

## The Role of Information Asymmetry Risk in the Audit of Digital Currencies

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**Abstract.** *This research aims to examine the role of accounting information asymmetry risk in the auditing of digital currencies. The study focuses on comprehending the theoretical framework of accounting information risk and elucidating the relationship between this risk and digital currency auditing, with particular emphasis on information asymmetry. The research concentrates on the Iraq stock exchange as the study population, while the sample comprises a group of Iraq banks listed on the exchange, given their status as among the economic entities most closely associated with recent financial developments. The temporal scope of the research is limited to data published by the Iraq Stock Exchange for the year 2024. The study employs the SPSS software package to conduct a series of statistical tests, including the Model Summary test, ANOVA test, Correlations test, and Coefficients test on the research sample. The findings reveal a strong positive relationship between accounting information asymmetry risk and the effectiveness level of digital currency auditing, thereby underscoring the imperative of addressing this risk to enhance the accuracy of audit processes. This necessitates the continuous improvement of auditing practices and the ongoing evolution of accounting and regulatory frameworks to keep pace with the rapid technological advancements in the domain of digital currencies.*

**Keywords:** Accounting information risk, digital currency auditing, Iraqi Stock Exchange.

### 1. INTRODUCTION

The accounting literature suggests that economic entities having high growth opportunities or intangibles that are hard to value (for example, such as digital assets) are typically more susceptible to information asymmetry due to the obscure nature and unpredictability of future returns [1]. As a result, the purpose of this study is to identify how information risk applies to the auditing of digital currencies by examining the characteristics of information risk and its influence on the planning and performance of audit procedures, as well as to examine if current tools are suitable for managing information risk.

Sound investment decisions rely on access to reliable and transparent accounting information, but there are high-risk factors for such elements in the digital currency industry. Derived from this, the research problem is defined using the research question: What is the impact of information asymmetry in the auditing process of digital currencies?

The contribution of this research is that it provides insights into the potential role and extent of accounting information in the risk–valuation process for digital currencies, particularly in bank environments. The study also helps explain the information role of the accounting data channel in aiding investors and regulators to assess the trustworthiness of financial reporting devoted to digital currencies, leading to greater transparency and less murkiness associated with these virtual coins.

Moreover, the expected outcomes and suggestions will perhaps provide insights towards the evolution of applicable accounting and regulatory systems.

## **2. LITERATURE REVIEW**

### **2.1. The Concept of Information Asymmetry Risk**

It cannot be refuted that financial data is used in making decisions. Investors and creditors desire high-accuracy information since exact data will help shareholders to safeguard their interests by improving performance. On the other hand, opaque information cannot represent a real picture of an economic entity and may be misleading to investors; consequently, the precision of information is very important for investors [2].

Information asymmetry: Information Asymmetry is a concept that takes place in the context of interaction between one party and another's, for example, company management and other external parties (shareholders and investors)[3]. This comes into play when the management – which is the legal entity in charge of drawing up and presenting financial statements- has access to confidential and non-public information about the actual outcome of operations as well as about the value of a company, a situation not shared or accurate for third parties [4].

Komalasari [5] defines it as an informational and knowledge equity disequilibrium when one of the counterparties in economic interaction (e.g., management of an enterprise) has more accurate or complete internal accounting information—past, current, or prospective—than other counterparties involved in this interaction itself—the owners or investors. This has been classically observed in what is sometimes called “Agency Theory”, considering a setting with managers (agents) and shareholders (principals).

A cognitive disequilibrium arises between the decision makers inside the firm and outside investors when one or a group of parties has internal information on the true worth of the company, which largely overshadows what is known by (or available to) others about company-wide developments and changes[6]. This results in differences between the levels of knowledge that investors thereby possess and is detrimental to them in terms of being able to exploit their profits, which directly relates to funding costs [7].

Gray et al. [8] determine the information asymmetry risk as a capital market systemic risk due to the poor quality of accounting records (accuracy), and due to differences between investors in terms of usability of reliable data (asymmetry). This in turn leads ill-informed investors, or all investors, to require a risk premium to reflect the fuzziness and vagueness surrounding the firm's future cash flows.

