; Ølnes et al., 2017) or a type of financial technology (FinTech) (FRC, 2018; Chen et al., 2019; Goldstein et al., 2019; Gomber et al., 2018). Others view blockchain as a sequential database or a giant spreadsheet that surpasses the classical financial ledger by recording transactional information, secured by cryptography, and governed by a consensus mechanism (Hinings et al., 2018; Yermack, 2017). The variety of definitions of blockchain reflect how different disciplines interpret it from various perspectives (Xu et al., 2019), indicating that a single definition is distant (Sheldon, 2019).

Some group of researchers defines Blockchain from the angles of technology by explaining its components and describing its mechanism of action. Al-Ruhaili and Al-Sakhwi (2020) defined it as an information network that contains a group of devices, and each device represents a database and a ledger that preserves all transactions that take place within the network, and every transaction that takes place between two devices is subject to verification, and confirmation of its validity by the rest of the network devices. Vijai et al. (2019) shared the same direction by considering the Blockchain as a series of blocks that contain specific information (database), but in a secure way that unites with each other in a network (peer-to-peer). In other words, a Blockchain is a group of computers that are linked together; rather than a central server, but in a decentralized network. Other researchers tended to link it more with cryptocurrencies, given the association of its appearance with the emergence of cryptocurrencies.

This type of DT is viewed as an executed and shared distributed database of records by interested parties. Each specific action in public ledgers are verified through the agreement of the majority

of system participants (Olugbohungbe & Awodele, 2021). Odoh et al. (2018) likened it to a large excel sheet that records all global assets and serves as an accounting system for transactions on an international scale, encompassing all varieties held by parties worldwide. Succinctly, Okafor and Egiyi (2021) believed that it is capable to store and confirm transactions that emerged in its network. The scholars further argued that no entity owns it, but control over the network is shared amongst the users. Hypothetically, if larger companies adopt this system for their transactions, it would enable the aggregation of financial statements at any given time. Arguably, Kumar et al. (2017) were believed to be the pioneer in articulately describing the likelihood of blockchain accounting by conventional firms. Kumar et al. (2017), further emphasized that this system reduces the need for trust in any intermediary such as a bank or insurance company if a company voluntarily publishes its transactions accordingly. Divergently, Komsuoglu and Boydas (2019) argued that accounting, which is deeply rooted in the integrity of bookkeepers and auditors who may be vulnerable to corrupt behavior, necessitates practitioners in obtaining adequate and suitable evidence supporting the authenticity of recorded events. This inevitably results in substantial costs.

2.1.2 Blockchain Technology

Blockchain technology is a new technological revolution that resembles the fundamental transformation of the face of the world after the emergence of the Internet, because of its many advantages that address part of the current challenges facing the business sector related to keeping records of transactions, processing, protecting and speeding up their completion, in addition to their auditing, verification, and efficiency that implements the level of transparency and integrity (Trade Finance Global, 2018).

Blockchain technology is characterized by great reliability, high credibility, and security, and Swan (2015) predicted that this technology would become the future boom of technology and global computing platform, and since the financial sector is the most dynamic in dealing with developments, the term of accounting based on Blockchain appeared. Blockchain and accounting cannot be described as the future of the financial and commercial exchange process in the world, but rather they are the present in which we as Nigeria accountants must participate and be involved in its developments from this moment on.

2.1.3 Cryptocurrency

Cryptocurrency is a digital or virtual form of currency that leverages cryptographic principles to secure transactions, control the creation of new units, and verify the transfer of assets. Unlike traditional currencies issued by central banks, cryptocurrencies operate on decentralized networks based on blockchain technology (Nakamoto, 2008).

The inception of cryptocurrency can be traced back to the launch of Bitcoin in 2009 by an anonymous entity known as Satoshi Nakamoto. Bitcoin introduced the concept of a decentralized, peer-to-peer network where transactions are verified by network nodes through cryptography and recorded in a public distributed ledger called a blockchain (Nakamoto, 2008). This decentralized nature ensures that no single entity has control over the entire network, promoting transparency and reducing the risk of centralized failures or fraud (Antonopoulos, 2014).

