

The Perceive Impact of Using Blockchain on Accounting Information Systems (A Field Study)

Nehad Hosny Yusuf^{1*}, Hend Mohamed Elgameel¹, Nouf Tarek Mohamed¹, Mohammed Farouk Hafez¹

¹ *Accounting Department, Faculty of Management, Economics and Business Technology, Egyptian Russian University, Badr City, Cairo-Suez Road, 11829, Cairo, Egypt.*

*Corresponding author(s): Nehad Hosny Yusuf, E-mail: Nehad.yusuf@eru.edu.eg

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ABSTRACT

The study defines blockchain technology, tracks its wide range of applications, and examines its accounting implications and possible uses. Blockchain concepts and their most essential accounting consequences were explored descriptively to demonstrate the technology's importance for automated accounting system dependability and usability. About 80 accountants from commercial firms, the National Bank of Egypt, and students were polled in two profession-based groups. The findings suggest that Egyptian accountants and students should be assessed for blockchain understanding to help them adopt sophisticated, technology-driven accounting information systems. The paper also examines how these changes affect accounting systems and applications. Purposive or convenience sampling was used to pick 80 accountants and students. Blockchain awareness surveys and questionnaires collect data. Frequencies and means describe respondents' awareness. T-tests and ANOVA compare groups, while analyze profession-awareness correlations. This study examined the potential of blockchain technology to enhance accounting standards. Blockchain has the potential to save costs, enhance accuracy, and augment auditability; nevertheless, constraints included sample size and empirical data. Subsequent investigations utilizing larger samples and empirical methodologies may validate these conclusions.

Keywords: Blockchain technology, XBRL, cryptocurrency, smart contract

1- Introduction

Block chain technology has recently gained worldwide attention across sectors as a technology that has the ability to revolutionize business, however most people have undoubtedly heard of block chain technology in the context of cryptocurrencies such as bitcoin and Ethereum [1]. The Emergence of Blockchain: A New Accounting Paradigm The introduction of blockchain technology signals the beginning of a revolutionary period in accounting, marked by a move toward increased efficiency, security, and transparency in financial operations. Decentralized ledger technology, or blockchain, is revolutionizing traditional accounting procedures by posing a fresh perspective that tackles persistent issues like fraud, human error, and data manipulation [2]. The intrinsic qualities of blockchain hold the key to its potential to completely transform accounting procedures. The technology makes transaction records safe and unchangeable, which drastically lowers the likelihood of mistakes and fraud. This is made possible by sophisticated encryption and the blockchain's built-in consensus mechanism, which guarantees that every entry is confirmed and that once it is recorded, it cannot be undone [3]. The emphasis is gradually shifting towards the development of real commercial applications, Furthermore the environment is fast evolving as blockchain is being employed in a variety of industries such as banking, telecommunications, healthcare, supply chain, insurance, and education [4]. While the technology is new, numerous parties have emerged to offer a blockchain platform, Google is the most recent and significant industry to enter the blockchain sphere [5]. The blockchain is a distributed database that contains records of all transactions or digital events that have occurred and are shared among participants. Each transaction is confirmed by the majority of system participants; it contains every single transaction record. Bitcoin is the most well-known cryptocurrency and an example of a blockchain. Blockchain technology initially came to light when a person or group of people [6].

1-1 Block chain and Accounting information system

Accounting information systems are open systems that are influenced by the environment in which they operate, necessitating the need for accounting information systems to operate continuously and continuously to take advantage of all developments in areas related to the nature of its work in general and the environment in which it operates in particular. especially in the corporate environment With the

many and subsequent improvements in the IT environment, as well as the expansion of its usage and exploitation in the business environment, and the direct impact on accounting data system practice, it is vital to study the potential of employing new technologies, The Blockchain is one of the most recent innovations in the field of information technology in the function of financial data systems, which serve as the basic basis in accounting work in the multiple sectors in which it functions [7], [8] Based on the above, the objective of this study is to have a complete understanding of how BT has been utilized by organizations for accounting for this reason, the research in the Egyptian companies explores the essential variables that may influence an organization's decision to utilize blockchain in accounting. Furthermore, Identifying and analyzing the components that serve as both facilitators and hurdles to the decision to utilize technology is one of the acknowledged strategies for understanding technology adoption inside an organization. Also, to get insight into the research issue, this study proposes to analyze the decision determinants impacting organizational adoption of blockchain accounting.

