

# Accounting Knowledge for Students of the Faculty of Management and Economics in Cryptocurrencies and Methods of Disclosing them Iraqi and Jordanian Universities (Comparative Study)

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## Abstract

The main aim of the research is to study the levels of accounting knowledge and methods of disclosure thereof among Iraqi and Jordanian students, and to indicate the possible ways of disclosure and analyze them theoretically. Where this study comes to measure the levels of knowledge of the students of the College of Administration and Economics about cryptocurrencies and methods of disclosure, and the extent of their knowledge of how to complete commercial operations using them, The research relied on the descriptive analytical approach, where a simple random sample of students of the College of Administration and Economics in Iraqi and Jordanian universities was selected and a questionnaire was distributed to the sample, and in order to analyze the data obtained, the researcher calculated the correlation coefficients (Pearson) between the degree of each axis of the questionnaire and the degree. The totality of the questionnaire, and the researcher used Cronbach's alpha coefficient to calculate the stability of the scale used in the study, where the value of the alpha coefficient was found for the axes of the questionnaire as well as for the total score of the questionnaire tool, and the study found through the practical side that there are statistically and morally significant differences between Iraqi and Jordanian students, as it confirmed. The results showed that the Jordanian students are at a better level than the Iraqi students with regard to the basic knowledge The meaning and methods of trading encrypted currencies, as well as knowledge of their characteristics. As for the methods of disclosure, it was found that there are no differences between Iraqi and Jordanian students.

**Keywords:** Accounting knowledge, cryptocurrencies, blockchain, cryptocurrency disclosure, cryptocurrency risks.

**Introduction:**

The technical developments that the world has witnessed during the past decades have contributed to important changes in various fields of economic, social, and political life....etc., as the most important feature that distinguishes the work environment surrounding contemporary institutions is rapid change, openness, and development. One of the most important of these developments is what is called today's information technology. It has brought about important changes in the structure of institutions through its modern tools, in particular the computer, the global information network ( the Internet), and various means of communication. Getting rid of the restrictions imposed on the traditional currency and global control systems, as cryptocurrencies are not linked to a specific financial system or belong to a specific country, they are free and intangible, and cryptocurrencies are characterized by a basic feature that differs from the traditional money concept in ensuring security and the possibility of verification where currencies depend encrypted on a string of digital signatures, Here comes the need for accounting knowledge to reduce ambiguity, control variables, and respond to developments in the world, so the subject of knowledge acquires great importance at the present time, especially in the field of accounting, which is classified within the sciences that are distinguished by its own knowledge, and for the continuous need for accounting work within the scope of organizations, whatever their form. And its activity and size, as accounting knowledge has greatly affected the accounting processes by developing many of them, and the accounting concern has gone beyond the daily accounting operations represented by the methods of recording and tabulating data to the collection of knowledge and its management method so that it is aimed at serving this institution and society, as well as the emergence of problems and difficulties facing These institutions, which need modern solutions and technologies, must be found by the accountant, and from here it has become one of the important things that the accountant must do is keep abreast of these developments and find cognitive solutions to confront these problems and help the organization to make appropriate and meaningful decisions ( Velmuruga, 2010, p324)

**Importance Search:**

- 1- Increasing global interest in cryptocurrencies as the next generation of non-monopoly transactions, and according to the World Economic Forum, cryptocurrencies produced by blockchain technology are the next basis on which the global financial system depends (Al-Amrawi, 2021, p. 148).
- 2- Follow up on international monetary developments, and what it has achieved in creating many electronic tools and the extent of the impact of these electronic monetary tools on the global monetary system, as the number of companies that have accepted dealing in encrypted currencies is estimated to be approximately 88,000 companies in various parts of the world ( 2019, p18, (Guillaume, F).
- 3- Measuring the accounting knowledge of students, and in particular students of the faculties of administration and economics in Iraqi and Jordanian universities. In the near future, when they graduate, they will be either investor in it, commercial dealers, or accountants recording the operations that take place through these currencies in the books, and this is confirmed by one of the statistics. The largest cryptocurrency trading platform in Tiple-A, where the number

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of users has reached 300 million cryptocurrency users around the world, 73% of whom hold a bachelor's degree, which is a very large percentage compared to the remaining 27% (Tiple-a.io), so their knowledge of these currencies must be measured and how to disclose it.

Thus, the importance of this research lies in its addressing a subject that studies and discussions are still going on, especially at the level of global and regional bodies and organizations specialized in the accounting aspect, in addition to its novelty in general in Arab societies, as it has not, until this moment, received the attention and care required by governments, institutions and individuals, so T his research is a simple contribution to the enrichment of the Arab library.

### **The Problem of the Study:**

- 1- Statement of the levels of knowledge of Iraqi and Jordanian students in encrypted currencies and ways of disclosing them.
- 2- Determining the differences in the level of knowledge between Iraqi and Jordanian students.
- 3- Demystifying encrypted currencies due to the relatively new topic.
- 4- Statement of the agreed disclosure methods for encrypted currencies and their analysis.

What distinguishes the research: It is the measurement of accounting knowledge by ways of disclosing encrypted currencies, because the variable of accounting knowledge has not been addressed locally, as well as the research sample, students, according to the knowledge and knowledge of the researcher.

### **Study Hypotheses:**

After discussing and clarifying the problem of the study, the following hypothesis can be put forward:

- 1- There are statistically significant and significant differences in accounting knowledge of the nature and characteristics of encrypted currencies among students Iraqis and Jordanians
- 2- There are statistically significant and significant differences in the accounting knowledge of the methods of disclosing cryptocurrencies among the students Iraqis and Jordanians
- 3- There are statistically significant differences between accounting knowledge and methods of trading cryptocurrencies between Iraqi and Jordanian students

The first topic: is knowledge accounting

1-1 The concept of knowledge in general:

The first knowledge of man in the first societies was limited to his knowledge of himself and his environment, which only guarantees him survival, as God created man on instinct, teach him and guide him to the path, as the Almighty said in the wise remembrance (He created man, taught him the statement), and the concept of knowledge developed with the passage of time until it took a framework More comprehensive, the linguistic meaning of knowledge is partial or simple realization, while science is said to be total or compound realization. Knowledge is the result of science, and science consists of information.

Knowledge is the main economic resource and the only resource that provides a competitive advantage ( Dubois, 2008, p20), and knowledge also means understanding, perceiving, and

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learning as it is related to reality or situation, or related to a specific aspect or problem, and based on the data and information available about it and related to it, and therefore knowledge is related A direct relationship to each of the data and information that allows access to knowledge ( Al-Ghassani, 2007, p. 6), and Francis Bacon defined knowledge as power ( Misra, 2003, p38).

Knowledge in its general sense is a group of knowledge and mental perceptions acquired through observation and conclusion about the development taking place in nature and society and about the laws, inevitabilities, facts, and signs of this development. Ibrahim , 2021, p. 401)

The researcher believes that knowledge is a group of information that constitutes an intangible, moral asset that has the ability to create immediate or future wealth for the organization, and therefore it is one of the sources of strength that arises through individuals who are able to deal with events through knowledge.