### **2.2. The Concept of Digital Currency Auditing**

Auditing developed alongside formalized accounting in the ancient world, from its early stages in the Old Kingdom of Ancient Egypt (around 3000 BC) until the birth of the Renaissance in Europe. Auditing in ancient China, Greece and Rome[9], [10]. There is also evidence to suggest that the ancient Chinese, Greeks and Romans used some form of auditing[11]. The term “auditor” has its origin in Latin, where it means a listener, as auditors in the days of Rome would be present when taxpayers (including farmers) made public declarations about their transactions and tax liabilities [12]. In the digital age, artificial intelligence tools have significantly accelerated the pace of development across numerous fields[13], including financial accounting[14].

Currencies have played many roles over time. First, there was barter - the stage at which trade commenced in the early periods of commercial interaction; and then trade discovered bronze coins, into which it merged silver and gold – becoming what are now called currencies. The

millennium dawned and [15], then trade transactions shifted to a digital basis such as the development of credit cards as well as electronic payment procedures like electronic money [16].

The rapid advance of technology is universally accepted as the major engine of economic growth and industrial restructuring. One reality always has a way of grabbing you by the short and curlies in tech: everything changes, all the time, and at an ever-increasing velocity. This penchant researcher has for digital, exponential, or disruptive technologies is also why everything feels like it's moving so fast; each development is based on the technology that came before. These technologies, in combination with other new technology developments, are coming together to leverage capabilities that have not been witnessed in any of the world's largest industries [17]. Financial regulation related to the fintech space must seek a balance among trade-offs across dimensions including innovation, financial stability, and consumer protection[18]. This provides a particularly difficult conundrum for regulators and supervisors, all the more since the global financial crisis has given rise to sharper attention on financial stability and better protection of customers. Against this background[19], the tremendous potential for financial technology (fintech) has caused profound shifts in regulators' thinking about how to govern technological innovations [20].

Virtual currencies are a new model of payment service interconnected with the conventional but also compete with physical money as storage of value, medium of exchange, and unit of account[21]. But not everyone responds to them in the same way, and a drug that works at one point may stop working down the line. Despite the price volatility, their adoption remains scarce, and they're mostly used as value stores rather than for exchanging coins[22]. In addition, meeting the economic characteristics of money does not mean a legal doctrine will be applied [23].

In the context of such a shift within the world's financial markets, professional accountants have an important role to play in relation to both financial reporting and auditing of these types of assets. Present investors, prospective investors, and the general public depend largely on professional accountants to furnish accurate accounting and auditing services in their independent checking of financial statements [24].

Auditing cryptocurrencies presents a unique challenge to both internal and external auditors due to the nature of these assets, which are fundamentally different from traditional ones [25]. These evidential issues commence in the early stage of risk assessment, when the risk of material misstatements is relatively high, i.e., when assertions on rights and obligations (ownership rights for assets) and existence are considered. This higher risk comes in large part due to the semi-anonymous nature of the technologies that support these currencies. On-chain transaction records can expose the trading addresses and values but cannot indicate who the counterparty is, and it makes it difficult to verify that you are the exclusive owner of digital wallets and identify the transaction relationship with related parties.

When confronting the above difficulties, auditors have found that some traditional objective evidence, such as bank confirmations, is not independently adequate. That's not even conclusive evidence of ownership or control, as third-party confirmation (like an exchange or custodian) only attests to the existence of the currencies in a certain wallet. Thus, it is a matter of importance for the auditor to consider whether the laws and regulations, as well as internal procedures that were used by the economic unit relative to management and protection of these assets (including controls on secure key generation and storage, separation of duties, and transaction authentication processes) were effective [26].

Based on the above, we will formulate the hypothesis of the current study as follows.

**H1:** There is no statistically significant relationship between information asymmetry and the auditing of digital currencies.

**H2:** There is no statistically significant effect of information asymmetry on the auditing of digital currencies.

### 3. MATERIALS AND METHODS

#### 3.1. MATERIALS

##### Characteristics of the Study Population and Sample

The study sample includes banks that are actively traded on the Iraq Stock Exchange, which represents a lifeline to increase financial stability and stimulate economic activities in Iraqi markets. The significance of the banking system is very high for economic development, being its fundamental ground for relations in credits and investments.