1-2 Blockchain and Accounting

Blockchain is a revolutionary advancement in the field of information technology that is drastically altering the digital paradigm. This technology lays the groundwork for enormous changes in several industries, including accounting, by offering levels of security, transparency, and decentralization never before possible. Blockchain technology has many benefits, but there are still obstacles in the way of its application in accounting information systems. Blockchain technology offers the potential to improve security, efficiency, and transparency in accounting information systems [9]. The exploratory study offers empirical information about the adoption of blockchain technology in accounting at the organizational level. The results, which are based on the TOE framework, offer a thorough explanation of nine variables that have a direct impact on organizations' intentions to adopt blockchain accounting as well as the potential for these variables to interact and have an impact. Our research revealed that the primary issues were the growing expenses, the difficulty of integrating blockchain technology with current accounting systems, and the lack of awareness regarding the applications and advantages of blockchain in accounting. To lessen the ambiguities and obstacles surrounding adoption, all parties involved must receive education and

training. However, since blockchain's value in accounting is still largely "hypothetical" at this point, the findings emphasize the significance of pilot projects to familiarize prospective adopters with the technology. Overall, our findings support the notion that an organization's intention to adopt blockchain in accounting is not merely technological. It also requires support and knowledge from different levels of the organization and needs to be propelled by actors in the external environment. This study extends the research on blockchain accounting and paves the way for further empirical research in the blockchain accounting domain. All in all, our results lend credence to the idea that an organization's decision to use blockchain technology for accounting is about more than just technology. It also needs to be driven by players in the outside world and needs assistance and expertise from various organizational levels. This work adds to the body of knowledge on blockchain accounting and opens the door for more empirical research in this area [10]. Financial accounting has undergone a substantial transformation driven by the amalgamation of blockchain, artificial intelligence, and machine learning advancements. Significant improvements in operational effectiveness, security protocols, and general accounting process transparency have been made possible by these technologies. They have improved functions related to data entry, risk evaluation, and fraud detection. Even with ongoing scalability and regulatory compliance issues, the combination of these developments has great potential to transform the field of financial accounting. Future research should concentrate on making blockchain more scalable, developing uniform regulations, safeguarding security, privacy, and conducting more real-world trials of these technologies' application in financial accounting. These initiatives will maximize and improve the advantages of this special combination [11].

The "Blockchain in U.S. Accounting" study produced important new information about how blockchain technology can revolutionize accounting practices by improving transparency and integrity. The study's conclusions are categorized under four main headings: Blockchain technology has been shown to be a potent catalyst for improving accounting practices' transparency and integrity. Financial transactions and record-keeping are made more secure and reliable by virtue of its decentralized structure and the immutability of its records. Blockchain adoption in accounting has demonstrated promise in lowering fraud, errors, and inefficiencies, revolutionizing conventional accounting techniques in the process. Blockchain technology is expected to become

more and more important in accounting procedures in the future. Beyond the present applications, its integration is anticipated to develop, possibly resulting in more automated, real-time auditing procedures and improved financial reporting. The technology's potential to interface with other cutting-edge technologies, like artificial intelligence and the Internet of Things, portends a time when accounting procedures will be more effective, transparent, and adaptable to the changing business environment [12]. One of the sciences that gives organizations and businesses the data they need to make decisions about the operations and output of business units is Accounting, Numerous parties within and outside of the economy use this information when making economic decisions. external to the business unit as useful data that stakeholders will rely on attain success and financial gain [13].

In the future, blockchain technology is anticipated to become more important in bookkeeping procedures. It is anticipated that integration will progress beyond the present uses. possibly resulting in more real-time, automated auditing procedures and improved financial reporting. The technology's compatibility with other cutting-edge innovations, like artificial intelligence and Internet of Things (IoT) points to a future with more effective, transparent, and able to adapt to the changing business environment, The report suggests that business executives and Governments adopt a proactive stance in adopting blockchain technology. Investing in blockchain training and education is part of this. for accounting experts, creating precise regulatory frameworks, and encouraging partnerships between the accounting sector and technology developers. Furthermore, there is necessary for organizations in charge of creating standards to take blockchain into account and update accounting guidelines and procedures appropriately. Lastly, the study suggests a number of topics for additional investigation. Among these are investigations into the long-term effects of blockchain on different facets of accounting, including tax and ethical factors, as well as the effects on various accounting industry sectors. Additionally, studies are required to comprehend the obstacles and hurdles to blockchain adoption in Accounting and to create plans to get beyond these obstacles. Furthermore, there is a requirement for empirical research to evaluate the practical effects of integrating blockchain technology into accounting procedures [14]. Robust financial systems employ blockchain technology to provide services continuously without geographical constraints. This enhances financial transactions. A flexible accounting system must be engineered to

