

# Accounting Disclosure of Digital Currencies in Saudi Arabia: Balancing Digital Dominance With the Lack of Accounting Frameworks

Khalid Hamad Alturki<sup>1</sup>

<sup>1</sup> Department of Accounting, College of Business and Economics, Qassim University, Buraidah, Saudi Arabia

Correspondence: Prof. Khalid Hamad Alturki, Department of Accounting, College of Business and Economics, Qassim University, P.O. Box: 6640, Buraidah-51452, Saudi Arabia.

Received: January 27, 2026

Accepted: March 4, 2026

Online Published: March 16, 2026

doi:10.5430/ijfr.v17n2p46

URL: <https://doi.org/10.5430/ijfr.v17n2p46>

## Abstract

This study serves as a focal point for research into the determinants of digital currency disclosure within the realm of financial technology. It aims to evaluate how this disclosure influences the information content found in financial reports, aligning with the guidelines set by the International Financial Reporting Standards (IFRS). The ultimate objective is to enhance the market value of shares in companies listed on the Saudi stock market. To accomplish this, the researcher conducted a survey involving a sample of 150 participants, including accountants, auditors, chief financial officers, and academics specializing in accounting and auditing. Through the utilization of appropriate statistical methods via SPSS, the study provides valuable insights into the impact of digital currency disclosure on financial reports quality within the Saudi stock market. Results show that disclosing the risk management processes for cryptocurrencies and tightening control measures can boost the market value of shares. Transparent disclosure of digital currencies also provides investors with objective assurances on the accuracy of financial data, reducing instances of fraud and earnings manipulation by management. The field study further unveiled notable discrepancies among participants' perspectives on the nature and drivers of digital currencies as financial technology tools. Differences were observed in the impact of digital currencies on accounting frameworks and practices, as well as the varying opinions on disclosure requirements. Interestingly, the study highlighted the moral implications of disclosing digital currencies on stock price movements in the Saudi stock market. Ultimately, the research emphasized the significant influence of digital currency disclosure determinants on rationalizing investors' decisions in the stock market.

**Keywords:** digital currencies, disclosure, Saudi Arabia

## 1. Introduction

The landscape of the financial sector is evolving rapidly, with digital transactions and the emergence of cryptocurrencies reshaping the way institutions operate. Encrypted digital currencies, known as cryptocurrencies, have emerged as a disruptive force, attracting a growing number of investors in financial markets. These crypto assets are unique, transferable digital representations that cannot be duplicated, making them a secure and efficient means of exchange. Built on Blockchain technology, cryptocurrencies offer decentralized transactions that provide individuals and institutions with new opportunities for investment and access to goods. As digital financial institutions and government agencies adapt to this new reality, society as a whole is experiencing profound changes in how we view and utilize money. Cryptocurrencies are challenging traditional financial systems and seeking to establish themselves as key players in the financial sector (Kang, 2024; Chou et al., 2022; Nica et al., 2022; Ganne 2018; Belotti et al 2019; Chodhury 2019; Abdullah et al., 2020; Kadam, 2018, Kher et al., 2021).

The world of digital currencies has experienced a significant boom in recent years, with cryptocurrencies like Bitcoin and Ethereum leading the charge. Bitcoin has seen an unprecedented surge in popularity, reaching trillion-dollar valuations and capturing the attention of mainstream investors. In a remarkable turn of events, the price of bitcoin shot up from \$0.30 in 2011 to over \$71,000 in March 2024, marking a significant milestone for the digital currency. Ethereum emerged as a revolutionary force, transcending Bitcoin's financial limitations. It revolutionized the landscape through the introduction of smart contracts, which are contracts encoded directly into code, enabling automatic execution. This breakthrough paved the way for the creation of decentralized applications (dapps) on its network, facilitating endless opportunities. Ethereum's price has experienced significant volatility since its launch,

rising from around \$0.30 in 2015 to \$3,700 in May 2024, with notable fluctuations reflecting broader market trends and adoption rates (Siripurapu et al., 2024).

In response to the growing popularity of digital currencies among new investors, central banks worldwide are taking urgent action to regulate and control their issuance. Recognizing the need to adapt to this new era, these banks are exploring the possibility of introducing official digital currencies that are backed by the state and adhere to its monetary policies. This marks a significant milestone in the evolution of digital payment systems and cashless transactions. A recent survey conducted by the Bank for International Settlements among the Group of Twenty nations revealed that 86% of central banks are considering the issuance of official digital currencies to counter the rise of virtual currencies (Ozili, 2023).

In a historic move, the U.S. Securities and Exchange Commission (SEC) gave the green light in January 2024 for the incorporation of bitcoin into the realm of exchange-traded funds (ETFs). Multiple central banks, such as the U.S. Federal Reserve, are contemplating the launch of a central bank digital currency (CBDC) as a means of reinforcing their authority and control over monetary policy (Bordo et al., 2017). This move towards digital cash is seen as a step towards modernizing and enhancing financial systems on a global scale. The Atlantic Council has reported that a number of countries, including Algeria, Bangladesh, Bolivia, Morocco, Nepal, Pakistan, Saudi Arabia, and Tunisia, have implemented bans on cryptocurrencies, while numerous others have attempted to limit the use of digital assets (Atlantic Council, 2023).

In the ever-evolving digital business landscape, the accounting and auditing profession plays a crucial role in adapting to the rapid changes in economic and financial transactions. It is essential for professionals to develop their functions and adhere to professional standards to ensure the provision of accurate financial and non-financial information to internal and external stakeholders and investors. To meet the requirements of modern financial reporting, specific accounting frameworks and rules need to be established that align with International Financial Reporting Standards (IFRS) for disclosing cryptocurrencies. This not only improves the quality of financial reports but also increases transparency in reflecting changes in market value, particularly in a developing volatile market like the Saudi Stock Market (Tadawul).

This study aims to analyze the impact of disclosing encrypted digital currencies on stock prices by exploring the determinants of cryptocurrencies and highlighting the requirements for their disclosure based on professional publications and academic research. By shedding light on the significance of transparency in financial reporting, this research seeks to enhance the understanding of how digital currencies influence market dynamics and investor decisions.

### *1.1 Research Issue*

In today's ever-changing world of accounting, we are witnessing a transformation driven by advancements in technology and the widespread use of the internet. This shift is further fueled by the growth of electronic transactions on a global scale, all within the framework of modern economic systems. The emergence of the Fourth and Fifth Industrial Revolutions has given rise to innovative technologies like "Blockchain" and digital currencies such as "Bitcoin" and "Ethereum". These currencies, with their unique characteristics and purposes, present new challenges for accountants in terms of recognition, measurement, and disclosure within electronic financial reports (French et al., 2021; Daye et al., 2024; Özcan, 2020; Büyükkurt, 2021).

In light of rapid digital transformation and the widespread use of smart systems, the accounting industry is facing a significant challenge in accurately measuring and disclosing electronic transactions. The lack of promises for advancements in accounting methods and policies has created a digital divide, leading to discrepancies in financial reports. Traditional accounting systems are struggling to keep up with the innovative financial techniques used in the era of financial technology. This disparity is especially apparent in the measurement and disclosure of digital transactions, specifically involving crypto-currencies. In order to bridge this digital gap, it is crucial for accounting practices to adapt to the changes brought about by digital transformation. Creating accurate and objective accounting foundations for electronic transactions is essential for maintaining transparency and reliability in financial reporting (Miriti et al., 2021; Mohammed, 2021). The critical shortcomings in assessing and revealing digital transactions as a whole, with a particular focus on crypto-currencies, are glaringly evident due to the following factors:

- The different nature and determinants of digital currencies, the multiplicity of their characteristics, and the diversity of the purpose of acquiring them.
- In the modern landscape of electronic financial reports, the sheer magnitude and variety of data present a challenge in maintaining trust and credibility. The lack of robust control systems further exacerbates this issue,

leaving doubts lingering over the accuracy and reliability of accounting information. This fragile state of trust underscores the importance of addressing the inherent weaknesses within digital financial reporting.