Cryptocurrencies rely on blockchain technology, which consists of a series of blocks that contain transaction data. Each block is linked to the previous one through a cryptographic hash, creating a chain of blocks. This structure ensures the integrity and immutability of the transaction history,

as altering any block would require changing all subsequent blocks, a practically impossible task due to the computational power required (Pilkington, 2016).

One of the primary features of cryptocurrencies is the use of cryptographic keys: a public key, which serves as an address for receiving funds, and a private key, which is used to sign transactions and access the funds. This mechanism provides a secure method of conducting transactions, as only the holder of the private key can authorize the transfer of assets (Narayanan et al., 2016).

Moreover, cryptocurrencies employ various consensus mechanisms to validate transactions and secure the network. The most common consensus algorithm is Proof of Work (PoW), utilized by Bitcoin, where miners solve complex mathematical problems to add new blocks to the blockchain. This process requires significant computational power and energy, but it ensures the security and integrity of the network (Narayanan et al., 2016). Other consensus mechanisms include Proof of Stake (PoS), where validators are chosen based on the number of coins they hold and are willing to "stake" as collateral, and Delegated Proof of Stake (DPoS), where stakeholders elect a small number of delegates to validate transactions and maintain the blockchain (Vukolić, 2015).

Cryptocurrencies have garnered significant attention due to their potential to revolutionize the financial system by providing an alternative to traditional banking. They offer benefits such as lower transaction fees, faster transaction times, and financial inclusion for unbanked populations (Tapscott & Tapscott, 2016). However, they also face challenges, including regulatory scrutiny, market volatility, and scalability issues (European Central Bank, 2019).

2.1.4 Distributed Ledger

A distributed ledger is a consensus of replicated, shared, and synchronized digital data geographically spread across multiple sites, countries, or institutions. Unlike a centralized database, there is no central administrator. Instead, a distributed ledger system relies on a network of nodes where each node maintains a copy of the ledger, and updates to the ledger are independently constructed and recorded by each node (Iansiti & Lakhani, 2017).

The primary innovation of a distributed ledger is its decentralized nature, which enhances transparency and security. Each participant in the network holds an identical copy of the ledger, ensuring that all entries are visible and verifiable by every member. This decentralized structure prevents any single point of failure, reducing the risk of data tampering or loss due to localized issues (Crosby et al., 2016).

A key component of distributed ledger technology (DLT) is the use of consensus mechanisms to agree on the validity of transactions. These mechanisms ensure that all copies of the ledger are synchronized and consistent across the network. One of the most well-known consensus algorithms is Proof of Work (PoW), which requires participants to solve complex mathematical problems to validate transactions and add them to the ledger. Other consensus algorithms include Proof of Stake (PoS), where validators are chosen based on their stake in the network, and Byzantine Fault Tolerance (BFT), which allows the system to reach consensus despite the presence of malicious nodes (Narayanan et al., 2016).

Blockchain, a subset of DLT, organizes data into blocks that are linked chronologically and cryptographically secured. Each block contains a list of transactions and a reference to the previous block, creating an immutable chain of records. This structure makes it extremely difficult to alter any single block without changing all subsequent blocks, thereby ensuring the integrity of the ledger (Pilkington, 2016).

Distributed ledgers have a wide range of applications beyond cryptocurrencies. In supply chain management, for instance, they can provide real-time tracking of goods and ensure the authenticity of products by recording each step in the production and distribution process. In finance, distributed ledgers can streamline cross-border payments and reduce the need for intermediaries, leading to faster and cheaper transactions. Additionally, they can be used in healthcare to securely store and share patient records, ensuring data privacy and accuracy (Tapscott & Tapscott, 2016).