accommodate any alterations in blockchain transactions. Accounting specialists possessing both theoretical and practical expertise in blockchain technology is necessary. The hardware and efficient accounting software should be meticulously evaluated as the tangible elements of the accounting system. The fintech sector and financial technology should benefit from blockchain technology [15].

The outcomes of the research hypothesis tests indicate that blockchain technology is probably going to have a good effect on financial reporting quality. This implies that high-quality reports are expected from businesses that have made significant investments in IT applications. A company's working environment that is more secure and fluid in terms of information flow, authorities that effectively implement monitoring policies, and auditor workload reduction—all of which may result in optimal contracts and high-quality audit services—are among the influential factors in this regard [16].

As with all the studies, this one had its share of shortcomings. The respondents to this paper, who were primarily financial experts, might not have had accurate knowledge of the concept and application of blockchain technology because it is one of the newest techniques in IT fields of study. Furthermore, the scope of this paper is restricted to the business environment in Iraq; as a result, its conclusions are mainly applicable to this region; however, expanding its scope may yield different results [14].

Blockchain technology is an example of how technologies and frameworks are not always created to be as dynamic and flexible as they need to be to meet the demands of different domains. Although a large project, a blockchain implementation at full capacity might be appropriate for cryptocurrencies. Using excessive or over capable resources is never a good idea. As a result, we need to carefully consider Blockchain's advantages and disadvantages. Although Blockchain has unparalleled advantages, it also has distinct disadvantages. We were able to meet our requirements and use Blockchain features with limited capacity thanks to a hybrid solution that combines traditional database technology and Blockchain. It also gave us all the features we needed in an environment with limited resources. As a matter of fact, our needs are not always met by hundreds of thousands of network nodes, sophisticated mining machinery, or intricate programming. In this study, we presented a solution—dubbed Data Vaults—that can help businesses store their financial data on blockchain. For

implementation, we chose the trial balance. The suggested framework can guarantee data integrity in AIS or ERP systems, and if data compromise occurs, breaches can be quickly found with the assistance of the suggested system. Additionally, our system verifies the accuracy of the information supplied for commercial transactions or other comparable uses. A version of Blockchain that is significantly lighter than the one used in cryptocurrencies has been examined by us [17]. Blockchain technology will revolutionize the insurance business. They say that it will assist to facilitate and accelerate operations. They point out that blockchain technology has defined new aspects in the field of information technology. "Blockchain is the first fully operational Distributed Ledger Technology (DLT), which is an umbrella term for technologies that collect, store, and distribute data." and promote value transfers between private or public users." It is an all-encompassing platform and decentralized ledger that brings together various digital assets [18]. Blockchain, like any other technical advancement, benefits a wide range of organizations, including the financial services industry (FSI). Because of its disruptive character and the fact that its implementation has revolutionized the business environment, blockchain is garnering the attention of industry executives and academics [19]. The significance of blockchain emphasize application in operations and the internet of things, and nations are regulating blockchain technology to allow it to be utilized securely in a variety of fields. They then provide a way to encourage digital adoption by Superior openness in governance. They propose a "framework based on the Ethereum blockchain, a smart contract, and a decentralized application" to do this, for any IT application to be successful, it must be effective. It must perform the function for which it was designed, as well as have exceptional features and qualities, which are largely concerned with how software makes use of available resources. As a result, an IT application must be able to adapt to the precise requirements demographic and needs of the user to achieve excellent efficiency during its usage. There are plenty of IT applications on the market that cater to different industries, but there are only a handful of IT applications that can help individuals and businesses when it comes to efficiency [20].

