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Considerations of accounting standards that can be used to disclose Cryptographic assets in financial reports

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Abstract: Cryptographic assets are a digital form of currency that uses mathematical equations and block chain technology to encrypt data. The popularity of this type of currency has grown exponentially over the past few years due to more people and companies using it despite the refusal of central banks and country authorities to recognize cryptocurrencies as money. However, some companies have begun to accept it as payment for goods and services. It is expected that more people will turn to cryptocurrencies in the future. With this, companies will have to find ways to account for and report them in the financial statements, however, the Financial Accounting Standards Board (FASB) has not yet determined how to account for cryptocurrency, leaving companies without formal guidance on the subject. The purpose of this paper is to present potential accounting policies to display how companies will report cryptocurrencies in the future based on evidence derived from a review of the accounting literature. The need to address digital currency problems was recommended by the International Accounting Standards Board.

Keywords: Cryptographic assets, Disclose, financial statements, generally accepted accounting principles (GAAP), international financial reporting standards (IFRS).

اعتبارات المعايير المحاسبية الممكن استخدامها للإفصاح عن الأصول الرقمية المشفرة في التقارير المالية

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المستخلص: تعد العملات الرقمية المشفرة اصولا رقمية ليس لها كيان مادي، ولغرض إنتاجها تستخدم البرامج الحاسوبية والمعادلات الرياضية وتقنية سلسلة الكتل لتشفير البيانات. وقد تزايد الاهتمام بهذا النوع من العملات بشكل كبير خلال السنوات القليلة الماضية بسبب إدراك الشركات والوكالات والأشخاص بأهمية مواكبة التطور التكنولوجي المتسارع، وعلى الرغم من رفض الاعتراف بهذه العملات كأموال من قبل السلطات الحكومية المتمثلة بالبنوك المركزية، بدأت بعض الشركات في قبولها كوسيط للتبادل والحصول على الخدمات والسلع. لذلك يتوجب على الشركات التي تستخدم هذه العملات في تعاملاتها، المحاسبة عنها وإظهارها والإبلاغ عنها في بياناتها المالية، وعليها اختيار المعيار المحاسبي المناسب استنادا إلى نوع التعامل بهذه العملات وبالرغم من ذلك، فإن مجلس معايير المحاسبة المالية (FASB) لم يصدر أي بيان أو إشارة إلى معيار محاسبي مناسب للمحاسبة والإفصاح عن العملة المشفرة، وبذلك ترك الشركات بالإبلاغ توجيه رسمي حول هذا الموضوع. والهدف من هذا البحث هو تقديم السياسات المحاسبية المحتملة لعرض كيفية قيام الشركات بالإبلاغ عن العملات المشفرة في المستقبل في ضوء متطلبات المعايير الدولية لإعداد التقارير المالية(IFRS) ومراجعة الأدبيات المحاسبية.

الكلمات المفتاحية: الاصول الرقمية المشفرة، الإفصاح المحاسبي، القوائم المالية، مبادئ المحاسبة المقبولة عمومًا (GAAP)، معايير التقارير المالية الدولية (IFRS).

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Introduction.

Technological developments and the innovations resulting from them have led to a fundamental change in the way institutions provide their services, especially in the information and communication technology sector, as well as the behavior of consumers towards various products and services, as well as at the level of the financial and banking industry, and in particular the payment sector and money transfer through systems Advanced payment, digital and virtual currencies, and others.

In recent years, the global monetary systems have witnessed developments in their policies, the most important of which is the emergence of encrypted virtual currencies, as it is known as the unit of trade exchange in its electronic form, which is a decentralized cryptocurrency that operates on a peer-to-peer system, which is a principle that depends on two parties to the transaction. They are its users and managed entirely by them without the intervention of any intermediary or central authority, and this is done through electronic multimedia such as computers or smart devices (such as mobile devices, tablets, etc.) to purchase in- kind goods or various benefits

In the global business environment, interest in encrypted digital currencies has increased and the volume of their circulation has increased, and many international institutions, whether banking or commercial, have tended to recognize them as an acceptable currency and a mediator of exchange. As companies begin to accept cryptocurrency as a legitimate payment, companies need guidance on how to account for cryptocurrency transactions during their normal dealings, or whether they hold cryptocurrency at the end of an accounting period, which will have to be reported in their financial statements somewhere.