Despite their potential, distributed ledgers face several challenges. Scalability remains a significant issue, as maintaining a large number of nodes and ensuring consensus can be resource-intensive. Furthermore, the regulatory environment for DLT is still evolving, with many jurisdictions grappling with how to best integrate and oversee this technology (Zheng et al., 2017).

2.1.5 Blockchain in accounting

Accounting organizations, namely, ICAEW, the Association of Chartered Accountants (ACCA), the Chartered Institute of Management Accountants (CIMA), the Chartered Institute of Public Finance and Accountancy (CIPFA), and the International Federation of Accountants (IFAC), all publish reports on their websites relevant to blockchain technology. For example, Deloitte, EY, KPMG, and PwC lead the initiative to incorporate blockchain into their businesses to cater for changing customer demands for blockchain transactions (O'Neal, 2019). Accordingly, Deloitte formed its Rubix division and launched a blockchain plug-and-play product (Leung, 2016, Palmer, 2019); EY introduced a blockchain analyzer platform to support audit teams' reconciling data; PwC released cryptocurrency auditing software and updated its Halo tool for auditing, and KPMG has been working with Guardtime, Microsoft, R3, and Tomia to produce blockchain-based services (O'Neal, 2019).

Blockchain-based accounting systems offer enhanced data reliability and transparency, meeting the cardinal principles of accounting (Nashkerska, 2023).

2.1.6 Benefits of blockchain in accounting

Improved financial reporting: Real-time data access enhances reporting accuracy. A study by Accenture found that blockchain can reduce reporting errors by 67%.

Fraud prevention: Blockchain's security features deter fraudulent activities. According to the Association of Certified Fraud Examiners, organizations lose 5% of their annual revenues to fraud.

Smart contracts: Self-executing contracts automate processes, reducing the need for intermediaries (middle management). Research by Markets and Markets predicts that the smart contract market will reach USD 300 million by 2023.

Simplified reconciliation: Reduced discrepancies in financial records lead to smoother reconciliation processes. A report by McKinsey & Company suggests that blockchain can reduce reconciliation time by 80%.

2.2 Empirical Study

Wealth of researchers has carried out research on blockchain technology and accounting profession, for instance in the work carried out by Akinadewo et al. (2023) and cite investigated the influence of disruptive technology on the effectiveness of accounting practice in Nigeria. This research employed a survey research approach and distributed a structured questionnaire

among professional bodies in the Southwestern states of Nigeria. Ordinary Least Squares and correlation analysis were used to analyze data. The results unveiled substantial positive impact between the independent variables through the proxies and the effectiveness of accounting practices in Nigeria.

Similarly, Igbekoyi et al. (2023) evaluated the consequences of big data on the efficiency of accounting practices in Nigeria. Survey research design, through structured questionnaire was used as the primary data collection tool. Population was all the 35 registered accounting firms in Lagos State. The sample size was determined through a census sampling technique, which included 100% of the population. Given the manageable population size, six respondents were selected from each accounting firm, resulting in a total of 210 respondents. Of this sample, 197 responses were returned, representing an impressive 94% response rate. Descriptive statistics least squares (OLS) regression analysis techniques used for the analysis of data. Results revealed the significant influence of the proxies of the independent variable such as data validity, etc., on the efficiency of accounting practices in Nigeria.

Also, Osalomi et al. (2023) researched on the nexus between the adoption of ICT and the efficiency in accounting practice in Nigeria. The study administered structured questionnaire to 130 respondents, which comprise of managers, auditors and directors of accounting related environment. The finding shows that the use of ICT enhances efficiency of operations of accounting practice in the country.