1-3 Smart contracts

A computer software that can automatically carry out a contract's provisions would be a general definition of a smart contract. They can address the issues with counter party

trust by being self-executing and having inbuilt property ownership information. Smart contracts are independent, self-sufficient, and lacking in trust. Smart contracts improve the creation and performance of contractual agreements rather than reinventing them. They do this by being transparent, cost-effective, and efficient. Payments can be triggered by a preprogrammed condition of a contractual agreement being met using blockchain technology and smart contracts. The most revolutionary use in the world of crypto currencies is smart contracts [21]. It has become simpler to register, validate, and execute them using blockchain technology, within a smart contract, there can be as many stipulations as needed to satisfy the participants that the task will be completed satisfactorily. To establish the terms, participants must determine how transactions and their data are represented on the blockchain, agree on the “if/when...then...” rules that govern those transactions, explore all possible exceptions, and define a framework for resolving disputes, Then the smart contract can be programmed by a developer – although increasingly, organizations that use blockchain for business provide templates, web interfaces, and other online tools to simplify structuring smart contracts [22].

1-4 Applications of smart contract

Making international trading more efficient and faster Businesses are building a trust environment for global commerce by joining WeTrade, the trade finance network formed by IBM Blockchain. WeTrade, as a blockchain-based platform, employs standardized rules and streamlined trading alternatives to decrease friction and risk while simplifying the trading process and boosting trade prospects for participating enterprises and institutions [23].

Highlight the benefits of blockchain technology, such as data integrity protection, fast information exchange, and automated process control. They emphasized that blockchain provides a trustworthy and time-saving alternative to conventional accounting and auditing procedures, resulting in more confidence in financial data. [24] implies that organizations that use blockchain and optimized contracts may increase compliance risk management and compliance effectiveness in conforming to various laws and regulations. The implementation of blockchain can improve financial well-being monitoring, enabling faster detection of doubtful transactions, and free up auditors' efforts for additional value-added operations. [16] present an overview of blockchain usage in accounting, emphasizing its importance and limits. They talk about

how blockchain technology may improve financial reporting quality, information flow, and market transparency [25].

1.5 The Impact of Blockchain Technology on Egypt's Accounting Environment

Blockchain technology will transform the accounting environment in accounting, auditing, taxation, financial reporting efficiency, and the establishment's accounting system. Corporate governance, the stock market, the stock exchange, the activation of the product's target cost technique, and open records accounting are as follows:

The impact of Blockchain technology on accounting, as Blockchain technology represents the next civilized step in the field of accounting after the double-entry revolution, as the company can use one record for all that information instead of keeping separate accounting records to communicate accounting information. The option of avoiding double entry by keeping information about a single item in a daily book. One at a time, in numerous locations, on multiple computers, no middlemen, no deadlines Multiple and no need to collect records from several agencies, resulting in the development of blockchain technology, an exact match record of transactions, allowing entries to be seen as they occur. ensuring the integrity and transparency of all parties [26].

- Adding new auditing tasks: It manifests itself in the following tasks and responsibilities: Reviewing smart contracts with the help of an auditor to ensure that they are between the parties to prove business activities and then implementing them in accordance with the correct course of business [27].
- Verifying security and safety measures for Blockchain technology and the network on which the organization conducts digital asset verification [28].

2- Experimental

The purpose of the current study is to determine whether there is an impact of blockchain on accounting information system in Egypt. The current study adopts the qualification research approach, which emphasizes qualification in data collection and analysis. The current study hypotheses serve as the basis for the use of qualitative strategy. The current study hypothesis includes:

H₀: There is no impact of blockchain on Accounting information system in Egypt.

H₁: There is an impact of blockchain on accounting information system in Egypt.

$$\text{AIS}_{it} = \beta_0 + \beta_1 \text{BCT}_{it} + e_{it}$$

The study uses the following variables indicators measures¹:

- Dependent Variable: Perceived Impact of Blockchain

* Perceived benefits: Perceived improvements in efficiency, accuracy, security, transparency, and cost-effectiveness.

* Level of satisfaction: Satisfaction with the performance of the blockchain-based accounting system.

* Adoption intention: Willingness to continue using or expand the use of blockchain technology in accounting.

- Independent Variable: Use of Blockchain

* Extent of blockchain implementation: The degree to which blockchain technology is integrated into accounting processes.

* Types of blockchain applications: The specific areas of accounting where blockchain is used (e.g., financial reporting, supply chain management, audit).

* Duration of blockchain usage: The length of time the organization has been using blockchain technology.

* Level of employee training: The extent to which employees are trained in blockchain technology and its applications.