### **Accounting knowledge:**

Accounting is a specialized field of knowledge, in which accounting knowledge plays a major role in generating information needed to support decision-making. Based on the fact that the production of information is the creation of knowledge, that is, the discovery of facts related to the phenomenon that precedes the information (relating, for example, to matters of the organization, and the actions left by the events and circumstances surrounding the organization at work or in financial centers). The resulting knowledge here is related to the practice that was generated using the basic knowledge that was the basis of the reference when producing this knowledge, which is represented in the accounting knowledge that the practitioner must acquire before practicing the accounting work (Al-Sujaei, Jasim, p. 183).

Knowledge is the first pillar of science because it explains some of the basic simple processes in understanding things, thus demystifying something that cannot be understood correctly, and therefore it is treated incorrectly, which results in many complexities and accounting as social scientists. It is based on a practical application to knowing the total accountants' gains (Al-Kubaisi, 2005, p. 8)

Accounting knowledge: It is the result of a hidden mixture between tools, policies, accounting rules, experience, and sensory perceptions of those in charge of this accounting process within the accounting unit. Then he applies to this mix what he possesses of judging methods on this knowledge until he reaches results and decisions (Ibrahim , 2021, p400 ).

From the above, knowledge is a storehouse of information that accumulates over time, and so is the experience gained that helps in understanding. As for knowledge, since it is the outcome of information, it is the benefit that the user gets from the accumulated information. The fourth definition states that knowledge is the experience of the individual from the information that generates intellectual bases. It controls the theoretical and applied aspects. Thus, we find that the types of knowledge are classified into several types, including:

Implicit knowledge: It is considered the cognitive basis for the rest of the knowledge, as it is the source for any other knowledge and without it, knowledge cannot be generated and transferred. It is expressed in individual and collective skills and practices by embodying them in the tasks assigned to individuals. A set of values, attitudes, and self-perceptions of individuals

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(Afaf, 2012, p. 4). Allen defines it as the knowledge that people cannot share with each other, as it includes what lies in the same individual, i.e. in the sense of cognitive and behavioral psychological knowledge (Ahmed, 2004, p. 6).

Virtual knowledge: It is the knowledge that can be communicated and communicated to others formally or programmed through normal, traditional, educational or educational processes, i.e. it can be expressed by words or by numbers or sounds and it can be shared through data and scientific attempts, i.e. virtual knowledge can be transferred to individuals easily (Halmos, 2019, p. 5), and it is defined as a kind of knowledge that can be expressed in spoken or written language and is available in various means in which it can be stored (Bossen, 2005, p100).

## **The second topic: is digital currencies:**

### **1-2: Concept:**

In the late last decade, what is known as digital currencies appeared, which denotes an encrypted system It is of an electronic nature that does not have a material or physical existence, and it differs from all traditional financial systems, in terms of determining its value and the way it is used. It is broader in concept and makes it comprehensive for all forms of encrypted and traded currencies through the Internet, away from the technology that was used in creating and trading methods and displaying those currencies, and despite the many warnings about digital currencies, it managed to constitute an element whose existence or transcend it, It has managed to take its place in global financial trading and investments. Cryptocurrencies are generally digital instruments that are created and transacted by software that runs on a decentralized network of computers designed to remove legally accountable intermediaries from transactions between participants in the system. This distributed structure complicates the exercise of authority over those assets by the courts, but it does not prevent it. (Hinkes, 2019, p227)

(Abu Salah, 2018, p. 2) explained that dealing in cryptocurrencies takes place through their use in electronic financial transactions and exchanges (such as direct electronic payment and money transfers), meaning that their use is limited to The Internet, and there are several types of encrypted currencies such as Ethereum, Ripple, Bitcoin, Bitcoin Cash, etc., and according to the number of users and sites that are exchanged in it, and the structure of each network determines the importance of encrypted currency

The World Bank: “Consider them as digital representations with a specific value in their own unit of account, which differs from regular, legal electronic money that is used as a means of digital payment” (WD, 2017, p1).

Arab Monetary Fund: “ A decentralized virtual currency based on a mathematical model protected by cryptography. The cryptocurrency transfer process relies on combining private and public keys to validate the operation. ”

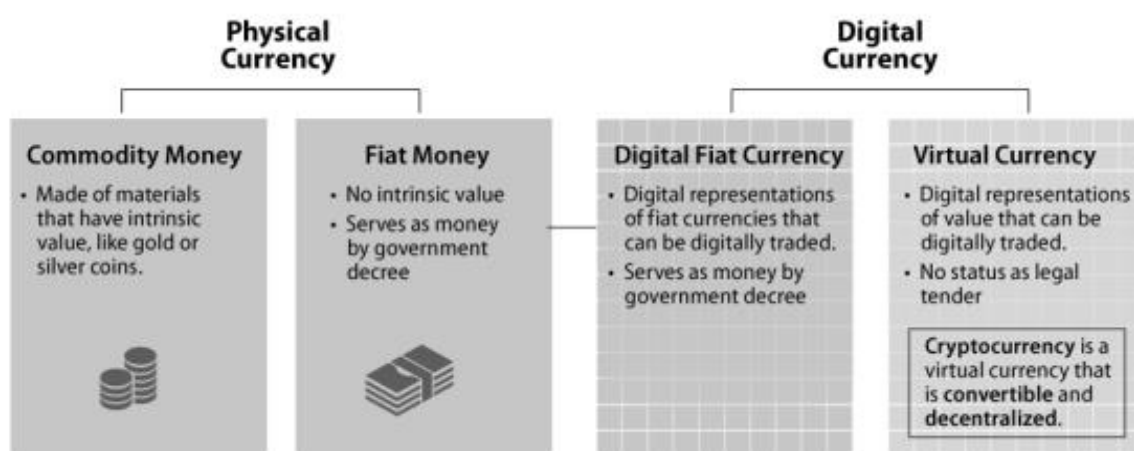
These currencies depend in particular on the trust and expectation that their users have that others will be willing to exchange them for a sovereign currency, goods, or services. (Arab Monetary Fund, 2019, p. 8).

Electronic cryptocurrency is known as It is a digital value, which is circulated around the world among large numbers of people, it has no physical space and it operates outside the framework of the official monetary system, and is not linked to a paper currency that is accepted for circulation and enjoys voluntary acceptance (Mansour, 2022, p. 1783).

Cryptocurrencies include several forms of currencies (encrypted, virtual, encrypted, and electronic), so they are complex that include many diverse and different currencies that link the intangible and intangible nature between them. Central banks and international organizations differed in giving a unified definition of encrypted currencies, as the working group knew Financial I defined it as a digital representation of legal electronic money or illegal virtual currency and it is called encrypted currency ( FATF, 20 14, p 4 ).

Digital currencies: "It is a digital currency of unknown origin, it does not have a serial number, and it does not have any means that allows tracking what was spent to reach the seller or buyer, and this is what makes it a popular idea for all privacy advocates or sellers of illegal goods and commodities such as drugs via the Internet." (Al-Khayali and Muhammad, 2021, p. 57).