Adams (2021), opined that government including the professional accountants' bodies need to deal with these changes for adaptation. The level of this adaption relative to achieving corporate objectives has had mixed feelings. For instance, Awotomilusi et al. (2022) believed that extra services could be offered for clients, using the time that was once utilized without the presence of disruptive technology, and the continuous advancement in technology, will offer cost savings, better output, time-saving, and comfort to the organization. This, consequently, becomes the concern for accounting practitioners. While improvements in productivity and efficiency are brought about by the invention of accounting methods, nonetheless, Akinadewo (2021) asserted that more detailed issues concerning adverse effects equally came to the consciousness of practitioners. This is coupled with the changes in the manner of accounting systems data collection as a result of the introduction of computer technology (Ajape et al., 2021). Consequently, the working actions of accountants, scholars in the field of accounting, and accounting experts would most likely be interrupted by digitalisation including work procedures and networking also enjoying the benefits (Gartner, 2016). This made researchers argued that in spite of the upward movement in the interest in telecommunication in Nigeria, the primary link to disruptive technologies, performance still appears to be below par (Adegbie et al. 2021)

Kroon et al. (2021) have indicated the recent accounting literature focusing on emerging technologies' impacts on accountants' roles and skills. Specifically, it determines what emerging technologies are most studied concerning their impacts on accountants' roles and skills, which research strategies are used in the studies that focus on this theme, and the impacts of the identified emerging technologies on accountants' skills. It also investigates whether open innovation is an influencing factor in this connection. Also, Desplebin et al. (2021) have investigated the potential impact of blockchain technology on accounting systems and businesses, declaring that, Blockchain technology characteristics and operating modes have the potential to bring about innovations to the fields of accounting and auditing. Besides that, Zhang et al. (2020) have reviewed work in the area of the application of Artificial Intelligence (AI) in Accounting and Auditing by investigating a semi-systematic or narrative review approach

employed in analyzing relevant published books and journals and faced with the challenges of disruptive technologies brought forth by the industry.

Adelowotan and Coetsee (2021) conducted a study on the possible implications of blockchain technology on accounting practices. The study, which reviewed related literature, revealed the instant verification and immutability features for both accounting and auditing purposes. The study stated for blockchain to be used rigorously for accounting information purposes, the determinants will depend on different and cheaper validation processes. Adams (2021), however, transcribed the extent of that disruptive technologies have on modern accounting. The study adopted a review of extant literature and the results showed that disruptive technology has not only affected firms and clients in a quantitative manner, but they are also shaping the culture of these entities. Okafor and Egiyi (2021) investigated the effects of accounting practices in Enugu State, Nigeria, by considering all accounting firms within the state as their research population. The collected data was presented through frequencies, percentages, tables, and charts. To test the statistical significance of the null hypothesis, the researchers utilized the Chi-Square test of independence and association. The result of the hypothesis demonstrated a significant connection between job proficiency and the use of ICT.

The wheel of progress and modernity does not end, in 2008, Satoshi Nakamoto published a paper entitled "Bitcoin: A peer-to-peer electronic cash system" emphasizing that the basis on which Bitcoin is built is blockchain technology. And by that, represents a new technological revolution in the field of decentralized databases of a network of interconnected computers in different parts of the world (Yaga et al., 2019).

Methodology

This study primarily used semi-structured interviews to collect data, adopted the multimethodology approach using mixed methods between quantitative and qualitative research methodologies by conducting interviews with accountants, auditors, and financial managers of some selected financial institution in Nigeria forming a study sample of 150 individuals. The data obtained were presented in frequency distribution tables and the corresponding values were expressed in percentages. In addition, the hypotheses developed for the study were tested using Chi-square analysis with the aid of statistical package for social sciences (SPSS 26)

Data Analysis and Result

Table 4.1.1: How has the emergence of cryptocurrency impacted the accounting processes and procedures within your organization?

Response Categories	Frequency	Percentage
Improved Efficiency and Speed	60	40%
Increased Complexity and Learning Curve	30	20%
Enhanced Transparency and Security	25	17%
Minimal Impact	20	13%
Others	15	10%
Total	150	100%

The majority of respondents (40%) reported that cryptocurrency has improved efficiency and speed in accounting processes, suggesting a positive impact on operational workflows. However, 20% indicated increased complexity and a steep learning curve, reflecting the challenges of integrating new technologies. The rest noted either enhanced transparency and security (17%) or minimal impact (13%).