#### 3.2. Sample Description

##### A. Sample Persons by Sex Distribution

From the above Table (1), it is clear that most of our samples are males, 46 (57.5%), and are more than that of the females, 34(42.5%)

##### B. Distribution of Sample Persons by Age

From Table (2), the highest number of people are in the age group 31-40 years with 35(43.8%), followed by those aged group 21-30years [24(30.0%)] and others aged 41 - 50years12(15%). There are 3 cases within the age range of <20 years (1.3%), and 3 are in the age group of 51 and older, who all account for about 3.8%.

##### C. Distribution of Sample Individuals across Academic Majors

It is noted that the largest group belongs to the accounting specialization, comprising 48 individuals (60%), followed by those in auditing with 17 individuals (21.3%). The business administration specialization includes 7 individuals (8.8%), while financial and banking sciences account for 5 individuals (6.3%), and finally, the economics specialization consists of 3 individuals (3.8%). The following figure (1) illustrates the distribution of these categories.

#### 3.3. Reliability

After the sample description, the researcher verified the reliability of the questionnaire with Cronbach's alpha coefficients. The results are obtained by using SPSS software and represented in Table (3).

According to the above table, all factors of the questionnaire have high reliability coefficients, where every factor's coefficient was greater than 70%, which has acceptable value.

Split-half reliability: The investigator also established the reliability of the instrument using split-half reliability coefficient, and the result is presented in Table (4) below.

The table (4) above illustrates high reliability coefficients for all dimensions of the questionnaire, with all coefficients exceeding 70%, reflecting statistically significant values.

#### 3.4. Reliability of the Independent Variable: Risk Asymmetry

As can be seen from the above table (5), all correlation coefficients between the first factor as a whole and those variables composing it were high and statistically significant (Sig.< (2-tailed) less than 0.05 values. Furthermore, all these loadings were positive, supporting the notion of a

straightforward relationship between each item and its related dimension. This indicates a good internal consistency between the items in this dimension and that all items were useful for enrichment and satisfaction of the variable being measured.

### 3.5. Internal Consistency of the Dependent Variable

According to the table (6), it can also be seen that all of the correlation coefficients (correlations) between second dimensions as a whole and items which make up this second dimension are high, with all Sig. (2-tailed) values < 0.05. Moreover, all of these values are positive, showing that each item is in direct relation with its dimension. Here, a high consistency of the items on their measures (i.e., each item contributes in its own way to form and support the variable pursued with it).

## 4. RESULTS AND DISCUSSION

### 4.1. RESULTS

#### Hypothesis Testing

#### H1: No Correlation Between Information Asymmetry and Digital Currency Audit

Results by Statistical package for social sciences (SPSS). According to the table (7), the Pearson correlation coefficient equals 0.702, or 70.2%, which means there is a strong positive association between these two pooling data variables. The value of Sig = 0.000 is less than the error level of 0.05 crack o thousand accepted in social science research and society. Thus, the null hypothesis is rejected, indicating a significant relationship.

#### H2: Information Asymmetry Having No Effect on the Audit of Digital Currency.

To investigate this hypothesis, the following regression model was defined:

$$DCA = \beta_0 + \beta_1 \cdot AIR + e$$

Where AIR= Independent Variable (Asymmetry of Information Risk).

According to Table (8), the correlation value (R) between the measured parameters is 0.702 with a strong relationship. The explanatory power of the regression model is indicated by R Square, which equals 0.493. This shows that the independent variable (Information Asymmetry Risk) accounts for 49.3% of the variance in the dependent variable (Digital Currency Auditing), with a standard error of estimate of 0.314 (quite low), which suggests that a more comprehensive model was built.

Table (9) states that the computed F-value is 75.721, which is more than the critical value according to the degrees of freedom (df: 78,1), i.e., it equals 3.97 at the 5% level of significance. The Sig is 0.000, less than the 0.05 level of significance, indicating that the statistical model applied was appropriate for hypothesis testing purposes.