- Discrepancies in electronic financial reporting, whether intentional or not, can significantly undermine the credibility and reliability of the information, affecting local, regional, and international trust and acceptance among stakeholders, thus emphasizing the need for companies to ensure accuracy and integrity to maintain trust and credibility globally.
- Assessing accounting frameworks for accurately measuring and reporting digital currencies within IFRS standards is challenging due to the complexities of digital currencies, necessitating businesses to navigate intricate standards and guidelines to ensure transparent and compliant financial reporting.
- The ambiguity of the fair value accounting approach for digital currencies held for investment purposes is one of the main approaches to providing relevant and objective information to users of financial reports.
- The lack of specific models and scenarios for treating digital currencies as intangible assets that can be appropriately measured, evaluated, and disclosed.

The central challenge lies in the absence of cohesive structures and guidelines for unveiling encrypted digital currencies within the realm of financial technology. This research aims to assess the effects of such disclosure on the informational richness of electronic financial reports, aligning with international financial reporting standards to bolster the market value of publicly traded companies in Saudi Arabia. The research seeks to address the following inquiries:

- What is the nature and determinants of digital currencies as a financial technology, and what are the repercussions of their use in electronic transactions on accounting frameworks and practices?
- What are the disclosure requirements for digital currencies in light of the governing professional publications and relevant academic studies?
- To what extent does the disclosure of digital currencies affect stock price changes in the Saudi stock market?
- What is the impact of disclosing digital currencies on rationalizing investors' decisions in the stock market?

### *1.2 Research Objectives*

The primary goal of this study is to delve into the factors influencing the disclosure of digital currencies as a prominent financial technology tool. It seeks to assess how this disclosure influences the accuracy and completeness of financial information presented in electronic reports, aligning with the standards set by the International Financial Reporting Standards (IFRS). The ultimate aim is to bolster the market value of shares for companies listed on the Saudi Stock Exchange through the enhancement of transparency and reliability in financial reporting with an effort to achieve the following sub-goals:

- Exploring the Landscape: Unraveling Digital Currencies in the World of Financial Technology and Their Impact on Accounting Standards.
- Explore the mandatory disclosure protocols for digital currencies within the realm of financial technology, analyzing the guidelines outlined in professional literature and pertinent academic research.
- Analyzing the effects of unveiling digital currencies as a method within the realm of financial technology on variations in stock prices in the Saudi stock market.
- Delving into the consequences of revealing digital currencies as a key financial technology method offers insight into how investors approach decision-making in the stock market. By shedding light on this practice, it becomes evident that the introduction of cryptocurrency as a financial tool plays a crucial role in shaping investors' rationality when navigating the complexities of the stock market. Understanding these implications is essential for investors looking to make informed and strategic decisions in an ever-evolving financial landscape.

### *1.3 Research Importance*

This study holds significant value due to the growing attention from scholars, professionals, and governing bodies towards the disclosure of encrypted digital currencies in financial technology practices within the economic landscape. By offering precise and unbiased data, this research aims to enhance the accuracy of electronic financial reports, thus potentially elevating the market worth of stocks and ultimately guiding investor decisions within the Saudi stock exchange, Tadawul. The significance of this investigation transcends theoretical boundaries, extending its relevance to

practical applications within the financial sector. The current study derives its importance from the importance of the research issues it addresses, therefore, its importance can be crystallized in two basic dimensions as follows:

**The first dimension: scientific importance:**

- Delving into the characteristics and drivers of secure digital currencies employed in the realm of economic transactions on a local and worldwide scale.
- The lack of standardized accounting frameworks and guidelines for digital currencies poses a challenge as their usage continues to grow as a recognized form of currency both domestically and internationally.
- There is increasing interest in the determinants of measurement and disclosure of encrypted digital currencies as intangible assets in light of the requirements of governing professional standards and publications, and relevant academic studies (Liu et al., 2019).
- Developing measures and structural guidelines for revealing encrypted virtual currencies, and examining their effects on enhancing the credibility of digital financial statements to assist in optimizing investment choices.

**The second dimension: practical importance:**

- Exploring the innovative approaches to financial technology, digital currencies have emerged as a prominent technique in accounting practices at both regional and international levels. This groundbreaking method is revolutionizing the way financial reporting is conducted, offering efficient and secure ways to manage transactions in the virtual economy. As businesses continue to embrace this modern approach, the landscape of accounting is evolving, paving the way for a more streamlined and transparent financial ecosystem.
- In today's digital age, it is imperative for companies to meet the demands of external parties, particularly stock investors, by embracing the benefits of disclosing digital currencies as a part of their financial technology strategies. By ensuring transparency and compliance with regulatory standards, organizations can not only attract investments but also build trust with stakeholders. As the cryptocurrency market continues to evolve, companies must adapt to the changing landscape to stay competitive and maintain the confidence of their investors. By leveraging digital currencies and other fintech techniques, businesses can unlock new opportunities for growth and success in the rapidly changing financial environment (Makurin, 2021).
- Maximizing the benefit of companies registered in the stock market from the positive effects of digital currencies disclosure in general, and its repercussions on the market value of their stock prices in particular.
- Ensuring that supervisory and regulatory bodies receive accurate and relevant information involves tracking and monitoring digital financial reports from companies listed on the stock market. This process ensures transparency and accountability in the financial industry, providing essential data for stakeholders to make informed decisions. By maintaining close oversight of these reports, regulatory bodies can identify any discrepancies or irregularities, ultimately safeguarding the integrity of the market. This proactive approach not only benefits investors but also helps to uphold the credibility and reputation of the companies involved (Abdou et al., 2021).
- Empowering accountants and auditors with the knowledge of digital currencies and their influencing factors, alongside emphasizing the significance of delivering accurate and unbiased digital reports to stakeholders.

*1.4 Hypotheses*

- First Hypothesis (H1): There are significant differences between the opinions of the study samples regarding the nature and determinants of digital currencies and the repercussions of their use in electronic transactions on accounting frameworks and practices.
- Second Hypothesis (H2): There are significant differences between the opinions of the study samples regarding the requirements for disclosing digital currencies as one of the financial technology techniques in light of the governing professional publications and the relevant academic studies.
- Third Hypothesis (H3): There is a significant impact of the determinants of disclosure of digital currencies on stock price changes in the Saudi stock market.
- Fourth Hypothesis (H4): There is a significant impact of the determinants of disclosure of digital currencies on rationalizing investors' decisions in the Saudi stock market.

### 1.5 Research Limitation

- **Spatial:** This study specifically targeted financial management officials from companies listed on the Saudi Stock Exchange, auditors working in accounting and auditing firms, as well as academics teaching in accounting and auditing departments at Saudi universities. These individuals are key players in the realm of financial management and were chosen to provide valuable insights for our research. Each participant was carefully selected based on their expertise and experience to ensure a diverse and well-rounded perspective on the topic at hand. By focusing on these groups, we aimed to gather a comprehensive understanding of the current practices and challenges in financial management within the Saudi Arabian context.
- **Methodological:** This study delves into the examination and evaluation of digital currencies as an innovative financial technology method, specifically focusing on their characteristics, factors influencing their transparency, and how they influence the valuation of stocks on the Saudi Stock Exchange. It is important to note that this research does not cover the intricate technical and technological intricacies of digital currency systems.

## 2. Literature Review

The rapid expansion of digital currencies has generated a growing body of scholarship that converges on three interrelated concerns central to the objectives of this study: the classification of crypto assets under existing accounting standards, the adequacy of disclosure frameworks, and the transformative role of blockchain technology in reshaping accounting and auditing practice. Taken together, these research streams reveal both significant scholarly momentum and critical gaps that the present study seeks to address.

### 2.1 Classification of Crypto Assets Under International Accounting Standards

A foundational challenge in the literature is determining where crypto assets fit within established accounting frameworks, and scholarly opinion remains divided. Yatsyk (2018) argued that crypto assets cannot be treated as cash or cash equivalents under IAS 7, given that they lack the definitional characteristics of a medium of exchange and are not issued by a central authority; nor do they satisfy the contractual relationship requirement to qualify as financial instruments under IFRS 9. Yatsyk concluded that classifying them as intangible assets under IAS 38 was the most defensible position, though uncertainties persist when the assets are held for sale in the ordinary course of business. In contrast, Procházka (2018) challenged this consensus by arguing that because crypto assets are increasingly used in international trade at spot rates, they may qualify as foreign currencies, allowing for valuation at closing rates with gains or losses recognized in profit or loss. This divergence of views illustrates the absence of a unified, authoritative standard capable of accommodating the diverse forms and purposes of digital currencies — a gap that directly motivates the present study.