Figure 1. Types of Money



Source: (I A D C ,2018,p3)

The researcher believes that cryptocurrencies are a digital representation of the value carried out by private developers using computers prepared for this purpose, and they can only be accessed and dealt with electronically, and it is used when the parties agree to use it for certain purposes, and each currency has its structure and method of circulation. The location of cryptocurrencies (decentralization) relative to other currencies (Arab Monetary Fund, 2019, p. 6).

## 2-2: Reasons and motives for the spread of cryptocurrencies:

Because of the many advantages on the individual and economic levels that prompted many to turn to them in the market, which increased the speed of their spread, and the most important of these advantages:

- 1- Low cost due to the absence of the middleman.
- 2- Speed of movement and processing.
- 3- Its services are available around the clock, unlike traditional currencies.
- 4- Reliability and lack of procedures, especially at the individual level.

- 5- Limited intervention by government agencies and institutions.
- 6- Protect personal data and not be subject to any official authority.
- 7- It can be accessed and dealt with by all customers.

All these advantages have helped the spread of cryptocurrencies increase (Central Bank of Jordan, 2020, p. 34).

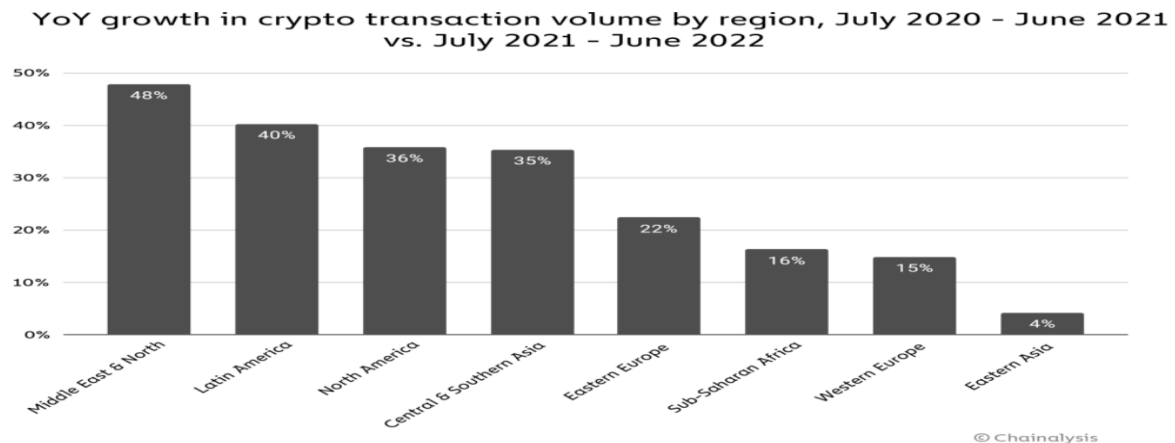


Figure 2

Source: Chanalysis

The researcher believes that encrypted currencies can be considered as a stage in the development of money, and these currencies have many characteristics and advantages that distinguish them from traditional currencies, and that an attempt to regulate them may lose many of their properties that contributed to their spread.

### 2-3: The emergence and circulation of digital currencies:

In 1987, some technologies began, such as ecash David Chaum, which is electronic money based on cryptographic protocols, and in 2009 a person whose pseudonym Sanoches Nakamoto produced the first Bitcoin currency in the mining process or what is called mining, and it was the first new monetary system for electronic payment where it is dealt with, transferred and traded B etween users with a system called peer-to-peer, this system works without an intermediary, and a trading price was published between this currency and the dollar, so every 1 bitcoin corresponded to 0.0011 dollars, then the spread of this currency began and its price rose in mid-2011 to 35 dollars, and in the beginning of 2017 it reached 100 dollars and increased insanely in late 2020 to reach \$35,000, as transactions continued to purchase goods and services or to transfer and store money and exchange currencies across websites , and it is required for the trading of these currencies that each of the users has an electronic wallet (such as a bank account), and the purpose of the existence of the wallet It is the preservation of encrypted currencies because it is the only way to receive and transfer currencies, and the electronic wallet is considered an electronic program, and each wallet contains two keys: (Atiyah, 2020, p. 122).

- 1- The public key: like the account number in regular accounts (a set of numbers and letters). If the owner of a specific wallet wants to receive a number of currencies, he gives the

(public key) to whoever will send the currencies, where the sender enters the public key through his electronic wallet and sends the required amount of currencies.

2- The private key: It is equivalent to the secret number in bank accounts (a set of numbers and letters). When the sender transfers the currency to the wallet of the recipient or receiver, this receiver cannot exchange the currencies that were transferred to him except by entering the private key. Therefore, if someone manages to hack The private key and access a wallet can steal the coins it contains.

The trading of cryptocurrencies by transferring a certain value of monetary currency from one person to another is done through the use of a digital signature, which contains a message for authorization and the special number of the currency to be traded, in addition to the address of the person who will receive the currency, and when transferring from an initial wallet to a second wallet, the transfer goes to the currency network and enters into what is called the confirmation process, Where the transaction data is broadcast to the virtual currency network to be loaded on all customers' computers as a closed transaction that is required to be approved and kept in the block chain used to determine the new value of the encrypted currency, in order to ensure that the currency is not spent double spending through a unified electronic record that shows all correct transfers of the value of the encrypted currency. It is a one-way process, that is, it is not recoverable (Fahad and Al-Akidi, 2021, p. 231 ).

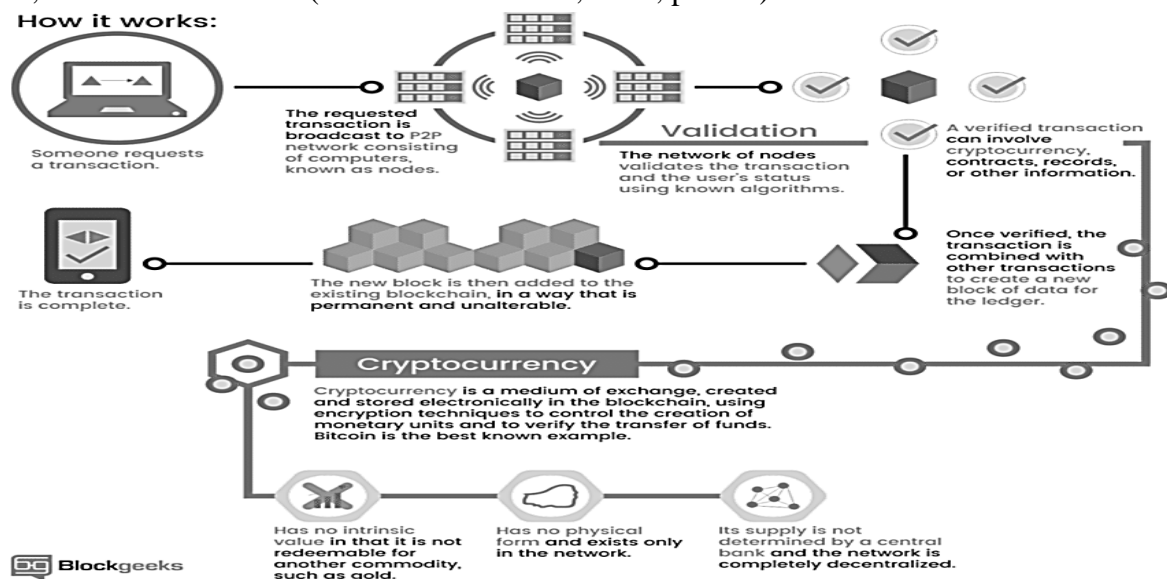


Figure 3

Source: Blockgeeks

As aforementioned, cryptocurrency owners control their assets via cryptographically generated credentials known as private keys, which are usually kept secret, and suffer from the risk of forgetting, losing, or pretending to lose these keys. These keys are not backed up.