From Table (10), it becomes apparent that the intercept is 0.816 and  $V_{in 0} = 0.824$  in GHRF (1st sequence). This demonstrates that there is a positive relationship between the independent variable and dependent variable (B coefficient). An increase in Information Asymmetry Risk (independent variable) by 1 unit increases the Digital Currency Auditing (dependent variable) by 82.4%, holding all other independent variables constant.

Moreover, the p-value of the independent variable (T) equals  $0.000 < 0.05$  once again. This implies that the empirical evidence of the sample data is strong enough to support us to accept this hypothesis on positive (significant) relationship between information asymmetry risk and auditing for digital currencies. This upward tendency of the curve is visualized in Figure (2), which depicts the positive relationship between the two variables.

#### 4.2. DISCUSSION

According to the results of the research, which were tested and extracted from data analysis of a sample size represented by Iraqi banks participating in the Iraq Stock Exchange, prove that through statistical measurement there is a strong positive correlation in varies statically (Pearson Correlation Coefficient = 0.702), and by high significant relationship between asymmetric risk information and digital currency auditing. This suggests that with greater severity and probability of the information asymmetry risk, the higher complexity and worry over digital currency audits. Accordingly, when such risks are present, auditors need to commit additional time and resources.

The linear regression also showed that  $R^2 = 0.493$ , suggesting  $R^2 = 0.49349.3\%$  of the variance of the measurement variable on digital currency auditing could be explained by information asymmetry risk. This intimates that this risk is an explanatory variable to a large degree of the obstacles and expectations that face auditing digital assets in Iraq context as investigated.

In addition, the regression coefficient  $B_1 = 0.824$  demonstrates a positive (direct) influence. This indicates that a greater amount of information asymmetry risk results in a significantly enhanced effect of 82.4% on digital currency audit effort and process, ceteris paribus. This is indicative of auditors' response to the challenge by increasing the coverage and intensity of their audit procedures.

Taken together, the findings highlight the importance of auditors' vigilance and proactivity in addressing information asymmetry risks, considering its significant implications for the reliability and integrity of digital currency audit.

#### 5. CONCLUSIONS

The findings of this research contribute to advancing the comprehensive understanding of the role of accounting information asymmetry risk in digital currency auditing processes. Notwithstanding the considerable challenges posed by the evolving financial environment, addressing this risk through appropriate and effective measures can substantially reinforce confidence in the financial information presented to investors. The research has provided empirical evidence, drawn from the Iraqi banking industry, to show that the information asymmetry risk is not a mere academic concept; it is an operational reality which represents daunting tasks for digital currency auditing and requires adjustment and improvement of existing corporate governance practices.

This study informs internal and external auditors, regulators, and standard setters in accounting and auditing in Iraq to further understand the dynamic link between the quality of information being presented and the efficiency of audit as well as its effectiveness in the digital assets era. Attention should be paid to cultivating audit tactics with transparency in mind among financial organizations and banking industries, which can play a role in curbing information asymmetry.

Furthermore, this research opens channels for further investigation to enlarge the sample size in other economies or scrutinize the effectiveness of certain auditing tools or techniques (e.g., digital forensics, blockchain) connected with reducing the degree of severity of information asymmetry risk.

Finally, it is suggested that a more flexible and transparent accounting regulatory framework should be developed immediately at national and regional levels so that the development of the digital economy could be accompanied by greater transparency in financial