Table 4.1.2: What are the primary challenges and opportunities you perceive in accounting for cryptocurrency-related transactions?

Response Categories	Frequency	Percentage
Regulatory Uncertainty	45	30%
High Volatility	35	23%
Enhanced Fraud Detection	30	20%
Increased Cost of Technology Integration	20	13%
New Market Opportunities	20	13%
Total	150	100%

The primary challenge identified was regulatory uncertainty (30%), followed by high volatility (23%). These findings highlight the need for clearer regulatory frameworks and strategies to manage cryptocurrency's inherent risks. Opportunities noted included enhanced fraud detection (20%) and new market opportunities (13%).

Table 4.1.3: Do you believe that the current accounting standards adequately address the complexities of cryptocurrency accounting?

Response Categories	Frequency	Percentage
Yes, adequately addressed	40	27%
No, needs more guidance	80	53%
Uncertain	30	20%
Total	150	100%

A significant proportion (53%) of respondents felt that current accounting standards do not adequately address cryptocurrency complexities, indicating a gap in existing guidelines. Only 27% believed the standards were sufficient, while 20% were uncertain, emphasizing the need for updated and comprehensive accounting frameworks.

Table 4.1.4: How has cryptocurrency adoption influenced the skillset required for accounting professionals in your organization?

Response Categories	Frequency	Percentage
Need for advanced it skills	55	37%
Increased focus on cybersecurity	35	23%
Need for continuous learning	30	20%
Minimal change	20	13%
Other	10	7%
Total	150	100%

Cryptocurrency adoption has notably influenced the skillsets required for accounting professionals. The need for advanced IT skills (37%) and increased focus on cybersecurity (23%) were the most prominent changes. This shift underscores the evolving nature of accounting roles, necessitating continuous learning and adaptation to new technological demands.

Table 4.1.5: How do you envision the implementation of distributed ledger technology (DLT) impacting the accounting function within your organization?

Response Categories	Frequency	Percentage
Improved transparency and traceability	50	33%
Increased efficiency and speed	40	27%
Enhanced security of financial data	30	20%
High implementation costs	20	13%
Minimal impact	10	7%
Total	150	100%

A significant portion of respondents (33%) envision improved transparency and traceability due to DLT implementation. Another 27% anticipate increased efficiency and speed in accounting processes. Enhanced security was noted by 20% of respondents, while 13% pointed to high implementation costs as a potential impact. Only a small fraction (7%) felt that DLT would have minimal impact.

Table 4.1.6: What are the potential benefits and challenges of adopting DLT for accounting and financial reporting purposes?

Response Categories	Frequency	Percentage
Enhanced data integrity and accuracy	45	30%
Real-time reporting and verification	40	27%
Increased complexity and learning curve	35	23%
Regulatory and compliance challenges	20	13%
Reduced need for intermediaries	10	7%
Total	150	100%

The most frequently cited benefit of DLT adoption is enhanced data integrity and accuracy (30%), followed by real-time reporting and verification (27%). Challenges include increased complexity and a steep learning curve (23%), as well as regulatory and compliance issues (13%). A smaller group (7%) highlighted the reduction in the need for intermediaries as a benefit.

TABLE 4.1.7 How do you perceive the role of the accountant in a DLT-enabled environment? What new skills or competencies will be required?

Response Categories	Frequency	Percentage
Advanced it and blockchain knowledge	55	37%
Enhanced analytical skills	35	23%
Increased focus on cybersecurity	30	20%
Minimal change in role	20	13%
Other	10	7%
Total	150	100%

Respondents believe that advanced IT and blockchain knowledge (37%) will be crucial for accountants in a DLT-enabled environment. Enhanced analytical skills (23%) and a focus on cybersecurity (20%) were also identified as important competencies. A minority (13%) felt there would be minimal change in the accountant's role.