#### 2-4: Types of cryptocurrencies:

Its types can be limited, considering whether or not the cryptocurrency can be converted into money, too:

1- Closed digital currencies: It is the currency that cannot be converted into real money and is dealt with only for virtual purposes, and it can be called non-transferable encrypted



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currency or closed-circuit currency, and from its use purchases of games and applications from electronic stores, an example of this type: currency Gold for the World of Warcraft game collector.

2- Open virtual currencies: This type can be converted into real cash money using devices dedicated to converting cryptocurrency such as ATMs. Among the most popular cryptocurrencies in circulation:

Bitcoin, Ethereum, Litecoin, Ripple, Dash, Atrium, Polkadot, Cardano, Teter.....etc (Siddiq, 2021, p. 430).

### **2 -5: Characteristics of cryptocurrencies:**

Cryptocurrencies have many characteristics that distinguish them from other types of currencies, which fall within the following basic frameworks:

1- The cryptocurrency is not subject to censorship by government agencies on the part of official financial institutions such as central banks.

2- Confidentiality of customer information in terms of his identity and the codes he uses in his private transactions.

3- Low cost of use and ease of use.

4- Scarcity and lack of cryptocurrencies, which enable them to combat inflation (Abdul Basit, 2021, p. 218).

It is also possible to display many characteristics, including: (Abdel-Tawab, d.t., 2019, p. 13).

1- A virtual digital currency produced by software computers that do not have a tangible physical entity.

2- Non-interference of an external intermediary, such as banking institutions and banks, as they operate according to the peer-to-peer principle.

3- It is not controlled by official authorities such as the Bank.

4- It is used as a medium of exchange through the World Wide Web, based on a technology called blockchains and encryption technology.

The researcher believes that encrypted currencies have multiple characteristics that distinguish them from traditional currencies, as they are used through electronic trading only between all parties (people - institutions - bodies - sites...) and everyone who accepts dealing with them, and they are not obligatory, i.e. accepting them voluntarily.

### **2-6: Risks of dealing in cryptocurrencies:**

Like any phenomenon that arises in the world of economics and money, and like any trading process, there must be risks resulting from the method of its use and its novelty, and with the help of most of the opinions that referred to this topic, we will present the most prominent two main directions of risk:

First: The risks associated with the nature of the use of cryptocurrencies:

These risks are:

- 1- The users of this technology in financial trading were exposed to fraud due to their lack of experience with this technology and the lack of necessary culture in everything related to cryptocurrencies, and this made them vulnerable to fraud and fraud.
- 2- Cryptocurrencies are not subject to laws or systemic governance.
- 3- Intentional price gouging with the aim of defrauding, stealing, and hacking unprotected user accounts and unsecured accounts.
- 4- The instability of the exchange rate, plays a key role in the risks that result from the use of cryptocurrencies, and this is what makes the user vulnerable to permanent fluctuations in the exchange rate and thus exposes him to potential losses.

Second: The risks related to the regulatory authorities that use these trading operations :

- 1- Defaming the entity that cannot protect the rights of its users who work on cryptocurrency trading.
- 2- Absence of laws governing these operations.
- 3- It impacts the competition between traditional currencies and cryptocurrencies if dealing with them is adopted in the financial markets.
- 4- It affects the volume of cash issued due to its impact on the stability of prices, the relationship between cryptocurrencies and traditional currencies, and the speed of cash circulation. (Central Bank of Jordan, 2020, p. 38; Baakish and Jamila, 2021, p. 17).

The following figure shows the largest thefts of cryptocurrencies by year (Hamza - 2020, pg. 77).

We conclude that cryptocurrencies are still legally located in the gray area, which is an acceptable step in principle to recognize them and allow them to be officially licensed, but that may take a relatively long period of time in order to take official and actual legal measures in this matter (Al-Amrawi, 2021, p. 24)

The researcher believes that the most important risk is the loss of the secret code of the private portfolio. The main ones associated with cryptocurrencies are the risks related to the change of value (the change in its exchange rate) due to the large fluctuations in its market, in addition to the existence of the problem of not including these currencies under clear international laws and regulations, and this is what may I t is possible to exploit these loopholes to practice acts of fraud, theft, and piracy, so the legislative bodies must find a mechanism to understand, examine and verify encrypted currencies and implement this mechanism quickly to protect all parties that exchange the currency.

## **2-7: Blockchain:**

It is called the chain of blocks or chains of trust, and it is the essence of digital currencies, and it consists in its simplest form of transferring information, as it is not the concern of the containers to know what is inside, whether it is furniture, raw materials, or devices. The case with regard to the blockchain, is blocked that contains each block on the transactions and the time in which it was created and a unique digital signature for its contents, and a code that connects it to the previous block ( Barochez, 2018, p. 13 ), meaning that the blockchain is a chain of blocks that are linked with each other, which form a chain of blocks, and this chain consists of every transaction that occurred since the beginning of the formation, and the blockchain is a combination of three technologies (peer-to-peer network - asymmetric

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encryption - cryptographic hashing). Or an encrypted hash algorithm so that this algorithm accepts a data file, and every single letter or number is changed, a completely different digital signature will be produced, and each digital signature begins with four zeros (Dannen, 2017, p4).

### **2-8: The position of the financial authorities on the use of cryptocurrencies:**

The official positions on cryptocurrencies at the international level were not unified but rather varied between allowing, reserving, and preventing them. Some countries were closer to allowing dealing with them, but with reservations about the official recognition of encrypted currencies, while others warned and prevented dealing with them, such as the Central Bank of Iraq. And the Egyptian and Jordanian, so it is important to have legal knowledge in light of this discrepancy and the difference in the extent of their recognition and approval of dealing in encrypted currencies from one country to another, and from one period to another, and the degrees of prohibition, criminalization, and non-recognition by the warning countries may change from time to time, they differ. The positions of countries regarding the adoption of cryptocurrencies due to the doubts and risks in the process of issuing and trading them, and the positions of some countries can be summarized as follows:

United States of America: The US Treasury issued guidance for people who produce and exchange cryptocurrencies, but the Securities and Exchange Commission warned about the risks of cryptocurrencies

France: Laws have been passed allowing banks and financial companies to set up cryptocurrency trading platforms.