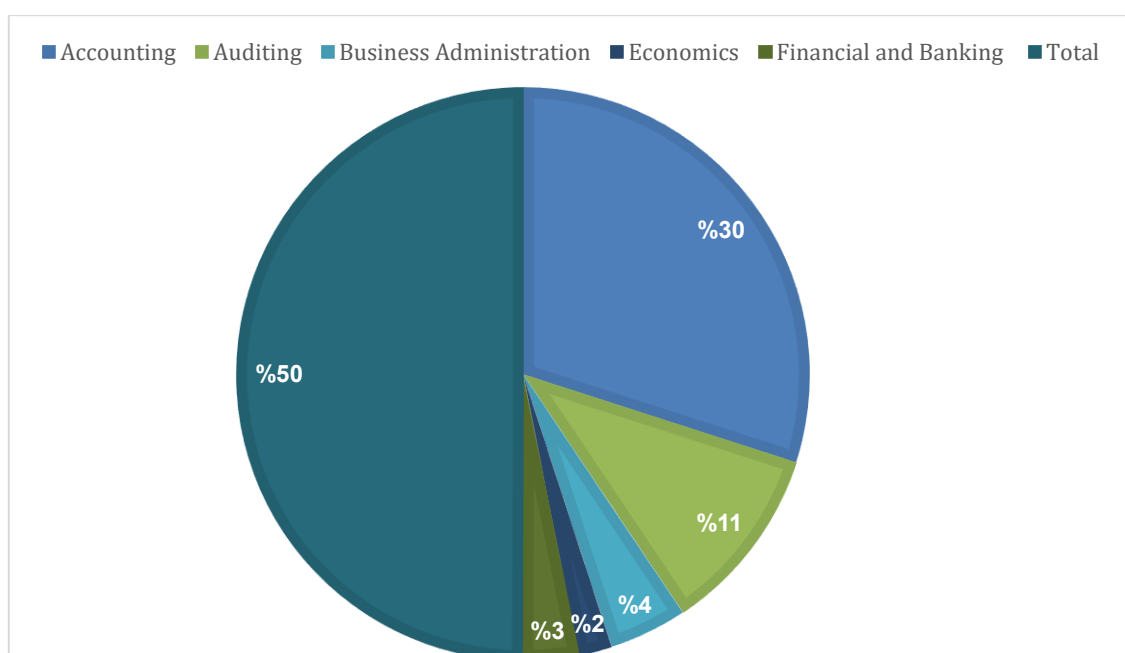
reporting, which will also play a crucial role in strengthening investor confidence in emerging markets.