2-1 Sample and Data Description

Determine the population and sample size (about 80 responds) for the study, those interested in the usage of Blockchain technology in the accounting environment comprised the study population. These parties were classified into two groups:

- The First Classification: It represents accountants working in commercial organizations and the National Bank of Egypt, one of the commercial institutions that uses this technology.
- The Second Category: are represented in the students.

3-Results and Discussion

Table (1) shows the variables X1 (Blockchain), X2 (AIS), X3 (Benefit and challenges of Blockchain), and X4 (Applying blockchain)'s descriptive statistics are

¹ It should be noted that all indicators of the study variables were measured through the questionnaire axes and the questions included in each axis.

shown in the table below. The number of observations (N) for each variable is displayed in the first column. The fact that X1 (Blockchain) includes 80 observations, which is twice as many as X2(AIS), X3 (benefit and challenges of blockchain), and X4 (Applying blockchain) combined, suggests that X1 (Blockchain) has a larger sample size than the other variables, this is mainly because it has a larger number of questions. The minimum and maximum values for each variable are displayed in the second and third columns, respectively. For instance, X1 (Blockchain) has a minimum value of 1.25 and a maximum value of 3.75. The mean (average) value for each variable is shown in the fourth column. For instance, X1 (Blockchain) 's mean value is 2.4808. Each variable's standard deviation, which measures how far the data are spread out around the mean, is displayed in the fifth column. For instance, X1 (Blockchain) 's standard deviation of .52730 shows that the data points are close to the mean. After listwise deletion of missing values, the last row of the table displays the number of valid observations for each variable. There are 40 valid observations in this instance, meaning that there are no missing values for any of the variables used in the analysis. The basic descriptive statistics for the variables in the dataset are summarized in this table, which can be helpful for understanding the distribution of the data and spotting potential outliers or anomalies.

Table (1) Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
X ₁ (Blockchain)	80	1.25	3.75	2.4808	.52730
X ₂ (AIS)	40	1.60	4.00	2.8150	.66777
X ₃ (benefit and challenges of blockchain)	40	1.00	3.25	2.2875	.51125
X ₄ (applying blockchain)	40	1.00	3.08	2.1542	.48022
Valid N (listwise)	40				

3-1 Regression results

Table (2) also shows the variables that were added to and eliminated from the multiple linear regression model to forecast X₂ (AIS). The model number is shown in the table's first row. Since there is just one model in this instance, the model number is 1. The variables that were used in the model are displayed in the second row. In this instance, the model was given the values X₄ (Applying Blockchain), X₁ (Blockchain),

and X₃ (benefit and challenges of Blockchain). It can be seen in the third row that no variables were taken out of the model. The column labelled "Variables Removed" is empty. The procedure for adding the variables to the model is displayed in the fourth row. The "Enter" approach denotes simultaneous input of all variables into the model. Overall, this table supports the multiple linear regression model's use of X₄ (Applying Blockchain), X₁ (Blockchain), and X₃ (benefit and challenges of Blockchain) as predictors for X₂ (AIS) prediction. There were no variables removed from the model, as shown by the empty "Variables Removed" column. All variables were entered into the model simultaneously using the "Enter" method, which is a typical procedure in multiple regression analysis.

Table (2) Regression Results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.498 ^a	.248	.185	.60277

Predictors: (Constant), X₄ (applying blockchain), X₁ (Blockchain), X₃ (benefit and challenges of blockchain)

3-2 ANOVA Test Results

Table (3) present the outcomes of a multiple linear regression analysis, where X₂ (AIS) is the dependent variable and X₁ (Blockchain), X₃ (benefit and challenges of blockchain), and X₄ (applying blockchain) are the independent variables, are shown in this ANOVA table.

Table (3) ANOVA results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.311	3	1.437	3.955	.016 ^b
	Residual	13.080	36	.363		
	Total	17.391	39			