China: It is one of the first countries to recognize the trading of cryptocurrencies, as China has indicated that central banks must take a decision to supervise cryptocurrencies or develop legal legislation for these currencies.

Germany: It is also one of the first countries to recognize that Bitcoin is a type of electronic currency, as the German government imposed a tax on the profits made by companies that deal in these currencies.

The Netherlands: The Dutch Central Bank is experimenting with a digital currency called Duncan, based on Bitcoin.

South Korea: It is laying the groundwork for the dissemination and exchange of cryptocurrencies.

Most of the Arab central banks banned dealing in cryptocurrencies, including: (Iraq, Egypt, Algeria, Saudi Arabia, and Qatar), and confirmed that cryptocurrencies are not accepted as a currency that enjoys the force of law and that it is not accepted for the purposes of commercial transactions, and warned these banks against using cryptocurrencies in laundering Money and terrorist financing. On the contrary, the UAE initiated the issuance of legislation and a license to deal with these currencies. (Arab Monetary Fund, 2019, pp. 14-18)

**The third topic is the disclosure of encrypted currencies and their relationship to accounting knowledge:**

### **1-3: Concept and Types of Disclosure:**

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Conceptually, it is the basic tool used by economic institutions to disclose, display and communicate all information in an understandable manner to all beneficiaries, especially external ones, provided that this information does not contain any misleading or ambiguity and that it is characterized by clarity and transparency. The disclosure must also be made in a comprehensive manner that includes all accounting events. (Abdul Sattar, Rajiv, Kaddour, 2022, P. 5) The obligation to publish the necessary data that gives a complete picture of the parties that use this data and that have current or future interests with those economic units is known about performance through the financial statements (Al-Taher, Mandour, Al-Shutra, 2022, p. 48), the financial and legal worlds struggled to adapt to the sudden popularity of cryptocurrency groups such as Bitcoin and Ethereum, with regard to the financial aspect, there were many attempts at theorizing and application into research and development, so we see opinions agreeing and differing from the appropriate methods of disclosure, and we will try to explain the most important proposed methods for disclosure Cryptocurrencies are:

### **2-3: Disclosures Related to Cryptocurrencies:**

Cryptocurrencies have become an essential topic for all parties related to the establishment, and since there are no specific accounting standards for encrypted currencies, there are no disclosure requirements for encrypted digital assets and encrypted transactions (PWC, 2018, p21), so establishments must follow the disclosure requirements of international standards To prepare financial reports when accounting for cryptocurrencies, and therefore the accounting treatments, methods and methods used in accounting for cryptocurrencies have varied and multiplied, which leads to an increase in creative accounting treatments and methods.

From the foregoing, it is clear that management should use its professional judgment to choose the appropriate accounting policy in the case of cryptocurrencies. Therefore, there are many suggested accounting directions for accounting for cryptocurrencies, namely:

#### **First: Disclosure of cryptocurrencies as an element of cash:**

International Accounting Standard No. 32 has defined the relationship between cash and currency, and International Accounting Standard No. 21 has defined the relationship between cash, currency, and non-monetary items, so it must be determined whether cryptocurrencies can be considered cash or currency as they carry a mixture of common characteristics for them, as And that in order for virtual currencies to be considered cash, they must be cash and available for use and exchange, and since encrypted currencies do not have legal status in all countries of the world, and prices for products and services cannot be determined through them, and they are not supported by central banks ( PWC, 2020, p13 ).

And if cryptocurrencies are considered cash, the requirements of International Reporting Standard No. 15 Revenue from Customer Contracts must be applied, which states that in the case of non-cash consideration, the transaction must be measured on the basis of the fair value of the non-cash consideration, and in the event that it is difficult to refer to the fair value, reference is made to The selling price offered to customers (Deloitte, 2018).

The researcher finds through the above that most of the opinions agreed that encrypted currencies are not monetary, as they do not have the characteristics of cash, and this opinion is supported by international accounting standards and international financial reporting standards,

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which are unanimous that encrypted currencies cannot be considered cash or practical, so it cannot be considered as money appearing in the financial statements.

**Second: Disclosure of cryptocurrencies as a quasi-cash element:**

In International Accounting Standard No. 7, a definition of money-like is mentioned, which is “short-term, highly liquid investments that can be directly converted into specific amounts of cash and that are not subject to significant exchange risks in value.” Accordingly, cryptocurrencies do not agree with this definition, because these currencies are subject to fluctuations in Great exchange.

Despite the foregoing, some studies differed from the previous opinion, such as the study (Bank of Lithuania, 2017), which showed that cryptocurrencies have semi-cash characteristics, and indicated that financial investments can be exchanged and converted into cash, but the problem in the case of cryptocurrencies is the fluctuation in their value. (Moses, Muhammad, 2022, p. 48).

The researcher believes that the risk of changing the value is difficult to estimate, and this leads to the inability to determine a clear and accurate equivalent for the value of the encrypted currency, and thus makes it not meet the concept and requirements of International Accounting Standard No. 7 for quasi-cash

**Third: Disclosure of cryptocurrencies as an inventory item:**

International Accounting Standard No. 2 clarified the concept of inventory as “ an asset held for the purpose of selling within the normal activity of the facility or in the production stage to become salable or in the form of raw materials or tasks used in the stages of production or provision of services.” Therefore, the inventory does not need to be tangible, but must be held for the purpose of selling, in which case cryptocurrencies can be considered as inventory and are measured at cost.

From the foregoing, the researcher sees an agreement of some opinions about accounting and disclosing cryptocurrencies as inventory, but International Accounting Standard No. 2 does not provide the appropriate accounting treatment for cryptocurrencies, as it is designed to account for inventory items held for sale and not designed to deal with items held for investment.

**Fourth: Disclosure of cryptocurrencies as an element of intangible assets:**

International Accounting Standard No. 38 defines an intangible asset as "a non-monetary asset that does not have a tangible physical existence", and therefore a near agreement can be achieved between the opinions of researchers in accounting and the disclosure of cryptocurrencies as an intangible asset, cryptocurrencies are traded in the form of units. The amount is known through its exchange market, that is, it can be identified and distinguished separately and independently from the rest of the assets of the establishment, and the asset will generate future economic benefits, as (Williams, 2021) believes that the production of cryptocurrency takes place through a set of mathematical operations on the computer and the consumption of large electrical energy which is considered the creation of an intangible asset internally, and therefore it is subject to IFRS 38, and it is measured at cost upon acquisition and measured at fair value upon subsequent measurement. . (Mustafa, 2020, pp. 156-157).