## REFERENCES

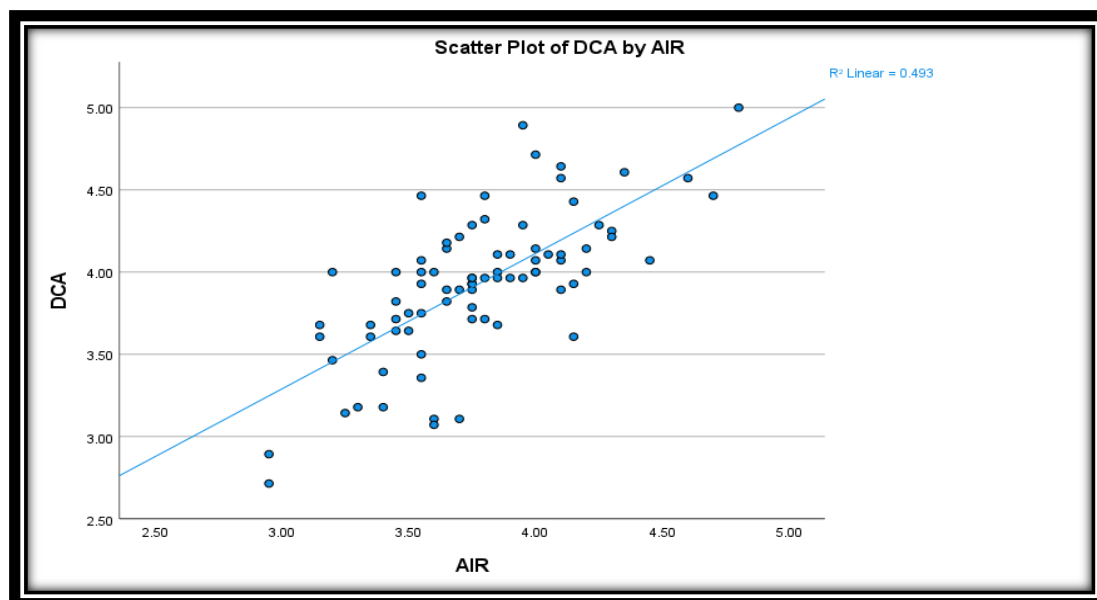
- [1] B. Garcia-Osma, H. N. Ha, W. R. Knechel, and T. T. D. Nguyen, "Client-level exposure to cryptocurrency and auditor responses," 2023.
- [2] M. Akmal, A. Rashid, and S. Amin, "Corporate Governance and Information Asymmetry.," *Forman Journal of Economic Studies*, vol. 18, no. 2, 2022.
- [3] M. O'Hara and D. Easley, "Information and the Cost of Capital," *Available at SSRN 300715*, 2001.
- [4] O. Odia and H. O. Osazevbaru, "Accounting conservatism and information asymmetry," *Accounting and taxation review*, vol. 2, no. 1, pp. 72–91, 2018.
- [5] P. T. Komalasari, "Information asymmetry and herding behavior," *Jurnal Akuntansi Dan Keuangan Indonesia*, vol. 13, no. 1, p. 4, 2016.
- [6] Y. Huang, "Does Information Asymmetry Always Harm Firm Value? Evidence from China," *Evidence from China*.
- [7] R. A. Lambert, C. Leuz, and R. E. Verrecchia, "Information asymmetry, information precision, and the cost of capital," *Review of finance*, vol. 16, no. 1, pp. 1–29, 2012.
- [8] P. Gray, P. Koh, and Y. H. Tong, "Accruals quality, information risk and cost of capital: Evidence from Australia," *Journal of Business Finance & Accounting*, vol. 36, no. 1-2, pp. 51–72, 2009.
- [9] M. Muslim and M. R. Ramdani, "Accounting Education: The Historical Development of Auditing From Ancient Origins to Modern Standards," *Vifada Journal of Education*, vol. 2, no. 2, pp. 61–77, 2024.
- [10] A. F. Elbayoumi, E. A. Awadallah, and M. A. Basuony, "Development of accounting and auditing in Egypt: origin, growth, practice and influential factors," *The Journal of Developing Areas*, vol. 53, no. 2, 2019.
- [11] M. Muslim and M. R. Ramdani, "Accounting Education: The Historical Development of Auditing From Ancient Origins to Modern Standards," *Vifada Journal of Education*, vol. 2, no. 2, pp. 61–77, 2024.
- [12] A. Olagunju and S. Owolabi, "Historical evolution of audit theory and practice," *International Journal of Management Excellence (ISSN: 2292-1648)*, vol. 16, no. 1, pp. 2252–2259, 2021.
- [13] D. Al-Karaawi, "Is Artificial Intelligence the New Source? The Role of Intelligence in Knowledge Marketing," *International Journal of Social Science Exceptional Research*, vol. 05, pp. 34–40, Mar. 2026, doi: 10.54660/IJSSER.2026.5.2.34-40.
- [14] B. Sadoon, "Financial Accounting in The Era of Artificial Intelligence: A Literature Review," *International Journal of Management and Organizational Research*, vol. 5, pp. 127–132, Jan. 2026, doi: 10.54660/IJMOR.2026.5.3.127-132.
- [15] М. Александрова and Р. Стойнева, "ПАРИТЕ–ИСТОРИЯ И НЕОБХОДИМОСТ.," *Natural Science & Advanced Technology Education*, vol. 34, no. 3, 2025.
- [16] G. W. Peters, E. Panayi, and A. Chapelle, "Trends in crypto-currencies and blockchain technologies: A monetary theory and regulation perspective," *arXiv preprint arXiv:1508.04364*, 2015.