The main note is, there is no specific accounting guidance in (IFRS) or (MFRS) or in the Iraqi accounting rules through which holders of encrypted digital currencies <u>can report</u> them in the financial statements.

Hence, many opinions and ideas are raised about what is the appropriate accounting treatment for encrypted digital currencies, and the question arises: How should entities report cryptocurrencies in their financial statements? Can it be accounted for as cash or a cash equivalent? Can it be accounted for as a non- cash financial instrument? Does the nature of these currencies may lead to accounting for them as current assets or intangible assets or in other cases as stock for sale? To answer these questions and in light of the foregoing, this study comes as a nucleus to clarify the concept of encrypted digital currencies, the appropriateness of accounting methods for them and the most important potential accounting policies in the presentation of encrypted money in financial statements in light of what is contained in international accounting standards

Research problem:

Dealing with encrypted digital virtual currencies raises many accounting questions, due to the nature and qualitative characteristics of these currencies and because of the absence of accounting standards for accounting treatment of those currencies, the research problem can be formulated through the following questions:

- 1- Is there a possibility that there will be different accounting treatments for encrypted digital currencies due to the different activities of companies and the multiplicity of their business models?
- 2- What is the appropriate accounting model for accounting for encrypted digital currencies considering the rules and standards of generally accepted accounting principles (GAAP).

from the previous view, the research will attempt to answer the question: How can companies disclose Cryptographic assets in their financial statements? considering the difference in their activities and the different purpose of holding those currencies.

Research objective:

The main objective of the research is to identify the nature of Cryptographic assets and to shed light on the possible accounting policies for encrypted digital currencies according to the nature of the companies' work, as the reasons for their acquisition and obtaining them can vary, leading to different accounting results in accordance with generally accepted accounting principles, (GAAP).

research importance:

As companies begin to accept cryptocurrency as a legitimate payment, these companies need guidance on how to account for cryptocurrency transactions. Financial Statements. From here, the research derives its importance, especially, due to the lack of an international or local accounting standard or guidance for accounting for encrypted digital currencies, which caused a difference in the accounting treatment of this currency. As well as the limited studies on how to account and report on encrypted digital currencies.

research hypothesis:

The research was based on the following main hypothesis:

"The guidelines contained in some international accounting standards and local accounting rules can be applied for the purposes of accounting for encrypted digital currencies and reporting them in the financial statements, and according to the nature of their holding by companies."

Research Methodology.

The researcher followed the inductive approach to do a theoretical study to extrapolate, by reviewing the most important international accounting standards and relevant local accounting rules, as well as studies, research, periodicals and internet sites for everything related to accounting for encrypted currencies and, The study relied on analytical methodology to analyze potential policies and present the opinions of specialists, and offer suggestions to develop possible solutions for reporting and disclosing Cryptographic assets in Financial Statements.

The researcher did not conduct an applied study because there are no practical cases applied in Iraq, because dealing with encrypted digital currencies is prohibited in Iraq, according to the Central Bank of Iraq. (34)

Structure of the research:

The study has been divided as follows:

Research Methodology.

The first topic: the nature and definitions of Cryptographic assets.

The second topic: Cryptographic assets from an accounting perspective in accordance with generally accepted accounting principles (GAAP).

The third topic: the accounting measurement of Cryptographic assets according to the possibilities of reporting them in the financial statements.

Conclusions and recommendations.

first topic: The nature and definitions of Cryptographic assets

most known subsets of cryptographic assets are cryptocurrencies, also called electronic currency, are representations of digital properties. More precisely, it is a program written in a specific programming language and using global encryption techniques that make hacking and manipulating it almost impossible. These currencies are in digital form and depend on encryption technology, and they do not have a physical presence and work according to the principle of peer- to- peer, which is a technical term that means direct dealing without the presence of an intermediary between one user and another. (31)

1/1- Definition of Cryptographic assets:

It is defined as "a virtual, has no physical existence, and intangible digital currency that is produced by computer programs and is not issued by an official institution, it is not controlled by a central bank or any official authority, and is used in buying and selling via the Internet or is converted into other currencies, and it is widely accepted by its dealers. (1)