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From the foregoing, there is almost agreement to consider cryptocurrencies as intangible assets through International Accounting Standard No. 38, which was confirmed by the IFRI C Financial Reporting Interpretation Committee, since they do not have a tangible physical existence and are characterized by a non-monetary nature, and they are of a specific value or identifiable in an active market. ( Vincent, NE, & Wilkins, AM, 2020, p52 )

This is also what the big four companies in the field of auditing, which include Deloitte, Pricewaterhouse Coopers, Ernst and Young, and KPMG, went to classify the cryptocurrency as an intangible asset with an indefinite useful life.

From the previous methods, the researcher believes that international accounting standards were not sufficient to meet the requirements of accounting and disclosure of cryptocurrencies, and neither the Financial Accounting Standards Board ( FASB ), nor the Auditing Standards Board ( ASB ) or PCAOB issued official guidelines for accounting or auditing cryptocurrency, nor did T here is a practical case that can be relied upon categorically, so there is an urgent need for a clear standard for accounting and disclosure of cryptocurrencies, as well as for additional disclosures in the form of appendices using International Accounting Standard 1 IAS , which states that “fair presentation also requires the entity to provide disclosures Additional When the disclosures specified in the IFRS are insufficient to enable users to understand the impact of certain transactions and other events and conditions related to the entity’s financial position and financial performance The scope of disclosure must include a number of basic disclosures related to cryptocurrencies such as the purpose of its acquisition and how it is calculated its cost.

#### **Fourth topic:**

Research methodological framework

**1. Hot border Temporal:** Accounting knowledge of accounting students for the year 2021/2022

- border Location: universities Iraqi and Jordanian

**Study variables :**

- The independent variable: accounting knowledge

- Dependent variables: encrypted currencies and ways to disclose them.

**3. Research sample:** A random sample of 500 students from the Accounting Department and the College of Business and Economics in Iraqi and Jordanian universities was selected, and all research procedures will be applied to this sample.

**4 .Research tool:** The research relied on the questionnaire as a tool for data collection, as it was designed based on previous studies, and distributed to the sample members, and the spss program was used to analyze the data obtained.

The five-point Likert scale was adopted in the research, where each statement corresponded to five degrees of approval or disapproval

Noting that all its paragraphs are positive corrections, and there are no negative

.paragraphs

:Distribution of the study sample according to the nationality variable

**Table (1): Distribution of the study sample according to the nationality variable**

Questionnaire lists			The study sample categories
Received (correct)		spreader	
The ratio	The number	The number	
53.6%	208	250	Iraqis
46.4%	180	250	Jordanians
100%	388	100	Total

**ANALYSIS OF THE RESULTS:**

**STABILITY OF THE STUDY SCALE:**

In order to ensure the stability and consistency of the final measures of the current study, Cronbach's Alpha was used to verify the internal consistency of the three axes, shown in Table (2), whose values for Cronbach's Alpha ranged between (0.785-0.821), which is statistically acceptable because its value is greater than (0.70). ) which indicates that it is characterized by .(consistency and internal stability (Pallant (2011

**Table No. (2) The stability coefficient of the study scale**

The number of paragraphs	Cronbach's Alpha	variants	S
6	0.789	The first axis	1
6	0.785	The second axis	2
6	0.821	Third axis	3

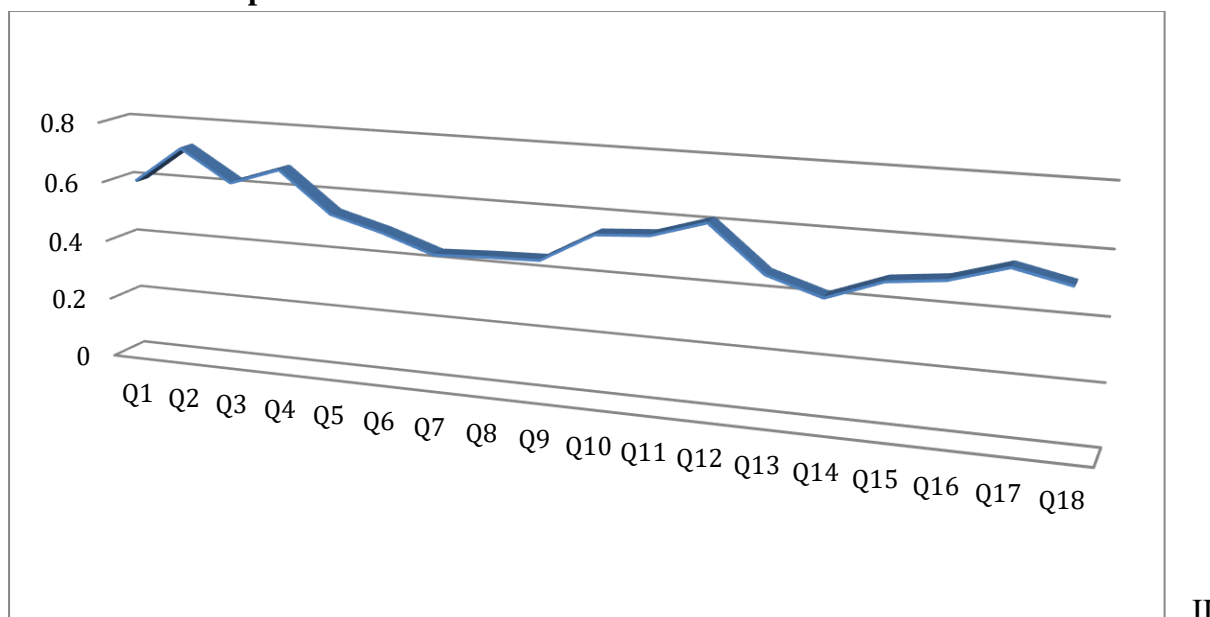
SOURCE: SPSS OUTPUT. V. 24 .I

**Inner honesty:**

Internal validity refers to the stability and constancy of the tool used in data collection, that is, the expression of internal consistency or the extent to which the test produces results that are almost similar under similar conditions and at all times, which also leads to the clarity of the paragraphs of the questionnaire (Zikmund et al (2010). To determine the validity of the measurement tool, the researchers used (Corrected Item-Total Correlation), which measures the effect of each paragraph of the questionnaire on the main axis, as each paragraph whose correlation is less than (0.40) is excluded, and the paragraphs higher than (0.40) are retained (Pallant (2011) . As it appears from Table No. (3) that (18) paragraphs were used for the three axes, with six paragraphs for each axle. It can be seen from Table (3) that none of them obtained a correlation of less than 0.40, and this means keeping the same paragraphs in the statistical analysis. **Table (3): The final internal validity coefficient for the items of the data collection questionnaire**

Corrected Item-Total Correlation	Paragraphs of the third axis	Corrected Item-Total Correlation	Paragraphs of the second axis	Corrected Item-Total Correlation	Paragraphs of the first axis
0.467	Q13	0.437	Q7	0.600	Q1
0.412	Q14	0.445	Q8	0.721	Q2
0.478	Q15	0.450	Q9	0.618	Q3
0.498	Q16	0.546	Q10	0.674	Q4
0.552	Q17	0.558	Q11	0.541	Q5
0.513	Q18	0.612	Q12	0.495	Q6