The regression model, which describes how the independent variables' effects on the dependent variable's variation, is displayed in the first row of the table. The regression model's sum of squares is 4.311, indicating that it accounts for 4.311 units of X₂ (AIS) 's overall variation. The regression model has three degrees of freedom, which corresponds to the number of independent variables that were included in the model. The regression model's mean square, calculated by dividing the sum of squares by the

degrees of freedom, is 1.437. The outcomes of a multiple linear regression analysis, where X_2 (AIS) is the dependent variable and X_1 (Blockchain), X_3 (benefit and challenges of blockchain), and X_4 (applying blockchain) are the independent variables, are shown in this ANOVA table. The outcomes of a multiple linear regression analysis, where X_2 (AIS) is the dependent variable and X_1 (Blockchain), X_3 (benefit and challenges of blockchain), and X_4 (applying blockchain) are the independent variables, are shown in this ANOVA table. The null hypothesis that all regression coefficients are equal to zero is tested by the regression model's F-value, which is 3.955. The F-test's p-value, or significance level, is .016, which is less than .05. This number shows that the regression model is statistically significant. This indicates a substantial relationship between the dependent variable and at least one of the independent variables. The residual model, which reflects the variation in the dependent variable that is not explained by the independent factors, is displayed in the second row of the table. The residual model's sum of squares is 13.080, indicating that it is unable to account for the variation in X_2 (AIS) at this level. The number of observations minus the number of independent variables in the regression model results in 36 degrees of freedom for the residual model. The entire model, which represents all variations in the dependent variable, is displayed in the third row of the table. The overall variation in X_2 (AIS) is represented by the sum of squares, which for the entire model is 17.391. The complete model has 39 degrees of freedom, which is equal to the total number of observations minus 1. According to this ANOVA table, the regression model that uses X_1 (Blockchain), X_3 (benefit and challenges of blockchain), and X_4 (applying blockchain) as predictors is statistically significant in its ability to explain the variation in X_2 (AIS). It should be noted that the regression model only accounts for a small percentage of the total variation in X_2 (AIS), as the residual model's sum of squares is substantially higher than the regression model's sum of squares.

3-3 Coefficient Results

The coefficients of the multiple linear regression model, in which the independent variables are X_1 (Blockchain), X_3 (benefit and challenges of blockchain), and X_4 (applying blockchain), and the dependent variable is X_2 (AIS), are displayed in the table below.

Table (4) Coefficients Results

Unstandardized Coefficients		Coefficients		
B	Std. Error	Standardized Coefficients Beta	t	Sig.
1.052	.681		1.546	.131
.027	.209	.019	.128	.899
.465	.221	.356	2.107	.042
.294	.241	.212	1.222	.230

a. Dependent Variable: X₂ (AIS)

The intercept, or value of the dependent variable when all independent variables are equal to zero, is shown in the top row of the table. The intercept in this instance has a value of 1.052. The dependent variable's change in response to an increase in X₁ (Blockchain) of one unit, with all other independent variables remaining constant, is represented by the coefficient for X₁ (Blockchain) in the second row. The unstandardized coefficient for X₁ (Blockchain) is .027, meaning that an increase in X₁ (Blockchain) of one unit causes an increase in X₂ (AIS) of .027. But X₁ (Blockchain) 's standardized coefficient (Beta) of .019 indicates that X₁ (Blockchain) has a negligibly little impact on X₂ (AIS). Since X₁ (Blockchain) 's t-value is .128, and the corresponding p-value is .899, this means that X₁ (Blockchain) 's ability to predict X₂ (AIS) is not statistically significant. The dependent variable change associated with an increase in X₃ (benefit and challenges of blockchain) of one unit, while keeping all other independent variables constant, is represented by the coefficient for X₃ (benefit and challenges of blockchain) in the third row. Since X₃ (benefit and challenges of blockchain) has an unstandardized coefficient of .465, an increase in X₃ (benefit and challenges of blockchain) by one unit corresponds to an increase in X₂ (AIS) by .465 units. According to the standardized coefficient (Beta) for X₃ (benefit and challenges of blockchain), which is .356, X₃ (benefit and challenges of blockchain) has a moderate impact on X₂ (AIS). 2.107 is the t-value for X₃ (benefit and challenges of blockchain) and the corresponding p-value is .042, indicating that X₃ (benefit and challenges of blockchain) is statistically significant in predicting X₂ (AIS) at the threshold of 0.05. The coefficient for X₄ (Applying Blockchain) is shown in the fourth row. It shows the change in the dependent variable that results from an increase of one unit in X₄ (Applying Blockchain) while keeping all other independent variables constant. Since X₄ (Applying Blockchain) has an unstandardized coefficient

of.294, an increase in X₄ (Applying Blockchain) by one unit corresponds to an increase in X₂ (AIS) by.294 units. Given that X₄ (Applying Blockchain)'s standardized coefficient (Beta) is.212, it seems likely that X₄ (Applying Blockchain) has a negligibly small impact on X₂ (AIS). Given that X₄ (Applying Blockchain)'s t-value is 1.222 and its corresponding p-value is.230, it cannot be concluded that X₄ (Applying Blockchain) is statistically significant in predicting X₂ (AIS). Overall, this table reveals that, among the independent variables in the model, X₃(benefit and challenges of blockchain) is the most significant predictor of X₂ (AIS). In this model, X₁ (Blockchain) and X₄ (Applying Blockchain) don't seem to have much of an impact on X₂ (AIS).