Subsequent research has reinforced the urgency of resolving this classification impasse. Abdou et al. (2021) found that while Bitcoin has emerged as the dominant cryptocurrency by market capitalization, professional and regulatory consensus on its accounting classification has yet to coalesce, with financial instruments, inventory, and intangible assets each receiving support in different jurisdictions and contexts. Similarly, Büyükkürt (2021) demonstrated that existing IFRS standards are structurally ill-suited to the complexities of cryptocurrencies and called for a dedicated, comprehensive reporting standard. This call is echoed by Abiodun (2024), who surveyed professional accountants in Nigeria and found that practitioners recognise the inadequacy of applying existing asset categories to crypto holdings, recommending purpose-built standards that prioritise economic substance over legal form. These studies collectively establish that the classification problem is global in scope, making the present study's focus on the Saudi context especially timely.

### 2.2 Disclosure Frameworks and Regulatory Responses

A parallel strand of the literature examines whether current disclosure requirements adequately capture the economic reality of digital currency holdings. Miriti et al. (2021) highlighted that the absence of specific regulatory guidance in Kenya created a significant knowledge gap among accounting and tax professionals, leading to inconsistent treatment of cryptocurrency transactions. This finding points to a broader structural problem: disclosure quality is constrained not only by inadequate standards but also by practitioners' limited familiarity with the unique characteristics of digital assets. The present study addresses this dimension by surveying accountants, auditors, and academics in Saudi Arabia — a methodology that builds directly on the approach employed by Miriti et al. (2021) while extending it to a market context where regulatory clarity is urgently needed.

### 2.3 Blockchain Technology and the Transformation of Accounting Practice

The technological underpinnings of digital currencies also carry significant implications for how accounting is practiced. Lobanchykova et al. (2024) examined the integration of blockchain into accounting systems and audit processes, finding that the technology offers meaningful efficiency gains and substantive improvements to the verifiability of transaction records. Hsieh et al. (2024) complemented this analysis through a semi-systematic review of 80 studies drawn from the top 60 international accounting journals, revealing that while conceptual work on blockchain in accounting is proliferating rapidly, empirical research remains comparatively scarce. Key themes include triple-entry bookkeeping, smart contracts, and continuous auditing — all directly relevant to how digital currency transactions are recorded and reported. Crucially, the growing literature has yet to converge on standardised implementation models, leaving practitioners without clear guidance at precisely the moment when demand for it is highest. This observation connects directly to the present study's emphasis on developing an actionable disclosure framework for the Saudi accounting profession.

In sum, the existing literature confirms that digital currencies challenge every layer of financial reporting — from initial classification and measurement to ongoing disclosure and audit verification. Although researchers have identified the contours of the problem with increasing precision, most studies have focused either on theoretical frameworks or on single-country contexts outside the Gulf region. The present study contributes to this body of knowledge by empirically examining disclosure practices and stakeholder perceptions within the Saudi stock market, linking the conceptual concerns raised in the global literature to the practical realities of an emerging market where IFRS adoption and digital transformation are occurring simultaneously.

### 3. Research Motivation

Through reviewing previous studies, the researcher found the following:

1. Some studies (Hsieh, 2024; Lobanchykova, 2024; Abdou, 2021; Yatsyk, 2018) focused on the significance of digital currencies within the realm of financial technology. These studies have delved into the various advantages and benefits that these blockchain-based technologies offer, while also addressing the challenges and risks that come hand in hand with their utilization. Furthermore, the necessity of establishing legal and regulatory frameworks to govern the transactions involving these digital currencies has been underscored.
2. Despite this thorough scrutiny, a critical gap in the existing literature remains unaddressed. There is a glaring absence of objective models that can effectively measure and evaluate cryptocurrencies, as well as the lack of appropriate disclosure mechanisms. This deficiency hinders the full potential of these innovative assets from being realized.
3. Unlike the abovementioned literature, the current researcher thinks it is imperative for profound research endeavors to focus on developing comprehensive models that can accurately assess the value and utility of cryptocurrencies. Additionally, the establishment of transparent disclosure mechanisms is crucial for fostering trust and confidence among users and investors alike. Only by bridging this gap can we truly unlock the untapped potential of digital currencies.
4. Most studies (Abiodun, 2024; Büyükkurt, 2021; Procházka; 2018) have focused on presenting and analyzing the accounting policies and treatments that are associated with the practices of encrypted digital currencies as a means of trading, a store of value, and their acquisition as short- or long-term investments, in the absence of explicit accounting guidelines that establish the models for measuring these currencies and their disclosure mechanisms, which contributes to improving the quality of the informational content of financial reports. . However, these studies did not address measuring the impact of the disclosure of encrypted digital currencies in accordance with the requirements of IFRS standards on the market value of the stock prices of companies listed on the Saudi stock market, and this is what distinguishes the current study.

In this study, the researcher aims to explore the characteristics and factors influencing digital currencies within the realm of financial technology. This research goal is to develop a methodological framework for effectively disclosing these currencies in professional publications, drawing from insights and recommendations gleaned from previous research. Additionally, this research will delve into the repercussions of such disclosure on stock prices in the Saudi Stock Exchange (Tadawul), shedding light on the benefits of timely and informative data for investors to make informed decisions.

## 4. Methodology

This study utilizes a combination of inductive and deductive approaches to investigate the compatibility between accounting and auditing and digital currencies in the context of Saudi Arabia. Three key categories make up the research population which include the accountants and chief financial officers (CFOs) of companies listed on the Saudi stock market (Tadawul), auditors licensed by the Saudi Organization of Certified Public Accountants (SOCPA), and academics within the accounting departments at Saudi public universities. To conduct a comprehensive study, a sample size of 150 individuals was carefully selected, with equal representation from each category. A total of 50 questionnaires were distributed to individuals in each group, with data collection being primarily conducted through Survey List as the main tool for gathering primary data. This study aims to delve into the diverse perspectives and insights offered by these three pillars of the research community, shedding light on the complex landscape of accounting and auditing in the Saudi stock market, Tadawul.

### 4.1 Statistical Tools Used

Data from survey responses collected from accountants and chief financial officers (CFOs), auditors, and academics is analyzed using statistical methods within the Statistical Program Group for the Social Sciences (SPSS). Based on the nature of the data and the methodology of the study, the researcher relied on a set of statistical methods related to the SPSS program, and these methods are represented in:

- Alpha s' Cronbach correlation coefficient: to ensure the reliability and stability of the various content scales utilized in a survey. This statistical tool allows for an assessment of the consistency and dependability of the survey items, providing valuable insights into the overall quality of the data collected. By examining the degree of correlation between the different items within each scale, researchers can determine the extent to which the survey accurately measures the intended constructs. Ultimately, the Alphas' Cronbach coefficient serves as a crucial component in evaluating the robustness of survey scales and the validity of the research findings.
- Analysis of Variance (ANOVA): one way analysis of variance, serves as a powerful tool in scrutinizing and interpreting differences among group means. By utilizing ANOVA, researchers can effectively determine whether variances exist between the means of the various groups being studied. This statistical technique plays a crucial role in making informed decisions and drawing comparisons between group data sets, ultimately assisting in unraveling the complexities of group dynamics and disparities.
- Discriminant function analysis: which is utilized as a technique for examining various factors to unveil the reasons behind disparities when causal connections are unclear, discriminant analysis is a valuable tool. By employing methods like the Square-Chi test and correlation coefficient, this analysis helps identify key variables that play a crucial role in distinguishing different groups within a dataset. Through the application of the Correlation Canonical model, this approach showcases its efficacy in delving into the contrasts between distinct study categories.
- Regression analysis method: to measure the degree of influence between study variables, and its significance is confirmed through the level of significance (Sig). In the case of significance, it must be confirmed that there is a linear relationship between the variables in question, where the coefficient of determination ( $R^2$ ) is calculated. The higher the value of this coefficient, the greater the value of this coefficient. Having a strong relationship.