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The Cryptographic assets was also defined as "a digital representation of a specific value that can be transferred, stored, or traded electronically and is not issued by the central bank or public authorities and is not necessarily related to a paper currency such as (dollar, euro...) but people accept it as a means of payment." And the currency Currently the most popular default is Bitcoin (Bitcoin). (4)

The term encrypted digital currencies refers to one of the forms of digital exchange, they are currencies that are created through certain mathematical algorithms and software, and global encryption techniques are used so that the process of penetrating or manipulating them is an impossible and complex process, as Block chain technology is used. It is responsible for keeping records of all transactions, deals and exchanges made using encrypted digital currencies (20).

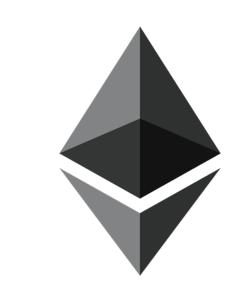
2/1 The most traded cryptographic assets in the world: (8)

There are more than 1100 digital currencies circulating around the world, the focus will be on the most famous, important, and best digital currencies for investment around the world. The most prominent of these currencies are arranged according to their market value, as follows:



1- Bitcoin: (BTC)

Bitcoin is one of the most famous encrypted digital currencies at all, it is considered as a first decentralized encrypted digital currency in the world, its mysterious creator — allegedly Satoshi Nakamoto- debuted in the year 2009., it is symbolized in currency trading platforms as (BTC)



2- Ethereum:

It comes after Bitcoin in terms of market value and popularity, it is symbolized in currency trading platforms as (ETH), it is relatively new, and it appeared in the year 2015, despite its recentness, many people accepted it because the Ethereum network allows the creation of smart contracts. The idea of smart contracts, that anything of value can be traded between people, and ensure that the terms of the contract are met, as well as, all of this is recorded and documented by the block chain system.



3- Bitcoin Cash:

It is in the third place in terms of market capitalization, and it is relatively recent as it was issued on August 1, 2017, and is symbolized in trading platforms by (BCH).



4- Ripple:

In terms of market value, the Ripple currency is in the fourth place. The Ripple currency is very cheap compared to the most prominent digital currencies, and this is what makes it one of the strongest digital currencies and it is growing rapidly, and the symbol for Ripple currency in the trading platforms is XRP.



5- Litecoin:

Litecoin is almost similar to Bitcoin, and the difference lies in the processing time of the block and the time of recording the transaction, as the processing time in Litecoin takes only 2.5 minutes,

but in Bitcoin the processing time takes 10 minutes. In trading platforms, it is denoted by LTC.

The difference of digital currencies from each other in terms of available

liquidity, and in terms of a large number of people dealing with them, there are just a few of other most popular and important currencies in addition to what we have previously shown, which are, ranked according to their market value:

6- Cardano 7- IOTA 8- Dash 9- Nem 10- Monero 11- Bitcoin Gold 12- Qtum

13- NEO 14- Stellar 15- Ethereum Classic 16- Lisk 17- Verge 18- Bit Connect

19-Zcash

3/1- The encrypted digital currency (Bitcoin):

It is the most famous and popular on the Internet, bitcoin is the first cryptocurrency that was invented by an unidentified person named (Satoshi Nakamoto) in 2008. It appeared in circulation and in practice at the beginning of the year 2009. (31)

Bitcoin is a currency that does not have a physical presence. It is a virtual electronic currency that depends mainly on the principle of encryption and is not issued by a specific central bank or a specific authority, which means that there is no regulatory authority or authority over it, it is traded via the Internet only for currency conversion or payment for purchases. By transferring its code directly from the buyer's wallet to the seller's wallet, which is similar to a bank account, as it is personal, confidential, and secure. (12)

The basic idea is based on a program that is installed on users' computers, and this program provides very high protection because exchanges are considered confidential in some countries, the value of the currency is transmitted from one computer to another directly without an intermediary or transfer fees, as soon as the user downloads and activates the program, this program begins to produce non-currency, It is repeatable through specialized software processes called mining operations. (1)