Source: SPSS output. V. 24



A GRAPH SHOWING THE FINAL INTERNAL VALIDITY COEFFICIENT FOR THE DATA COLLECTION QUESTIONNAIRE ITEMS

**:Adequate sample size**

The researcher also carried out the KMO and Bartlett's Test, and the results of the statistical analysis using the SPSS V.24 program showed the following

**Table (4) KMO and Bartlett's test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.935
Bartlett's Test of Sphericity	Approx. Chi-Square	3428.374
	Df	153
	Sig.	0.000

Source: SPSS output. V. 24

Table (4) shows that the value of the KMO test is  $0.935 > 0.500$ , which means that the sample size is sufficient for the effectiveness of the results. The table also showed that the value of significance probability (Sig for Bartlett's Test) was  $0.000 < 0.05$ , which confirms that the test values are significant

**Correlation coefficient between axes:**



: Table (5) presents the Pearson correlation coefficient between the three axes, as follows

**Table (5): Correlation coefficient between the three axes**

**SPSS output. V. 24**

The first axis	The first axis	The first axis		
0.590**	0.613**	1	Pearson Correlation	The first axis
0.000	0.000		Sig. (2-tailed)	
385	385	385	N	
0.718**	1	0.613**	Pearson Correlation	The second axis
0.000		0.000	Sig. (2-tailed)	
385	385	385	N	
1	0.718**	0.590**	Pearson Correlation	Third axis
	0.000	0.000	Sig. (2-tailed)	
385	385	385	N	

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

Source: SPSS output. V. 24

**Test for differences between means:**

Tables (6), Table (7), and Table (8) present the descriptive statistics and standard deviations for the (18) questions and the three axes as a whole, in addition to identifying the differences between the averages of the two samples. As the sample of Iraqi students .was (205) students, while the sample of Jordanian students was (180) students

**Table (6): ANOVA test for differences between the means between Iraqi and Jordanian students for the first axis**

Sig. (2-tailed)	df	t	S.D	Mean	N	The group	variable	
<b>0.110</b>	383	-1.601	1.110	3.30	205	Iraqi	I have accounting knowledge of cryptocurrency concept	q1
0.105	378.090	-1.627	0.868	3.47	180	Jordanian		
<b>0.023</b>	383	-2.282	1.133	3.16	205	Iraqi	I have the accounting knowledge that qualifies me to know the basis on which cryptocurrencies (.blockchain) are built	q2
0.021	378.322	-2.317	0.888	3.40	180	Jordanian		
<b>0.004</b>	383	-2.878	1.126	3.13	205	Iraqi	There is knowledge of cryptocurrency mining methods	q3
0.004	374.210	-2.931	0.845	3.42	180	Jordanian		
<b>0.003</b>	383	-2.961	1.159	3.10	205	Iraqi	I have knowledge of decentralized cryptocurrency	q4
0.003	375.008	-3.014	0.877	3.41	180	Jordanian		
<b>0.111</b>	383	-1.596	1.099	3.25	205	Iraqi	I have sufficient knowledge of accounting	q5
0.106	378.524	-1.620	0.864	3.41	180	Jordanian		

							measurement methods for cryptocurrencies (cost .(or fair value	
<b>0.017</b>	383	-2.401	1.074	3.20	205	Iraqi	I have accounting knowledge that qualifies me to know the nature of cryptocurrencies	q6
0.016	382.889	-2.419	0.959	3.46	180	Jordanian		
<b>0.002</b>	383	-3.096	0.869	3.19	205	Iraqi	The first axis	
0.002	360.198	-3.173	0.587	3.43	180	Jordanian		

Source: SPSS output. V. 24

Through the results shown in the above table, it is clear to us that the first hypothesis is accepted, which confirms that there are statistically and morally significant differences between Iraqi and Jordanian students towards the first axis, which indicates that the accounting knowledge of the nature and characteristics of encrypted currencies among Jordanian students is at a better level. This also applies to paragraphs (q2, q3, q4, q6) with the presence of statistically and morally .significant differences with the superiority of Jordanian students

**Table (7): ANOVA test for differences between the means between Iraqi and Jordanian students for the second axis**

Sig. (2-tailed)	df	t	S.D	Mean	N	The group	variable	
<b>0.103</b>	383	1.634	1.044	3.43	205	Iraqi	Facilities must implement the disclosure of cryptocurrencies as a monetary asset	q7
0.099	382.636	1.651	0.888	3.27	180	Jordanian		
<b>0.069</b>	383	-1.821	1.123	3.30	205	Iraqi	Facilities must implement the disclosure of cryptocurrencies as a quasi-monetary asset	q8
0.066	381.130	-1.844	0.918	3.49	180	Jordanian		
<b>0.761</b>	383	-0.304	1.041	3.50	205	Iraqi	Facilities must implement the disclosure of cryptocurrencies as long-term investments	q9
0.759	382.659	-0.307	0.887	3.53	180	Jordanian		
<b>0.038</b>	383	-2.083	1.062	3.21	205	Iraqi	Facilities must implement the disclosure of cryptocurrency as a commodity inventory	q10
0.036	382.949	-2.102	0.921	3.42	180	Jordanian		
<b>0.041</b>	383	-2.050	1.062	3.27	205	Iraqi	Establishments must implement the disclosure of cryptocurrencies as an intangible asset	q11
0.039	382.970	-2.069	0.924	3.48	180	Jordanian		
<b>0.007</b>	383	-2.722	1.091	3.20	205	Iraqi	Establishments must implement the disclosure of cryptocurrencies according to their purpose	q12
0.006	382.685	-2.750	0.930	3.48	180	Jordanian		
<b>0.097</b>	383	-1.665	0.830	3.32	205	Iraqi	The second axis	
0.092	378.110	-1.691	0.649	3.45	180	Jordanian		

Source: SPSS output. V. 24

Through the results shown in the above table, it is clear to us that the second hypothesis has been rejected, which confirms that there are no statistically and morally significant differences between Iraqi and Jordanian students towards the second axis, which indicates that the awareness of Iraqi and Jordanian students towards methods of disclosing cryptocurrencies is at

an equal level. Whereas, there were statistically significant differences between Iraqi and Jordanian students towards paragraphs (q10, q11, q12), with Jordanian students excelling in the .level of disclosure compared to Iraqis