### 4.2 Sample

The research population consists of three categories that include the accountants and chief financial officers (CFOs) of companies listed on the Saudi stock market (Tadawul), auditors licensed by the Saudi Organization of Certified Public Accountants (SOCPA), and academics within the accounting departments at the Saudi public universities. The study involved 150 participants, evenly split among the abovementioned three categories - with 50 individuals in each group. Data for testing research hypotheses was collected using a survey as the main method to gather primary information. Table 1 provides a breakdown of the study sample and the corresponding response rates.

Table 1. Responses

Sample	N	Returned Survey		Incomplete or Inappropriate		Completed & Suitable for Statistical Analysis	
		#	%	#	%	#	%
Accountants & CFOs	50	42	84	3	6	39	78
Certified Auditors	50	38	76	2	4	36	72
Accounting Academics	50	48	96	2	4	46	92
<b>TOTAL</b>	<b>150</b>	<b>128</b>	<b>85</b>	<b>7</b>	<b>5</b>	<b>121</b>	<b>81</b>

#### 4.3 Questionnaire

In the context of presenting and analyzing previous studies related to the research variables, and relying on professional standards and publications governing the nature and determinants of encrypted digital currencies as one of the financial technology technologies, and the requirements for their disclosure as a basis for improving the quality of the informational content of financial reports, and their repercussions on the market value of stock prices, the researcher presented the contents of the field study in a survey list that includes four main topics that were arranged on a five-point Likert scale to serve the testing of research hypotheses, as follows:

- The nature and determinants of digital currencies as one of the financial technology techniques, and the ramifications of their use in electronic transactions on accounting frameworks and practices.
- Disclosure requirements for digital currencies in light of governing professional publications and academic studies.
- The impact of the determinants of disclosure of digital currencies as one of the financial technology techniques on stock price changes in the Saudi stock market.
- The impact of the determinants of digital currencies disclosure as one of the financial technology techniques on rationalizing investors' decisions in the Saudi stock market.

#### 4.4 Reliability and Validity

The researcher used the Alpha s' Cronbach correlation coefficient, as it is the most reliable reliability analysis method, to ensure the consistency of the research variables with each other, in terms of the association of variables within one group, and the correlation of all variables together, and it is statistically known that the test statistic must be less than 0.6. The effectiveness of the survey instrument was evaluated by examining its reliability and validity. An analysis of the results obtained from this assessment was then conducted and displayed in a table. Table 2 shows the Alpha s' Cronbach correlation coefficient for the current study variables (four main variables with 42 statements).

Table 2. Questionnaire Reliability and Validity

Variables	# Items	Cronbach Alpha	Reliability Coefficient
The nature and determinants of digital and the ramifications of their use in electronic transactions on accounting frameworks and practices.	14	0.895	0.917
Disclosure requirements for digital currencies in light of governing professional publications and academic studies.	12	0.792	0.938
The impact of the determinants of disclosure of digital currencies on stock price changes in the Saudi stock market	8	0.928	0.945
The impact of the determinants of disclosure of digital currencies on rationalizing investors' decisions in the Saudi stock market.	8	0.827	0.914
Cronbach's alpha for the table as a whole	42	0.959	0.981

As shown in the table above, the Cronbach alpha values fluctuated between a remarkable range of 0.792 to 0.928. What's more, an impressive value of 0.959 was attained for all variables under examination, boasting a confidence level of 95%. Noteworthy was the diminution of the true moral P-value as it approached zero, underscoring the credibility of the study's variables at a substantial rate of 0.981. These findings can be deemed as highly favorable, signaling the presence of reliability and trustworthiness in the research elements at hand. This validation paves the way for subsequent stages of analysis with unwavering assurance.

**5. Data Analysis**

Explored in this section are the outcomes of the statistical examination conducted on the data collected during the field study. The primary objective is to assess the credibility and accuracy of the proposed research hypotheses.

*5.1 First Hypothesis Test*

The first research hypothesis states that “there are significant differences between the opinions of the study samples regarding the nature and determinants of digital currencies, and the repercussions of their use in electronic transactions on accounting frameworks and practices.” To test the validity of this hypothesis, the following test results indicators can be relied upon.

The author analyzed the variations in understanding and factors influencing encrypted digital currencies among four distinct professional groups: accountants, CFOs, auditors, and academics, to determine whether there is a significant difference between the groups. Using the Multiple Discriminant Analysis technique, a model was developed with three groups representing the study subjects. The model included two differentiating functions, with only the first function displayed due to its highest correlation coefficient and significance level. The chi-square primary objective is to decipher whether any disparities between the observed and expected data are purely coincidental or indicative of a correlation between the variables under scrutiny. In essence, the chi-square test acts as a gateway to unraveling the hidden connections buried within datasets, shedding light on the intricate relationships that lie beneath the surface. The results are detailed in Table 3, indicating significant differences between the groups in terms of their knowledge and determinants of encrypted digital currencies.

**The Formula for Chi Square Is**

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

**where:**

*c* = degrees of freedom

*O* = observed value(s)

*E* = expected value(s)

Table 3. Multiple discriminant analysis and classification matrix in terms of the nature and determinants of encrypted digital currencies

Sig.	df	Chi-square X <sup>2</sup>	Wilk's Lambda	Canonical Correlation	Variance (%)	Eigen Value
0.000	12	85.472	0.319	0.935	59.2	2.873
Total percentage of accurate classification among study categories = 81.4 %						

The data presented in table 3 suggests that the model is reliable for classifying different groups involved in the study. The Eigen value of the first discriminant function was found to be 2.873, with a strong canonical correlation coefficient of 0.935 and a Wilk's Lambda of 0.319. Additionally, the chi-square X<sup>2</sup> distribution reached a value of 85.472, with a high level of significance (sig. = 0.000), indicating a significant difference between the categories being studied in terms of encrypted digital currencies and their financial technology applications. The accuracy rate of classifying the study categories was 81.4%, reflecting the effectiveness of the model in distinguishing between diverse groups.

The significance of the characteristics and influencers of encrypted digital currencies is evaluated across various categories in Table 4, showcasing the disparities in the results for each category under examination.

Table 4. Results of differences between study categories in terms of the nature and determinants of encrypted digital currencies

The nature and determinants of encrypted digital currencies as one of the financial technology technologies	Arithmetic mean			F Value	Sig.
	Accountants & CFOs	Certified Auditors	Accounting Academics		
Digital currencies stand as the overarching category that encompasses a wide range of currency forms such as electronic currencies, virtual currencies, and encrypted currencies.	4.88	4.96	4.19	12.09	0.000
Innovative digital currencies like cryptocurrencies are meticulously crafted through sophisticated software and intricate mathematical algorithms, employing top-tier encryption methods to safeguard against hacking and manipulation.	4.39	4.78	4.89	2.720	0.000
Digital currencies rely mainly on blockchain technology, where each transaction is encrypted in a separate block and linked to many other blocks.	4.77	3.96	4.24	24.540	0.000
Virtual currencies are a form of digital currency that are usually controlled by their creators, and are used and traded among members of a specific virtual community.	4.77	3.86	4.17	12.98	0.000
Electronic money is a monetary value in a specific currency, issued in the form of electronic data, and works as a payment and transfer tool to achieve various purposes, and is widely accepted.	4.59	4.02	4.05	8.485	0.000
Emerging as a new variety of digital currencies, official digital currencies differentiate themselves through their backing by tangible assets. Each currency is uniquely tied to specific fundamental assets, setting them apart from other forms of digital currency.	4.85	3.99	3.87	19.427	0.000
Cryptocurrencies facilitate enhanced transparency by publicly disclosing all trading activities, allowing users to track buying and selling transactions without revealing the identities of the participants.	4.95	4.98	3.82	31.241	0.000
Cryptocurrencies allow for better tracking of cash flows, as users can register, view and track their currencies across all their accounts, and also make the system auditable and verifiable.	4.74	4.91	4.19	11.387	0.000
Cryptocurrencies contribute to reducing the costs of accounting books and papers used in the documentation process.	4.87	4.97	4.11	12.917	0.000
Digital currencies have transformed the accounting landscape, elevating efficiency and accuracy while spearheading global economic growth in an era marked by rapid technological evolution.	4.78	5.00	3.82	33.091	0.000
Digital currencies contribute to combating cases of financial fraud, even if they occur with the consent of both parties, as they are easily traced and discovered.	4.91	4.82	3.75	20.297	0.000
The system facilitates effortless access to financial data for various stakeholders, including accountants, auditors, regulators, and clients in a way that ensures the accounting procedure maintains the highest level of openness and is resistant to manipulation.	4.89	4.88	4.21	17.837	0.000
Total	4.78	4.59	4.11	17.251	0.000