The virtual issuance of bitcoin is done by miners through the mining process, the mining process can be carried out by anyone or any party and from anywhere in the world. It is available to everyone, but the process of mining or prospecting is not that easy, as it requires powerful computers with special specifications and allows by downloading the free mining program Bit Coin Miner, with this program, you can solve a set of logical sequential equations and mathematical steps necessary to solve a problem witch they are called algorithms. (5) It is assumed that every Bitcoin transaction is recorded in a public register called the Block Chain, which includes the accounts that were used in the mining process and the number of Bitcoins that were exchanged. (1)

4/1- Block chain technology:

The central technological advantage of Bitcoin is the blockchain, a technology that stores and exchanges data on a peer- to- peer basis. The block chain is a global public ledger that contains all bitcoins that have been fully executed. This ledger contains a series of so- called blocks. Each block contains a list of operations, as well as the hash, or the digital signature of the previous block that made up the ledger (hence the term block chain), as each block is linked to its predecessor and the block chain is distributed to all computers running the Bitcoin protocol, thus, all nodes in a Bitcoin network contain copies of all fully executed processes. The participants jointly validate the new processes block by block ⁽⁴⁾.

The block chain is also called the distributed ledger, through a decentralized network that saves the transaction history for the purpose of tracking and verifying those transactions, that a particular party does not control the data, all parties dealing in this network are able to see the data of each transaction, through the encryption technology used by the chain Blocks prevent any unauthorized changes to the transaction log. ⁽¹⁸⁾

It is through a distributed network of controlled computer servers, called nodes, which are a series of independent computers that connect to the network and communicate with each other. ⁽⁸⁾

Blockchain technology is concerned with transferring the ownership of assets and maintaining accurate financial information recorded in the ledger, as it is essentially an accounting technology, and since the accounting profession and its function are to measure, analyze and deliver financial information to its users, it is also concerned with measuring rights and obligations, the use of a blockchain provides accounting information It enhances the accounting profession through the ledger, which is the general record of financial operations. (11)

The second topic

The Cryptographic assets from an accounting perspective in accordance with generally accepted accounting principles (GAAP)

Some companies are now beginning to accept cryptocurrency as a means of payment for certain items, for example, Microsoft is one of the companies that accepts Bit coin as a means of payment for certain items Xbox Live (its own store). As businesses begin to accept Cryptographic assets as legitimate payments, they need guidance on how can be accounted for, and how to display them in the financial statements at the end of the accounting period?

IFRS does not regard specific guidance on the accounting standards for cryptographic assets, and how should be reported in financial statements. ⁽⁹⁾

cryptographic assets do not fall into one category, due to their unique nature. It's not quite cash, not quite an investment, and it's not quite a stock item. From here the question arises: How should entities report cryptographic assets in their financial statements? ⁽⁹⁾

Therefore, in this research, the researcher will try to answer the question: How should companies account for and report the cryptographic assets they have? or dealing with in their financial statements?

There are two types of companies, namely the commercial companies that deal with cryptocurrency as a medium of exchange, where they are treated as foreign currency, and are reported as cash or the like, and the second type of companies that possess the cryptocurrency for trading to achieve profits. Because of the variation in the reasons for its acquisition, the accounting treatments are different. (35)

Therefore, dealing with encrypted digital currencies raises many accounting questions, due to the nature and qualitative characteristics of these currencies, the consideration should also be given to the entity's purpose for holding the cryptographic assets to determine the accounting model.

The Financial Accounting Standards Board (FASB) sets the rules and standards for generally accepted accounting principles (GAAP). Companies must follow the requirements of generally accepted accounting principles to record, present and report accounting transactions.

Through perusal and research, the researcher concluded that the Financial Accounting Standards Board (FASB) did not provide official guidance regarding cryptographic assets or any other digital assets,

and the American Generally Accepted Accounting Principles (GAAP) did not directly address how to account for encrypted digital currencies, as well as The researcher did not find an international accounting standard or a local (Iraqi) accounting rule that defines the accounting treatment for these currencies in various cases. Which leaves companies without formal guidance on the methods of accounting treatments and leaves companies to find the appropriate accounting methods to deal with them.