3-4 Reliability Analysis

Table (5) provides reliability statistics for a set of 31 items, as indicated by the "N of Items" column. The reliability of the scale is measured using Cronbach's alpha coefficient, which is a statistical measure of internal consistency.

Table (5) Reliability analysis

		N	%
Cases	Valid	39	48.8
	Excluded ^a	41	51.2
	Total	80	100.0

The computed Cronbach's alpha coefficient for this set of items is .535. This value ranges from 0 to 1, with higher values indicating greater internal consistency among the items. Cronbach's alpha is commonly used to assess the reliability of scales or tests, with values above .70 generally considered acceptable, and values above .80 considered good. In this case, a Cronbach's alpha coefficient of .535 suggests that the set of 31 items may not be very reliable as a scale or test, and that there may be some issues with the internal consistency of the items. Therefore, it may be necessary to revise or remove some of the items to improve the reliability of the scale or test.

Table (6) – Alfa Cronbach test

Reliability Statistics	
Cronbach's Alpha	N of Items
.535	31

4. Conclusion

This study examined the effects of integrating blockchain technology into accounting information systems and adapting accounting practices. Blockchain, a recent technological advancement, initially used for Bitcoin trading, has expanded its usage in financial markets and commerce. By eliminating intermediaries and centralized control, blockchain enables direct transactions between parties. Financial transactions impact accounting trust, especially in financial markets. The study aimed to restore trust in financial reporting, particularly for US corporations listed on financial markets, by incorporating blockchain technology into accounting activities. The study is constrained by the inability to perform empirical tests, case studies, or surveys with real-world data. Nonetheless, it paves the way for numerous opportunities for future researchers to address these limitations through the utilization of applied and experimental tools. These tools can be employed to test the significance of determinants and prerequisites of blockchain technology in the fields of accounting and auditing. This study had five participants. While a saturation point was reached in terms of data collection, future studies would benefit from a larger number of participants to obtain a wider range of responses. It is important to note that one limitation in this case was the participants' lack of comfort or familiarity with blockchain technology. It is understandable that 56 individuals may not feel completely knowledgeable about the subject, yet it is fortunate that even those who were not well-informed or aware of blockchain were willing to participate in the study. This study explored the potential of blockchain technology to enhance accounting standards, particularly financial reporting for US corporations listed on financial exchanges. Initially developed for Bitcoin transactions, blockchain technology has expanded into financial and commercial sectors. By removing intermediaries and centralized authority, it enables direct transactions between parties, potentially reinstating financial confidence. Financial markets rely on truthful reporting; therefore, confidence is essential. Empirical experiments, case studies, and surveys utilizing real-world data were inaccessible. A larger sample would have provided more insights than five individuals, despite achieving data saturation. A further constraint was the participants' limited awareness of blockchain technology, although their enthusiasm to participate was commendable. Blockchain technology offers significant advantages in accounting,

including cost savings due to reduced paperwork and manual processes, improved accuracy through enhanced data integrity and transparency, and enhanced auditability as transactions are immutable and can be easily traced. These benefits collectively contribute to a more efficient, reliable, and secure accounting system.

Blockchain technology offers significant advantages in accounting, including cost savings due to reduced paperwork and manual processes, improved accuracy through enhanced data integrity and transparency, and enhanced auditability as transactions are immutable and can be easily traced. These benefits collectively contribute to a more efficient, reliable, and secure accounting system.

The study suggests that blockchain's transparent and decentralized financial reporting has the potential to revolutionize accounting. The three-month research duration and limited sample size necessitate further investigation. Future research can address these deficiencies by employing practical and experimental methodologies to evaluate the determinants and requirements of blockchain in accounting and auditing. Despite its limitations, the study presents opportunities for future research regarding the comprehensive impact of blockchain on accounting.

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- **Conflict of Interest**

This study is totally free from any conflict of interest.

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