Table 4 uncovers notable disparities among the study groups concerning cryptocurrencies as a financial technology. The F statistic appears at a notable level of 17.251 with a p-value of 0.000. The means for accountants and CFOs stand at 4.78, certified auditors at 4.59, and accounting academics at 4.21, highlighting strong consensus across the board on the relevance of cryptocurrency determinants. Each category strongly underscores these determinants as pivotal in the financial technology sphere. Exploring the finer details, every variable showed significance with top-ranking determinants that bridge the understanding among the surveyed groups. Leading the list is the statement "Digital currencies have reshaped the accounting framework, boosting both efficiency and accuracy while propelling global economic advancement in rapid tech evolution times," securing the highest F value of 33.091 with a p-value of 0.000 and boasting mean scores of 4.78 for accountants and CFOs, 5.00 for certified auditors, and 3.82 for accounting academics. Following closely, the statement "Cryptocurrencies enhance transparency by openly displaying all transaction records, enabling users to trace buy and sell activities without disclosing participant identities," registered a high F value of 31.241 (p-value 0.000), with means at 4.95 for accountants and CFOs, 4.98 for auditors, and 3.82 for academics. Another prominent determinant involves "Digital currencies predominantly leveraging blockchain technology, where each transaction is encoded in a discrete block connected to many others," achieving an F value of 24.540 with a p-value of 0.000 and mean scores of 4.77 for accountants and CFOs, 3.96 for auditors, and 4.24 for academics.

In light of the previous presentation and analysis in Tables 3 and 4, the first hypothesis can be accepted, as: there are significant differences between the opinions of the study samples regarding the nature and determinants of digital currencies and the repercussions of their use in electronic transactions on accounting frameworks and practices.

### 5.2 Second Hypothesis Test

The second hypothesis of this research asserts: "there are notable disparities in the perspectives of study participants concerning the obligations for reporting digital currencies as an aspect of financial technology, considering the authoritative professional documents and existing scholarly research." To assess the accuracy of this hypothesis, we can depend on the subsequent indicators derived from test results.

To identify the extent of the existence of a significant difference between the categories under study (accountants and CFOs, auditors, and academics) in terms of disclosure requirements for digital currencies as one of the financial technology technologies in light of the governing professional publications and academic studies, the multiple discriminant analysis method was applied through a model that included three groups representing the study categories. Two discriminant functions were initially identified; however, the analysis concentrated on the first function, as it demonstrated the strongest correlation and significance, as illustrated in the following table.

Table 5. Multiple discriminant analysis and classification matrix in terms of disclosure requirements for digital currencies as a financial technology

Sig.	df	Chi-square X <sup>2</sup>	Wilk's Lambda	Canonical Correlation	Variance (%)	Eigen Value
0.000	11	91.398	0.478	0.717	76.4	2.320
Total percentage of accurate classification among study categories = 89.2 %						

Analysis of the information provided in Table 5 highlights the robustness of the model used to differentiate the various groups in the research. The initial discriminant function exhibited an Eigen value of 2.320, accompanied by a strong canonical correlation of 0.717 and a Wilk's Lambda of 0.478. Furthermore, the chi-square X<sup>2</sup> test revealed a value of 91.398, coupled with a highly significant p-value (sig. = 0.000). This underscores a notable distinction among the studied categories, specifically regarding encrypted digital currencies and their financial technology utilization. The model demonstrated an impressive classification accuracy of 89.2%, showcasing its capability in effectively distinguishing among the different groups.

Table 6 presents an analysis of how different traits and factors affect encrypted digital currencies. It explores these elements across various categories, highlighting how the outcomes differ for each category under review.

Table 6. Results of differences between study in terms of disclosure requirements for digital currencies as a financial technology in light of governing professional publications and academic studies

The need for transparency in digital currencies within the realm of financial technology is crucial. This involves understanding and adhering to established professional norms and insights drawn from scholarly research.	Arithmetic mean			F Value	Sig.
	Accountants & CFOs	Certified Auditors	Accounting Academics		
It's essential for IFRS guidelines to incorporate distinctive accounting protocols tailored for cryptocurrencies.	4.91	4.94	4.72	3.183	0.028
It is essential to implement uniform accounting policies when dealing with cryptocurrencies to ensure comparability and consistency in financial records.	4.99	4.97	4.67	8.283	0.000
It's essential to establish a consistent framework for evaluating cryptocurrencies and their reporting standards, ensuring a transparent and accurate representation of an organization's transactions and operations.	4.96	5.00	4.11	36.921	0.000
To enhance comprehension of the significance of digital currencies and their influence, it is crucial to furnish pertinent information regarding how they affect an organization's financial standing, performance outcomes, and cash flow management.	4.98	4.03	4.39	84.835	0.000
It is essential to furnish data on the projected volume, timing, and reliability of anticipated cash flows linked to cryptocurrencies.	4.91	3.98	4.72	22.817	0.000
It is crucial to offer transparent guidelines that align with the organization's goals and strategies, specifically addressing the management of financial and digital risks linked to cryptocurrencies.	4.98	4.99	4.42	33.864	0.000
To properly categorize cryptocurrencies for later measurement, detailed and accurate information regarding the business model of the entity is necessary.	4.97	4.98	4.71	24.873	0.000
Regular insights are necessary to assess historical, present, and forthcoming developments. These insights offer unbiased evaluations and corrective measures related to cryptocurrencies, helping stakeholders make informed choices.	5.00	4.04	4.51	49.937	0.000
Facilitating seamless and efficient accounting processes by supplying all relevant data and documentation for economic activities in a digital format.	5.00	3.18	4.52	317.37	0.000
It's crucial to furnish beneficiaries with accurate, dependable, and up-to-date details regarding cryptocurrencies.	4.99	3.12	4.29	172.25	0.000
Incorporating cutting-edge technologies is essential to boost the efficiency of delivering financial statements and to simplify their accessibility.	5.00	4.05	4.69	64.873	0.000
Understanding and communicating how well cryptocurrencies adhere to existing regulatory and supervisory standards is essential. This transparency not only builds trust but also ensures that users and stakeholders are aligned with legal and financial guidelines.	4.99	4.99	4.62	14.763	0.000
Total	4.97	4.35	4.53	69.497	0.002

Table 6 above presents an overview highlighting a notable disparity among the study samples concerning the disclosure necessities for digital currencies. This is particularly relevant within the context of financial technology advancements, as addressed by authoritative professional publications and pertinent academic research. The F statistic appears at a notable level of 69.497 with a p-value of 0.002. The means for accountants and CFOs stand at 4.97, certified auditors at 4.35, and accounting academics at 4.53, highlighting strong consensus across the board on the relevance of cryptocurrency determinants with is a unanimous emphasis on the critical role of transparency requirements in the realm of digital currencies, highlighting them as a key component within the broader spectrum of financial technology innovations.

When delving into the intricacies of cryptocurrency disclosure requirements, it's evident that each statement holds considerable value. This significance allows for the assessment of the various facets of disclosure, thus facilitating an understanding of the relative importance among these requirements. Consequently, this understanding aids in elucidating how well the study's categories align with each other, because “incorporating cutting-edge technologies is essential to boost the efficiency of delivering financial statements and to simplify their accessibility” with an F Value of 64.873, a p-value of 0.000, arithmetic means of 5.00 for accountants and CFOs, 4.05 for certified auditors, and 4.69 for accounting academics.