Accordingly, companies can resort to the interpretation contained in International Standard (IAS) No. (8), which states that "in the absence of an interpretation or standard that applies specifically to an economic event or an accounting transaction, the management should use its judgment in developing and implementing an accounting policy that results in reliable information." It has to do with the economic event." And that the administration bears in mind that it conforms to international requirements and guidelines on similar topics as well as conforms to definitions, recognition standards and concepts of measurement of assets, liabilities, revenues, and expenses. Accordingly, the company must choose and apply its accounting policies in a consistent manner regarding reciprocity in transactions, events, and other conditions. (36)

Through the concept of (IAS) No. (8), commercial companies can use the accounting policy they deem appropriate in transactions in which encrypted digital currencies are used, whether they use them as a medium of exchange or trade them. Hence, many opinions and ideas are raised about what is the appropriate accounting treatment for accounting for encrypted digital currencies, and for reporting them in their financial statements? Can it be accounted for as cash or a cash equivalent? Is it appropriate to account for it as a financial instrument? Does the nature of these currencies may lead to accounting for them as current assets or intangible assets or in other cases as stock for sale? In order to answer these questions, the researcher will address in the context of the research the classification of encrypted digital currencies based on the nature of companies' possession of them, and the appropriateness of accounting methods for them in light of what is mentioned in international accounting standards, and we will also cite the local (Iraqi) accounting rules.

1/2 Classification of Cryptographic assets, and accounting for it as a foreign currency

Cryptographic assets are accounted for and treated like a foreign currency transaction if the purpose of its use as a currency for continuous buying and selling operations, and this is what Microsoft follows, for example, when a company sells to a customer in exchange for an encrypted digital currency such as (Bitcoin), it is similar to the process of arrest in a foreign currency. Here the accounting for Bitcoin will be like accounting for any other foreign currency. For example, if a company has receivables in euros or dollars, at the end of each accounting period the company should adjust them to fair value with any unrealized gains or losses recorded in earnings. In this case, Euros or Dollars will be reported as accounts

receivable. If companies will accept bitcoin in the current transactions of buying and selling, it is proportional to the accounting for it, similar to accounts receivable in foreign currency ⁽⁹⁾

2/2 Classification of Cryptographic assets and accounting for them as cash:

The challenge for accountants is how to account for cryptocurrency, given that it has some but not all of the characteristics of a traditional currency. We will present opinions about the possibility of accounting for Cryptographic assets as cash.

The accounting hypothesis of the monetary unit is based on the assumption that "money is the general and common basis of economic activity, and that the monetary unit provides an appropriate basis for accounting measurement and analysis." (2)

The definition of cash was included in the local accounting rule No. (7) (cash flow statement), where it indicated that "cash includes cash in the treasury and banks." $^{(21)}$

The definition of cash in International Accounting Standard (IAS) No. (7) "Cash includes cash in the treasury and demand deposits". (13)

Kieso, considers that "cash can consist of coins, paper money, and all the money that is in the banks $^{"(19)}$

Economists define money as "anything generally accepted as a means of payment for the purpose of obtaining an economic good or service, or for repaying debts." (40)

In Wikipedia, money is defined as "any verifiable physical item that is generally accepted in society as a means of payment for the purpose of obtaining goods and services and fulfilling obligations, in a particular country or socio- economic context." It is also possible to define the main functions of money as: A unit of account, a store of value, a medium of exchange and sometimes, a deferred payment standard. (40)

From all of the above, it is clear that money must be characterized as: a unit of measurement, a medium of exchange and circulation, a store of value, and a means of deferred payment, that is, the ability to discharge liability, and it might be enjoy general acceptance by society, and it must be issued by the Central Bank in order to It acquires legal status.

Thus, any item that performs these functions and is verifiable and has these qualities can be considered as money.