**Table (8): ANOVA test for differences between the means between Iraqi and Jordanian students for the third axis**

Sig. (2-tailed)	df	t	S.D	Mean	N	The group	variable
<b>0.062</b>	383	-1.869	1.099	3.18	205	Iraqi	I have accounting knowledge of how to buy cryptocurrencies from another user by exchanging them for legal money such as paper and coins
0.059	380.212	-1.895	0.885	3.37	180	Jordanian	
<b>0.040</b>	383	-2.058	1.138	3.17	205	Iraqi	There is sufficient accounting knowledge about cryptocurrency risks
0.038	382.547	-2.080	0.965	3.39	180	Jordanian	
<b>0.063</b>	383	-1.864	1.103	3.15	205	Iraqi	There is sufficient accounting knowledge on how to use cryptocurrencies
0.057	362.185	-1.909	0.755	3.33	180	Jordanian	
<b>0.013</b>	383	-2.482	1.096	3.17	205	Iraqi	There is sufficient accounting knowledge about cryptocurrency custody
0.012	378.231	-2.521	0.858	3.42	180	Jordanian	
<b>0.039</b>	383	-2.074	1.030	3.29	205	Iraqi	I have accounting knowledge that commercial transactions in encrypted currencies are one-way, i.e. non-refundable
0.036	381.847	-2.099	0.855	3.49	180	Jordanian	
<b>0.005</b>	383	-2.808	1.058	3.27	205	Iraqi	I have the knowledge that legal and professional legislation allows cryptocurrency trading in the local market
0.004	374.151	-2.859	0.794	3.54	180	Jordanian	
<b>0.006</b>	383	-2.786	0.887	3.21	205	Iraqi	Third axis
0.005	363.796	-2.851	0.613	3.42	180	Jordanian	

Source: SPSS output. V. 24

THROUGH THE RESULTS SHOWN IN THE TABLE ABOVE, IT IS CLEAR TO US THAT THE THIRD .III HYPOTHESIS IS ACCEPTED, WHICH CONFIRMS THAT THERE ARE STATISTICALLY AND MORALLY SIGNIFICANT DIFFERENCES BETWEEN IRAQI AND JORDANIAN STUDENTS TOWARDS THE THIRD AXIS, WHICH INDICATES THAT THE ACCOUNTING KNOWLEDGE AND METHODS OF TRADING CRYPTOCURRENCIES AMONG JORDANIAN STUDENTS ARE AT A BETTER LEVEL, AND THIS APPLIES ALSO ON PARAGRAPHS (Q14, Q16, Q17, Q18) WITH THE PRESENCE OF STATISTICALLY AND .MORALLY SIGNIFICANT DIFFERENCES WITH THE SUPERIORITY OF JORDANIAN STUDENTS AS WELL

**Conclusions :**

foregoing, the following results appear:

1. There is accounting knowledge among students in general about the nature and characteristics of cryptocurrencies.

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2. There are differences in accounting knowledge of encrypted currencies between Iraqi and Jordanian students, as there is a superiority in the level of knowledge of Jordanian students over Iraqi students. The reason may be due to the policies and procedures followed in Jordan compared to their counterparts in Iraq. As the Central Bank of Jordan admits more explicitly to dealing with cryptocurrencies compared to the Central Bank of Iraq.
  3. There are also differences between the levels of related accounting knowledge. The basis on which encrypted currencies (blockchain) are formed between Iraqi and Jordanian students may be due to the greater technical knowledge of Jordanian students due to the connection of the blockchain to the World Wide Web.
  4. There are differences between the knowledge of cryptocurrency mining methods between Iraqi and Jordanian students, as Jordanian students excel in this knowledge as a result of the criminalization of dealing in cryptocurrencies in Iraq by the security authorities and the Central Bank of Iraq.
  5. There are differences between. There is no knowledge of decentralization in cryptocurrencies among Iraqi and Jordanian students, as Jordanian students excel in this knowledge, as a result of their extensive knowledge of mining methods and dealing with cryptocurrencies as a result of the existence of legal legislation that allows this.
  6. There are differences between the accounting knowledge about the nature of encrypted currencies between Iraqi and Jordanian students, as Jordanian students excel in this knowledge, as a result of the presence of bulletins and instructions issued by the Central Bank of Jordan on the nature of encrypted currencies.
  7. accounting knowledge in directions Disclosure of cryptocurrencies.
  8. There are no differences in the directions of Disclosure of cryptocurrencies between Iraqi and Jordanian students, therefore, there are no significant differences between the level of Iraqi students' knowledge of the methods and trends of disclosing cryptocurrencies compared to Jordanians, as they are classified as intangible assets due to the lack of a tangible physical form for them, which clearly describes accounting principles.
  9. Jordanian students believe more than facilities should implement the disclosure of cryptocurrencies as a commodity inventory compared to Iraqi students.
  10. Jordanian and Iraqi students in general believe that facilities should implement the disclosure of cryptocurrencies as intangible assets compared to Iraqi students, resulting from the education system that defines assets that do not have a physical presence as tangible assets.
  11. Jordanian students believe to a greater extent that establishments should implement the disclosure of cryptocurrencies according to their purpose compared to Iraqi students, as a result of the multiplicity of ways to use cryptocurrencies, as some use them for trading (buying and selling) and others for investment.
  12. accounting knowledge in general in cryptocurrency trading methods.
  13. There are differences in knowledge about the methods of trading cryptocurrencies between Iraqi and Jordanian students, as there is a superiority in the level of knowledge of trading among Jordanian students over Iraqi students. This is due to the experience that Jordanians have as a result of accepting trading in these currencies by the Jordanian government.

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14. There are differences in the level of accounting knowledge towards the risks related to cryptocurrencies between Iraqi and Jordanian students, as Jordanian students excel compared to Iraqis at that level.

15. There are differences in the level of accounting knowledge towards keeping cryptocurrencies between Iraqi and Jordanian students, as Jordanian students outperform Iraqis in this.

16. There are differences in the level of accounting knowledge that commercial transactions in encrypted currencies are one-way, i.e. non-refundable, between Iraqi and Jordanian students, as Jordanian students outperform Iraqis in that, as a result of their practice of dealing with these currencies.

17. There are differences regarding the level of knowledge of the legal and professional legislation that allows the trading of cryptocurrency in the local market between Iraqi and Jordanian students, as Jordanian students outperform Iraqis in this due to the lack of publishing or publications related to these currencies in Iraq.

### **Recommendations:**

From the above, some recommendations can be presented, the most important of which are:

1. Adding the placement of cryptocurrencies to the curriculum because of the fact that 73% of cryptocurrency dealers hold a bachelor's degree.
2. Organizing seminars and scientific conferences to increase knowledge of the characteristics, risks, and future role of cryptocurrencies.
3. Providing more transparency when disclosing cryptocurrencies, as the adequacy of cryptocurrency disclosure must be evaluated.
4. Reliance on the International Accounting Standard No. IAS 1 states that "fair offer Financial reporting is insufficient to enable users to understand the impact of certain transactions and other events and conditions on the entity's financial condition and financial performance. The scope of the disclosure should include a number of disclosures Description of the cryptocurrency and the purpose of holding it
5. It is necessary to know how many cryptocurrency units exist at the end of the year.
6. Disclosure of the accounting policy according to the business model of the establishment.
7. The discretionary provisions adopted by the administration regarding the treatment of encrypted digital currencies must be objective.
8. Develop a methodology for managing cryptocurrency risks.
9. Directing studies and research toward the issue of cryptocurrencies.
10. International professional organizations are working to bridge the gap by issuing standards for accounting for cryptocurrencies.
11. Legislators set regulations and legislation for preserving rights associated with cryptocurrency transactions.

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