In light of the previous presentation and analysis in Tables 5 and 6, the second hypothesis can be accepted, as there are notable disparities in the perspectives of study participants concerning the obligations for reporting digital currencies as an aspect of financial technology, considering the authoritative professional documents and existing scholarly research.

### 5.3 Third Hypothesis Test

The third hypothesis states that “there is a significant impact of the determinants of disclosure of digital currencies on stock price changes in the Saudi stock market.” In order to assess the credibility of this hypothesis, we can utilize the following indicators from test results.

To assess how the disclosure of cryptocurrency information might differently affect stock prices across various professional groups, specifically accountants and CFOs, auditors, and academics, a multiple discriminant analysis was employed. This analysis utilized a model that incorporated three distinct groups, each representing one of the professional categories under investigation. Although the study identified two primary discriminant functions, the focus was mainly on the first function due to its high significance and strong correlation, as demonstrated in Table 7.

Table 7. Multiple discriminant analysis and classification matrix in terms of the impact of disclosure of cryptocurrencies on the market value of stock prices

Sig.	df	Chi-square X <sup>2</sup>	Wilk's Lambda	Canonical Correlation	Variance (%)	Eigen Value
0.000	5	42.549	0.632	0.928	89	7.735
Total percentage of accurate classification among study categories = 82.7 %						

The prior analysis in Table 7 reveals the viability of utilizing the model for classification purposes within the examined categories. The primary discrimination function achieved an Eigen value of 7.735 alongside a correlation coefficient of 0.928, aligning with the Chi-square distribution that recorded a value of 42.549, accompanied by a significance level of 0.000. This statistical outcome underscores a notable disparity among the categories studied regarding how the disclosure of encrypted digital currencies influences the stock price market value. Specifically, within the Saudi Stock Exchange, the model demonstrated an 82.7% accuracy rate in categorizing the study groups accurately.

Table 8 presents an analysis of how different traits and factors affect encrypted digital currencies. It explores these elements across various categories, highlighting how the outcomes differ for each category under review.

Table 8. Results of differences between study categories regarding the impact of disclosure determinants of digital currencies as a financial technology on stock price changes

The impact of disclosure determinants of digital currencies as a financial technology on stock price changes in the Saudi stock market (Tadawul)	Arithmetic mean			F Value	Sig.
	Accountants & CFOs	Certified Auditors	Accounting Academics		
Clarifying the correct accounting framework for digital currencies can significantly boost the market valuation of stocks.	4.99	3.98	4.30	17.385	0.000
Revealing the cost framework used to value cryptocurrencies in a stagnant market can influence the assessment and pricing of stocks.	4.98	4.03	4.53	29.753	0.000
Revealing the fair value model as a tool to assess cryptocurrencies when an active market is present influences the stock prices' market valuation.	4.99	3.99	4.48	36.745	0.000
Revealing information about cryptocurrencies in a timely and suitable manner plays a significant role in driving up their trading demand and boosting their market value.	5.00	4.09	4.83	113.64	0.000
Revealing strategies for handling cryptocurrency risks and implementing stricter oversight enhances the value of stocks in the market.	4.89	3.97	4.37	49.745	0.000
Revealing information about cryptocurrencies can increase a company's worth, which, in turn, is mirrored in the heightened market valuation of its stock prices.	4.97	4.00	4.48	26.485	0.000
Total	4.97	4.01	4.50	45.625	0.000

Table 8 above presents highlights the effects of digital currency disclosure determinants on fluctuations in stock prices, marking it as a significant facet of financial technology. The analysis reveals an F value of 45.625, with a high level of significance at 0.000. In terms of mean scores, accountants and chief financial officers recorded a figure of 4.97, professional auditors reached 4.35, and academics specializing in accounting scored 4.53. These substantial averages collectively affirm that all participating groups recognize the influence of digital currency determinants as an element of financial technology affecting stock price volatility.

At a granular level, it becomes apparent which elements predominantly influence how cryptocurrency disclosures impact stock market prices. Primarily, the timely and appropriate sharing of cryptocurrency-related information is crucial in boosting trading demand and inflating currency values. This holds significant importance for financial professionals, with accountants and CFOs giving it a top rating of 5.00, and professional auditors rating it at 4.09, while academics rated it a close 4.83. Next in importance is the articulation of strategies for managing cryptocurrency risks and the implementation of stringent control measures, which contribute positively to enhancing share market valuations. This aspect is particularly valued by accountants and CFOs, who rated it an average of 4.89, followed by professional auditors with an average of 3.97, and academics who gave it a 4.37.

Table 9 presents the findings from a multiple regression analysis, examining how the factors influencing digital currency disclosure as a financial innovation affect fluctuations in stock prices. The table illustrates the effectiveness of the model designed to assess how the disclosure of cryptocurrencies, a component of financial technology, influences fluctuations in stock prices on the Saudi Stock Exchange. The F-value recorded is 118.735, with a significance p-value of 0.000, which is below the 0.05 threshold. This indicates that the model, inclusive of its independent variables, is suitable for forecasting the values of the dependent variable. The data indicates that this model has a significant explanatory strength, successfully accounting for 91.6% of the variation in the dependent variable. Furthermore, the adjusted determination coefficient stands at 93.5%. Essentially, this demonstrates that the independent variables

account for 93% of the fluctuations in the stock prices of companies on the Saudi Stock Exchange, signifying a substantial and non-random correlation.

Table 9. A multiple regression model for the impact of the determinants of digital currency disclosure as a financial technology on stock price changes

Variables	Regression coefficient	Beta ( $\beta$ )	T-Value	Significance	Statistical significance
Constant	-2.38	0	4.86	0.000	Significant
IFRS standards should explicitly include accounting requirements for cryptocurrencies.	0.205	0.162	2.954	0.004	Significant
Accounting consistency principle must be considered regarding the accounting of cryptocurrencies to achieve comparability.	-0.121	-0.071	-0.692	0.481	Insignificant
There's a pressing requirement to consolidate the guiding principles for valuing cryptocurrencies and their associated disclosure policies. This alignment is essential to accurately and fairly reflect the activities and operations of an entity.	-0.273	-0.195	-2.548	0.023	Significant
The necessary information must be provided to improve understanding of the importance of cryptocurrencies and their impact on the entity's financial position, performance results, and cash flows.	0.491	0.482	3.785	0.000	Significant
It is essential to offer insights into projecting the volume, schedule, and certainty of upcoming cash flows that relate to cryptocurrency assets.	0.084	0.049	0.395	0.629	Insignificant
It's essential to convey details that mirror the institution's goals and strategies concerning the handling of financial and digital risks linked to cryptocurrency ventures.	-0.052	-0.042	-0.432	0.715	Insignificant
To accurately classify cryptocurrencies for future measurement, it is essential to provide detailed insights into the entity's business model.	0.428	0.274	3.576	0.000	Significant
Regular updates must be offered to assess historical, present, and upcoming developments, delivering impartial and corrective guidance on cryptocurrencies to help beneficiaries make informed decisions.	0.158	0.179	1.435	0.162	Insignificant
Ensuring all financial data and documentation are available digitally forms the foundation for seamless and efficient accounting processes.	-0.183	-0.294	-0.435	0.528	Insignificant
It's crucial to ensure that recipients receive appropriate, reliable and timely information regarding cryptocurrencies.	0.128	0.184	0.345	0.692	Insignificant
The utilization of advanced technologies is crucial in improving the effectiveness and accessibility of financial report presentations.	0.298	0.296	3.576	0.002	Significant
The necessity of disclosing the extent of compliance with the regulatory and supervisory requirements applicable to the use of cryptocurrencies.	0.428	0.388	3.256	0.003	Significant
General indicators of the model:					
Multiple correlation coefficient (R)				0.916	
Coefficient of Determination (R <sup>2</sup> )				0.935	
Calculated F-Value				118.735	
degrees of freedom (N-1)				113	
Significant Level				0.000	

Table 9 also shows that the “accounting consistency principle must be considered regarding the accounting of cryptocurrencies to achieve comparability” variable influence observed was not meaningful or substantial, as indicated by a t-value of 0.692 and a significance level of 0.481. Also the variable “It is essential to offer insights into projecting the volume, schedule, and certainty of upcoming cash flows that relate to cryptocurrency assets” with a t-value of 0.395 and a significance level of 0.629, the variable “it's essential to convey details that mirror the institution's goals and strategies concerning the handling of financial and digital risks linked to cryptocurrency ventures” with a t-value of 0.432 and a significance level of 0.715, the variable “regular updates must be offered to assess historical, present, and upcoming developments, delivering impartial and corrective guidance on cryptocurrencies to help beneficiaries make informed decisions” with a t-value of 1.435 and a significance level of 0.162, the variable “ensuring all financial data and documentation are available digitally forms the foundation for seamless and efficient accounting processes” with a t-value of -0.435 and a significance level of 0.528, and the variable “it's crucial to ensure that recipients receive appropriate, reliable and timely information regarding cryptocurrencies” with a t-value of 0.345 and a significance level of 0.692.