The cryptographic assets can be considered an intermediary for exchange in some cases, as the CPA indicated that some encrypted digital currencies can be a limited intermediary for exchange when compared to the official currencies traded such as the dollar and the euro, and the reason for this is that encrypted digital currencies are not issued by a central bank and thus are not supported By a legal authority so in most countries it is not recognized as a currency .(5)

As for the position of the Central Bank of Iraq regarding the possibility of considering cryptographic assets as cash, it is evident from its warning against dealing in encrypted currency. The Central Bank's warning, as mentioned in its statement:

"Bitcoin is a virtual electronic currency that is traded over the Internet only and does not have a tangible physical presence. The purpose of its use is to purchase via the Internet, and payment is made using bitcoin cards, and it can be converted to traditional currencies sometimes, and there are risks as a result of its circulation, especially with regard to fraud and electronic piracy, and Although there is no popularity of it inside Iraq, we support the issuance of such circulars not to use them and to subject those who deal with them to the provisions of the Money Laundering Law No. (39) of 2015 and the relevant laws in this regard" ³⁴⁾

Kieso, sees that cash is "the standard medium in exchange and the basis of accounting measurement for all items of commercial exchange in companies", plus, cash is always classified as a current asset, It should be available to pay the commitments that the company is committed to, and it might be free from any contractual restrictions that limit its use in fulfilling debts. (19)

For cryptographic assets to be considered as cash, the definition of cash should apply to them and be available for use in the exchange process.

MFRS 132 "Financial Instruments Application Guide" states that in addition to using cash as a medium of exchange, cash is expected to be used as a monetary unit in pricing goods or services to the extent that it serves as the basis for all transactions measured and recognized in the financial statements like traditional currencies, cryptographic assets are mainly used as a medium of exchange, but unlike cash or currencies, cryptocurrencies are not used to directly price goods or services, although they are accepted as a means of payment by some and sometimes to settle some transactions, so they are not like cash which is directly related to setting the prices of goods or services in the economy, cryptographic assets do not currently have all the properties of cash, so, they cannot be counted as cash or currency. (22)

Since cryptographic asset is "not generally accepted as legal tender and is not backed by the government, it does not qualify as cash." (23)

In light of the definitions of cash contained in the Iraqi accounting rule No. (7) and in the International Accounting Standard No. (7) as well as most of the opinions of specialists, cryptographic assets are not cash, and do not currently have the characteristics of cash, so the researcher believes that it is illogical to consider this encrypted digital currency as cash, despite being a means of exchange, as well as being immaterial and has no physical existence. In order for cash to be a means of storing value, it should not be exposed to severe fluctuations in value, this condition is not available in digital currency, where cryptographic assets are considered a weak store of value due to their high volatility, so they cannot be considered as cash. It also has no legal status, as it is not issued by a central official body (The Central Bank) and is not recognized as a legal currency in most countries of the world.

There are also aspects related to accounting. One of the generally accepted accounting assumptions assumes that the recording and reporting of information in financial statements are presented in cash, since cash is the unit of measurement. Is it conceivable that financial data can be presented in a virtual currency such as Bitcoin, for example?

However, this situation may change in the near future with the tendency to accept cryptographic assets by some countries, such as Germany and El Salvador, and recognize them as a tradable currency.

3/2- Classification of cryptographic assets and accounting for them as cash equivalents:

Now, we ask: If cryptographic assets do not meet the requirements of being considered and accounted for as "cash", can they be considered as "cash equivalents"? What are the cash equivalents?

It is stated in the Iraqi Accounting Rule No. (7) that "cash equivalents are short-term, highly liquid investments that are immediately convertible into known cash amounts and that are subject to insignificant risks in changing their value." (21)

International Accounting Standard (IASB) No. (7), stated the definition of cash equivalents as "short- term, highly liquid investments that have the ability to convert into known amounts of cash easily, and may be exposed to risks of change in their value, but this change is small." ⁽¹³⁾

Cash equivalents, according to (Topic (s) 210 FASB, ASC,), are "short- term and highly liquid investments" and have the following characteristics:

- a. "Easy conversion into known amounts of cash."
- b. It is exposed to minimal risk to changes in value due to changes in interest rates.