- [17] P. Gomber, R. J. Kauffman, C. Parker, and B. W. Weber, "On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services," *Journal of management information systems*, vol. 35, no. 1, pp. 220–265, 2018.
- [18] B. Al-hadrawi and D. Al-Karaawi, *Niche Marketing and Customer Stability: A Contemporary Conceptual Framework*. 2026.
- [19] J. Chiu, S. M. Davoodalhosseini, J. Jiang, and Y. Zhu, "Bank market power and central bank digital currency: Theory and quantitative assessment," *Journal of Political Economy*, vol. 131, no. 5, pp. 1213–1248, 2023.
- [20] D. W. Arner, D. A. Zetsche, R. P. Buckley, and J. N. Barberis, "FinTech and RegTech: Enabling innovation while preserving financial stability," *Georgetown Journal of International Affairs*, pp. 47–58, 2017.
- [21] R. Ali, J. Barrdear, R. Clews, and J. Southgate, "The economics of digital currencies," *Bank of England Quarterly Bulletin*, p. Q3, 2014.
- [22] D. Al-Karaawi and B. Al-hadrawi, "Concentrated Marketing and Its Role in Mitigating Customer Fluctuations," Jul. 2025.
- [23] R. Ali, J. Barrdear, R. Clews, and J. Southgate, "Innovations in payment technologies and the emergence of digital currencies," *Bank of England Quarterly Bulletin*, p. Q3, 2014.
- [24] D. H. Kanu, "Digital Currencies Financial Reporting and Auditing: A New Concern for Accounting Professionals in the Accounting Industry," *Available at SSRN 5138691*, 2025.
- [25] S. S. Smith, R. Petkov, and R. Lahijani, "Blockchain and Cryptocurrencies-Considerations for Treatment and Reporting for Financial Services Professionals.," *International Journal of Digital Accounting Research*, vol. 19, 2019.
- [26] S. I. Audu, "Digital Currency and its Challenges on audit Practice," presented at the Godfrey Okoye University, Ugwuomu-Nike, Emene, Enugu State, Nigeria 8th International Annual Academic Conference on Accounting and Finance, 2023.

## Figures and Tables



**Figure (1) Distribution of Sample Individuals by Academic Specialization**



**Figure (2) Effect of Information Asymmetry Risk on Digital Currency Auditing**

**Table (1) illustrates the distribution of sample individuals by gender:**

| Gender | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------|-----------|---------|---------------|--------------------|
| Female | 34        | 42.5    | 42.5          | 42.5               |
| Male   | 46        | 57.5    | 57.5          | 100.0              |
| Total  | 80        | 100.0   | 100.0         |                    |

**Table (2) shows the distribution of sample individuals by age:**

| Age Group     | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------------|-----------|---------|---------------|--------------------|
| 20 or Younger | 1         | 1.3     | 1.3           | 1.3                |
| 21 - 30 Years | 24        | 30.0    | 30.0          | 31.3               |
| 31 - 40 Years | 35        | 43.8    | 43.8          | 75.0               |
| 41 - 50 Years | 17        | 21.3    | 21.3          | 96.3               |
| 51 or Older   | 3         | 3.8     | 3.8           | 100.0              |
| Total         | 80        | 100.0   | 100.0         |                    |

**Table (3) Cronbach's Alpha Coefficients for Testing the Reliability of the Questionnaire**

| No. | Dimension                  | Cronbach's Alpha |
|-----|----------------------------|------------------|
| 1   | Information Asymmetry Risk | 77.2%            |
| 2   | Digital Currency Auditing  | 91.1%            |

**Table 4 Split-half Reliability of the Instrumentance Level Expertise delivery Content Teaching techniques.**

| No. | Dimension                  | Split-Half Reliability (Guttman or Spearman-Brown) |
|-----|----------------------------|----------------------------------------------------|
| 1   | Information Asymmetry Risk | 73.4%                                              |
| 2   | Digital Currency Auditing  | 83%                                                |

**Table (5) The Internal Consistency of the Independent Variable**

| Item | Pearson Correlation | Sig. (2-tailed) | N  |
|------|---------------------|-----------------|----|
| x1   | .511**              | 0.000           | 80 |
| x2   | .496**              | 0.000           | 80 |
| x3   | .459**              | 0.000           | 80 |

|     |        |       |    |
|-----|--------|-------|----|
| x4  | .544** | 0.000 | 80 |
| x5  | .395** | 0.000 | 80 |
| x6  | .533** | 0.000 | 80 |
| x7  | .425** | 0.000 | 80 |
| x8  | .413** | 0.000 | 80 |
| x9  | .524** | 0.000 | 80 |
| x10 | .487** | 0.000 | 80 |
| x11 | .271*  | 0.012 | 80 |
| x12 | .522** | 0.000 | 80 |
| x13 | .390** | 0.000 | 80 |
| x14 | .264*  | 0.018 | 80 |
| x15 | .442** | 0.000 | 80 |
| x16 | .464** | 0.000 | 80 |
| x17 | .549** | 0.000 | 80 |
| x18 | .393** | 0.000 | 80 |
| x19 | .225*  | 0.045 | 80 |
| x20 | .449** | 0.000 | 80 |