In light of the previous presentation and analysis in Tables 7, 8, and 9, the third hypothesis can be accepted, as: “there is a significant impact of the determinants of disclosure of digital currencies on stock price changes in the Saudi stock market.”

#### 5.4 Fourth Hypothesis Test

The fourth hypothesis states that “there is a significant impact of the determinants of disclosure of digital currencies on rationalizing investors’ decisions in the Saudi stock market.” In order to assess the credibility of this hypothesis, we can utilize the following indicators from test results. To evaluate the presence of meaningful differences among the categories in question regarding how disclosure norms for cryptocurrencies influence investors' decision-making processes, a multiple discriminant analysis approach was utilized. This method involved a model that encompassed three distinct groups symbolizing the studied categories. Within this model, two discriminant functions were derived, but only the first function (exhibiting the strongest correlation coefficient and significance level) was discussed, as highlighted in Table 10.

Table 10. Multiple discriminant analysis and classification matrix in terms of the impact of cryptocurrency disclosure requirements on rationalizing investor decisions

Sig.	df	Chi-square $X^2$	Wilk's Lambda	Canonical Correlation	Variance (%)	Eigen Value
0.004	6	16.573	0.836	0.824	91.1	2.623
Total percentage of accurate classification among study categories = 74.5 %						

In Table 10, the likelihood of adopting the model for classifying different categories has been assessed. The discriminatory function achieved an Eigen value of 2.623, paired with a robust correlation coefficient of 0.824. Moreover, the Wilkes-Lambda score settled at 0.836 and aligns with the Chi-square distribution, reaching a value of 16.537 at a notably high significance level of 0.004. This data suggests a marked divergence among the categories examined, specifically concerning the influence of cryptocurrency disclosure mandates on refining investor decision-making. Additionally, the study's classification accuracy was found to be 74.5%, illustrating substantial differences across the categories analyzed.

Table 11 presents an analysis of how different traits and factors affect encrypted digital currencies. It explores these elements across various categories, highlighting how the outcomes differ for each category under review.

Table 11. Results of differences between study categories in terms of the impact of disclosure requirements for cryptocurrencies as a financial technology on rationalizing investor decisions

The impact of disclosure determinants of digital currencies as a financial technology on rationalizing investor decisions in the stock market.	Arithmetic mean			F Value	Sig.
	Accountants & CFOs	Certified Auditors	Accounting Academics		
The revelation of cryptocurrencies plays a vital role in boosting the efficiency and effectiveness of both financial and non-financial data, which in turn aids investors in making informed decisions.	4.76	4.56	4.17	6.243	0.002
The disclosure of cryptocurrency offers reliable verification to investors, ensuring that the numbers and details presented in financial statements are both legitimate and precise.	4.82	4.75	4.37	3.874	0.031
Presenting information about cryptocurrencies assists in bridging the information gap that exists between internal stakeholders and external investors.	4.69	4.81	4.62	3.267	0.022
Revealing information about cryptocurrencies helps minimize fraudulent activities, deceptive behavior, and manipulative profit strategies employed by company leaders.	4.91	3.75	4.61	41.74	0.000
Revealing information about cryptocurrencies can significantly affect investor decisions, particularly in relation to how effectively and efficiently a company's internal control mechanisms function.	4.89	3.51	4.43	65.29	0.000
The transparency of cryptocurrency information plays a crucial role in maintaining the reliability and impartiality of key financial metrics such as liquidity, profitability, efficiency, and operational activity. This transparency is vital for guiding investors towards more informed and rational decisions.	4.84	3.27	4.18	45.39	0.000
Revealing information about cryptocurrencies provides insights into a company's future trajectories, encompassing its plans, approaches, guidelines, and both monetary and non-monetary assets. This transparency allows for the evaluation of the organization's sustainability, aiding investors in making informed choices.	4.68	2.94	4.33	46.38	0.000
Total	4.80	3.94	4.39	30.31	0.007

An examination of Table 11 reveals that the disclosure requirements associated with cryptocurrencies, a key aspect of financial technology, significantly influence investors' decision-making processes. This is evidenced by an F-value of 30.31 at a significance level of 0.007. The average scores from different professional groups further underscore this impact, with accountants and financial managers scoring an average of 4.80, professional auditors at 3.94, and academics at 4.39. These strong averages suggest consensus across all surveyed groups, reinforcing the notion that cryptocurrency disclosure significantly affects the market value of stock prices on the Saudi Stock Exchange.

In-depth analysis allows for a comprehensive understanding of how revealing information about cryptocurrencies affects fluctuations in stock prices. This insight serves as the primary means to explain the alignment and consistency observed across various study categories. Leading the list is the statement "revealing information about

cryptocurrencies can significantly affect investor decisions, particularly in relation to how effectively and efficiently a company's internal control mechanisms function,” securing the highest F value of 65.29 with a p-value of 0.000 and boasting mean scores of 4.89 for accountants and CFOs, 3.51 for certified auditors, and 4.43 for accounting academics.

Following closely, the statement "revealing information about cryptocurrencies provides insights into a company's future trajectories, encompassing its plans, approaches, guidelines, and both monetary and non-monetary assets. This transparency allows for the evaluation of the organization's sustainability, aiding investors in making informed choices,” registered a high F value of 46.38 (p-value 0.000), with means at 4.68 for accountants and CFOs, 2.94 for auditors, and 4.33 for academics. Next comes the statement “the transparency of cryptocurrency information plays a crucial role in maintaining the reliability and impartiality of key financial metrics such as liquidity, profitability, efficiency, and operational activity. This transparency is vital for guiding investors towards more informed and rational decisions,” securing also the highest F value of 45.39 with a p-value of 0.000 and boasting mean scores of 4.84 for accountants and CFOs, 3.27 for certified auditors, and 4.18 for accounting academics. Lastly comes the statement “revealing information about cryptocurrencies helps minimize fraudulent activities, deceptive behavior, and manipulative profit strategies employed by company leaders,” securing also the highest F value of 41.74 with a p-value of 0.000 and boasting mean scores of 4.91 for accountants and CFOs, 3.75 for certified auditors, and 4.61 for accounting academics.

Table 12 presents the findings from a multiple regression analysis, examining how the factors influencing digital currency disclosure as a financial innovation affect rational investor decisions.