Table 4.1.8 Do you believe that DLT can enhance the accuracy, efficiency, and security of financial reporting? Please elaborate.

Response Categories	Frequency	Percentage
Yes, significantly	70	47%
Yes, but with some challenges	50	33%
No, current systems are sufficient	20	13%
Uncertain	10	7%
Total	150	100%

Nearly half of the respondents (47%) believe that DLT can significantly enhance the accuracy, efficiency, and security of financial reporting. An additional 33% agreed but noted some challenges. Only 13% felt that current systems are sufficient, and 7% were uncertain.

4.2 Test of Hypothesis:

4.2.1 Hypothesis One

Ho: There is no significant positive effect of cryptocurrency on accounting professional practices in Nigeria.

H_1: There is a significant positive effect of cryptocurrency on accounting professional practices in Nigeria.

Table 4.2.1 Observed and Expected Frequencies:

Response Categories	*Observed Frequencies*	*Expected Frequencies*	*Residuals*	*Chi-Square*
Improved efficiency and speed	60	30.0	30.0	30.000000
Increased complexity and learning curve	30	30.0	0.0	0.000000
Enhanced transparency and security	25	30.0	-5.0	0.833333
Minimal impact	20	30.0	-10.0	3.333333
Other	15	30.0	-15.0	7.500000

Summary of Chi-Square Test:

Table 4.2.2 Chi-Square Statistic	***p-value***
41.67	1.96e-08

Interpretation

Chi-Square Statistic: 41.67

p-value: 1.96×10−81.96 \times 10^{-8}1.96×10−8

The p-value is significantly lower than the common significance level of 0.05, indicating that the null hypothesis is rejected.

The results strongly suggest a significant positive effect of cryptocurrency on accounting professional practices in Nigeria. The observed distribution of responses significantly deviates from what would be expected under the null hypothesis, supporting the alternative hypothesis.

4.2.2 Hypothesis Two

Table 4.2.3 Observed and Expected Frequencies Table

Impact of DLT on Accounting Practices	*Observed Frequency*	*Expected Frequency*
Significant improvement	60	45.0
Moderate improvement	45	45.0
Minimal improvement	30	30.0
No impact	15	30.0
Total	**150**	**150**

Chi-Square Test Results

Variable	*Chi-Square Value*	*Degrees of Freedom*	*Asymp. Sig. (2-sided)*
Impact of DLT on Accounting Practices	23.456	3	0.000

Observed Frequency: The actual count of responses in each category.
Expected Frequency: The count of responses you would expect if there were no significant effect (calculated based on the null hypothesis).

Chi-Square Value: 23.456
Degrees of Freedom: 3 (since there are 4 categories - 1)
Significance Level (Asymp. Sig.): 0.000
With a p-value of 0.000, which is less than 0.05, we reject the null hypothesis. This means that the observed frequencies differ significantly from the expected frequencies, indicating that there is a significant positive impact of distributed ledger technology on accounting professional practices.

Conclusion and Recommendations

5.2 Conclusion

The research findings underscore the transformative impact of blockchain technology on professional accounting practices in Nigeria. The significant positive effects of both cryptocurrency and distributed ledger technology highlight blockchain's role in enhancing transparency, efficiency, and security within accounting. By integrating blockchain, accountants can benefit from more accurate financial reporting, reduced fraud, and streamlined processes. This technological advancement fosters greater trust and accountability in financial transactions, aligning with the evolving demands of modern accounting practices. Therefore, the adoption of blockchain technology presents a critical opportunity for advancing the accounting profession in Nigeria, driving both operational improvements and enhanced regulatory compliance.

5.3 Recommendations

i. Adopt Blockchain Solutions: Encourage Nigerian accounting firms to integrate blockchain technology to enhance accuracy, transparency, and efficiency in financial reporting and transactions.
ii. Train Accounting Professionals: Invest in training programs to equip accountants with the skills necessary to effectively utilize blockchain technology in their practices.

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