**Table 6. Internal Consistency of the Dependent Variable: Digital Currency Auditing**

| Item | Pearson Correlation | Sig. (2-tailed) | N  |
|------|---------------------|-----------------|----|
| X41  | .501**              | 0.000           | 80 |
| X42  | .621**              | 0.000           | 80 |
| X43  | .464**              | 0.000           | 80 |
| X44  | .438**              | 0.000           | 80 |
| X45  | .439**              | 0.000           | 80 |
| X46  | .441**              | 0.000           | 80 |
| X47  | .388**              | 0.000           | 80 |
| X48  | .358**              | 0.001           | 80 |
| X49  | .401**              | 0.000           | 80 |
| X50  | .527**              | 0.000           | 80 |
| X51  | .594**              | 0.000           | 80 |
| X52  | .658**              | 0.000           | 80 |
| X53  | .549**              | 0.000           | 80 |
| X54  | .520**              | 0.000           | 80 |
| X55  | .703**              | 0.000           | 80 |
| X56  | .463**              | 0.000           | 80 |
| X57  | .678**              | 0.000           | 80 |
| X58  | .518**              | 0.000           | 80 |
| X59  | .596**              | 0.000           | 80 |
| X60  | .510**              | 0.000           | 80 |
| X61  | .654**              | 0.000           | 80 |
| X62  | .625**              | 0.000           | 80 |
| X63  | .670**              | 0.000           | 80 |
| X64  | .635**              | 0.000           | 80 |
| X65  | .391**              | 0.000           | 80 |
| X66  | .520**              | 0.000           | 80 |
| X67  | .720**              | 0.000           | 80 |
| X68  | .519**              | 0.000           | 80 |

**Table (7) Summary of Hypothesis 1 Testing**

| Correlations |     |     |
|--------------|-----|-----|
|              | DCA | AIR |

|     |                     |        |    |
|-----|---------------------|--------|----|
| DCA | Pearson Correlation | 1      |    |
|     | Sig. (2-tailed)     |        |    |
|     | N                   | 80     |    |
| AIR | Pearson Correlation | .702** | 1  |
|     | Sig. (2-tailed)     | .000   |    |
|     | N                   | 80     | 80 |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table (8) Summary of the Hypothesis 2 Testing Model**

| Model Summary <sup>b</sup> |                   |          |                   |                            |
|----------------------------|-------------------|----------|-------------------|----------------------------|
| Model                      | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1                          | .702 <sup>a</sup> | .493     | .486              | .314                       |

a. Predictors: (Constant), AIR  
b. Dependent Variable: DCA

**Table (9) ANOVA Results for Hypothesis 2 Testing**

| ANOVA <sup>a</sup> |            |                |    |             |        |                   |
|--------------------|------------|----------------|----|-------------|--------|-------------------|
|                    | Model      | Sum of Squares | df | Mean Square | F      | Sig.              |
| 1                  | Regression | 7.469          | 1  | 7.469       | 75.721 | .000 <sup>b</sup> |
|                    | Residual   | 7.693          | 78 | .099        |        |                   |
|                    | Total      | 15.162         | 79 |             |        |                   |

a. Dependent Variable: DCA  
b. Predictors: (Co(Constant), AIR

**Table (10) Regression Coefficients for Hypothesis 2**

| Coefficients <sup>a</sup> |            |                             |            |                           |       |      |
|---------------------------|------------|-----------------------------|------------|---------------------------|-------|------|
| Model                     |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|                           |            | B                           | Std. Error | Beta                      |       |      |
| 1                         | (Constant) | .816                        | .360       |                           | 2.269 | .026 |
|                           | AIR        | .824                        | .095       | .702                      | 8.702 | .000 |

a. Dependent Variable: DCA