Table 12. A multiple regression model for the impact of the determinants of digital currency disclosure as a financial technology on rationalizing investor decisions

Variables	Regression coefficient	Beta ( $\beta$ )	T-Value	Significance	Statistical significance
Constant	-1.384	0	-1.476	0.054	Insignificant
IFRS standards should explicitly include accounting requirements for cryptocurrencies.	0.294	0.127	2.847	0.019	Significant
Accounting consistency principle must be considered regarding the accounting of cryptocurrencies to achieve comparability.	-0.163	-0.125	-0.836	0.378	Insignificant
There's a pressing requirement to consolidate the guiding principles for valuing cryptocurrencies and their associated disclosure policies. This alignment is essential to accurately and fairly reflect the activities and operations of an entity.	-0.084	-0.071	-0.472	0.679	Insignificant
The necessary information must be provided to improve understanding of the importance of cryptocurrencies and their impact on the entity's financial position, performance results, and cash flows.	-0.028	-0.028	-0.188	0.895	Insignificant
It is essential to offer insights into projecting the volume, schedule, and certainty of upcoming cash flows that relate to cryptocurrency assets.	0.482	0.398	2.836	0.008	Significant
It's essential to convey details that mirror the institution's goals and strategies concerning the handling of financial and digital risks linked to cryptocurrency ventures.	-0.489	-0.387	-3.735	0.002	Significant
To accurately classify cryptocurrencies for future measurement, it is essential to provide detailed insights into the entity's business model.	0.433	0.282	2.538	0.004	Significant

Regular updates must be offered to assess historical, present, and upcoming developments, delivering impartial and corrective guidance on cryptocurrencies to help beneficiaries make informed decisions.	-0.326	-0.275	-2.566	0.039	Significant
Ensuring all financial data and documentation are available digitally forms the foundation for seamless and efficient accounting processes.	0.165	0.165	0.326	0.683	Insignificant
It's crucial to ensure that recipients receive appropriate, reliable and timely information regarding cryptocurrencies.	0.137	0.286	0.573	0.524	Insignificant
The utilization of advanced technologies is crucial in improving the effectiveness and accessibility of financial report presentations.	0.183	0.053	0.735	0.473	Insignificant
The necessity of disclosing the extent of compliance with the regulatory and supervisory requirements applicable to the use of cryptocurrencies.	0.763	0.453	3.727	0.002	Significant
General indicators of the model:					
Multiple correlation coefficient (R)				0.964	
Coefficient of Determination (R <sup>2</sup> )				0.853	
Calculated F-Value				55.637	
degrees of freedom (N-1)				115	
Significant Level				0.000	

Table 12 demonstrates the effectiveness of a model designed to evaluate how disclosure standards for cryptocurrencies as a type of financial technology affect the decision-making process of investors. The analysis yielded an F value of 55.637 with a significance level of 0.000. Since this significance level is below 0.05, it indicates that the model, inclusive of its independent variables, is apt for forecasting the values of the dependent variable. The table provides insight into the model's ability to elucidate how much the independent variables account for the changes observed in the dependent variable. The model exhibits a multiple correlation coefficient of 0.964 between the independent and dependent variables. Notably, the adjusted determination coefficient stands at 0.853, indicating that 85% of the fluctuations in the stock prices of firms trading on the Saudi Stock Exchange can be attributed to these independent variables. This significant figure underscores a systematic explanation rather than a random occurrence.

Based on the earlier presentation along with the data examined in Tables 10, 11, and 12, the fourth hypothesis is confirmed that “there is a significant impact of the determinants of disclosure of digital currencies on rationalizing investors’ decisions in the Saudi stock market.”

## 6. Conclusion

In the context of outlining and examining the key points that address the research questions and fulfill its objectives, the research summary can be provided, along with recommendations and suggestions for future studies, as outlined below:

- Digital currencies are developed using specialized software and mathematical algorithms, mainly relying on blockchain technology. This technology encrypts each transaction within an individual block and connects it to numerous other blocks.
- Digital currencies enhance disclosure and transparency in trading activities, as all transactions are publicly accessible and visible to everyone, while maintaining the anonymity of the participants.

- Standardizing the criteria for evaluating cryptocurrencies and their disclosure practices aids in providing a fair representation of an entity's operations, while enhancing comprehension of the significance of these currencies and their influence on the entity's financial status, performance, and cash flows.
- Delivering regular updates to assess past, present, and future occurrences, while offering unbiased and corrective insights about cryptocurrencies, enhances organizational value and aids beneficiaries in making informed decisions.
- The revelation of cryptocurrency risk management strategies and increased regulatory scrutiny help boost the market value of stocks.
- Revealing information about cryptocurrencies offers investors objective confidence in the validity and accuracy of the figures and data within financial reports, which helps in minimizing instances of fraud, deception, and manipulative earnings management by the company.
- Revealing information about cryptocurrencies assists in forecasting an organization's future trends, such as plans, strategies, policies, and both financial and non-financial resources, to evaluate its sustainability. This, in turn, guides investor decisions.

## 7. Recommendations

Considering the comprehensive examination of the analytical study and the resulting framework for the transparent reporting of cryptocurrencies, recognized as a segment of financial technology, and in harmony with global advancements in this area, the accounting and auditing sectors can greatly benefit from a number of suggestions. The key recommendations include:

- IFRS standards should explicitly incorporate accounting requirements for cryptocurrencies, considering consistency in accounting policies related to their diverse types and operations. This includes standardizing the measurement bases and establishing disclosure policies to ensure an accurate representation of the entity's activities.
- Essential details must be given about estimating future cash flow amounts related to cryptocurrencies, including their expected timing and the level of certainty about their occurrence.
- The necessity to reveal the degree of adherence to regulatory and oversight requirements pertinent to the use of cryptocurrencies as a digital technology.
- The need for institutions to implement the fair value model for valuing cryptocurrencies in an active market, and illustrating its effect on stock market valuations.
- The accounting and auditing field needs to evolve from a limited and unchanging perspective to a forward-thinking and active approach regarding digital advancements, especially cryptocurrencies. It should focus on delivering more comprehensive reports and leveraging information technology to optimize administrative and investment decision-making.
- The necessity for companies to cultivate the skills and capabilities of accountants and auditors in areas such as creativity, analytical thinking, coding, and digital intelligence related to cryptocurrencies. This will enhance their ability to perform tasks more effectively and stay aligned with the challenges of the digital age.
- The necessity for supervisory and regulatory bodies to mandate that companies listed on the Saudi Stock Exchange disclose their involvement with cryptocurrencies as a financial technology innovation, in order to fulfill the needs of stakeholders, particularly shareholders and both current and prospective investors.
- Enhancing current professional standards and publications or establishing new standards for cryptocurrency accounting, along with implementing effective methods for regular disclosure to stakeholders.
- Organizing scientific seminars and specialized training programs focusing on the nature and factors influencing cryptocurrencies as emerging technologies within the digital transformation landscape, and methods for their disclosure, to equip a new generation of auditors capable of keeping up with fast-paced technological innovations and changes.

## 8. Future Research

Researchers may pursue additional investigations and inquiries pertinent to the subject matter, with the following areas being of particular significance:

- An Applied Study on How Cryptocurrency Accounting Disclosure Affects the Reduction of Information Asymmetry in Companies Listed on the Saudi Stock Exchange.
- Assessing the effects of implementing cryptocurrencies as a fintech innovation on the financial stability of companies listed on the Saudi Stock Exchange.
- An analytical exploration of the factors influencing the adoption of cryptocurrencies to optimize the costs of electronic banking services in Saudi Arabia.
- How cryptocurrency measurement and disclosure in accounting influence credit decisions in Saudi Arabian commercial banks.
- A proposed method for assessing the effects of initiating internal audit activities related to cryptocurrencies on enhancing the quality of financial reports in Saudi Arabia: a field study.
- The anticipated responsibilities of auditors in assessing cryptocurrencies and their impact on the quality of financial reports for companies listed on the Saudi Stock Exchange.

### **Acknowledgments**

The author would like to thank the faculty members and colleagues at the Department of Accounting, College of Business and Economics, Qassim University, for their valuable support and encouragement throughout the course of this research. Special thanks are also due to all participants who generously gave their time to complete the survey.

### **Authors' contributions**

Prof. Khalid Hamad Alturki is the sole author of this study and was solely responsible for the study conception and design, literature review, data collection, statistical analysis, interpretation of results, and manuscript preparation. The author read and approved the final manuscript.

### **Funding**

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

### **Competing interests**

The author declares that there are no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### **Informed consent**

Obtained.

### **Ethics approval**

The Publication Ethics Committee of the Sciedu Press.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

### **Provenance and peer review**

Not commissioned; externally double-blind peer reviewed.

### **Data availability statement**

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### **Data sharing statement**

No additional data are available.

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