In general, only investments with maturities of three months or less qualify under this definition to be cash equivalents. $^{(9)}$

Certified Public Accountants in Ontario / Canada (CANADA CPA) believe that cryptographic assets may not have the characteristics of cash equivalents, since they are not short- term and often their value is subject to rapid and continuous fluctuations, in addition to that there are restrictions on the liquidity of these currencies and the difficulty of converting them into currency recognized cash, so it is not expected that cryptographic assets are eligible to be billed as cash or its equivalent. (5)

Among the previous definitions and conditions for determining what cash equivalents, cryptographic assets cannot be considered similar to cash equivalents, and since it is incredibly volatile in its value, so its value is exposed to the risk of change. The high volatility surrounding the cryptographic assets weakens its convertibility to known amounts of cash in the future. Hence, it seems that the cryptographic asset does not achieve the accounting requirements for it as equivalents of cash. Therefore, it should not be classified as a monetary equivalent.

Here, the researcher wonders, if the opinions of specialists do not agree on treating cryptographic assets as cash or its equivalent, can they be accounted for as financial instruments? This matter will be addressed, and the opinions expressed on it will be discussed in the following.

4/2- Classification and accounting for cryptographic assets as financial instruments

The definition of financial instruments in International Financial Reporting Standard No. (9) is that they "include all financial assets recorded on the balance sheet and financial liabilities inside and outside the balance sheet, which fall within the scope of application of IFRS (9) consist of: ⁽³⁷⁾

- 1- Cash.
- 2- "Debt instruments, which are represented in accounts, bonds and loans payable."
- 3- "Obligations to receive the loan that cannot be settled in full in cash or is expected to be met."
- 4- "Investments in non- transferable preferred shares, as well as investments in ordinary shares and preferred and non- tradable shares." (17)

A financial instrument is defined in "IAS No. 32:" as, "any contract that leads to the creation of a financial asset for one entity and a financial liability or equity instrument for another entity." And the asset referred to is either cash or equity instruments of another entity or contractual rights to receive cash or a financial asset from another facility. (15)

From the previous presentation, we can review the possibility of applying the definition of financial instruments to cryptographic assets.

cryptographic asset are not financial assets because they are not cash, nor an ownership interest in an entity, or a contract that creates a right or obligation to deliver or receive cash or any other financial instrument.

The importance of applying the definition of a financial instrument to cryptographic asset lies in the necessity of a contractual relationship. For example, if Company (A) issues a bond to Company (B), Company (A) has a specific contractual obligation to pay Company (B) an amount of cash on certain terms. At the same time, Company (B) has the contractual right to receive the specified cash amount from Company (A), and accordingly, it meets the definition of a financial instrument for both Company (A) and Company (B). The cryptographic asset in this case will be the financial instrument if it is accepted by both companies. It will represent an actual value that can be exchanged for a hard currency, such as the dollar, later. But. the cryptographic asset is not currently recognized as an actual currency or a financial instrument, and it is different in the case of a contractual obligation, the possession of one unit of the cryptographic asset does not give a right and is not a contractual obligation to pay in cash or another financial asset. Accordingly cryptographic asset is not currently recognized as a physical currency or a financial instrument. It does not meet the requirements for the definition of a financial instrument.

Pwc considers that cryptographic assets do not provide the holder with residual interest in the issuer's assets after deducting all its obligations. cryptographic assets usually do not give the holder any contractual right to receive cash or any other financial asset (such as the right to receive debt or equity of another entity), It also does not give its holder the right to exchange financial assets or financial obligations with another entity, so the cryptographic asset does not meet any of the definitions of financial instruments, then it is not a financial instrument. (22)

Certified Public Accountants in Ontario / Canada (CPA) believe that the most important characteristic of a financial instrument is that the holder of the financial asset has the right of contractual obligation to receive cash or any other financial asset from another facility in exchange for his rights and has the right to exchange financial assets and create financial obligations with another entity as stated In International Accounting Standard No. (32), while cryptographic assets do not meet the requirements of financial instruments, this is because it does not represent a contractual obligation to receive cash and its equivalent. (5)

In light of what was presented regarding the accounting for cryptographic assets as a financial tool, the researcher concluded that the cryptographic assets is not generally accepted as legal currency and is not backed by the government, it does not qualify as cash, currency or a financial asset, and does not represent a contractual obligation to receive cash and what equivalent to it, so the conditions of financial instruments do not apply to it.

The researcher wonders, can it be considered an investment tool, as some see? Should the cryptographic assets be reported as an investment in the financial statements, if it meets the requirements of accounting standards in this regard, and this is what the researcher will review through the following part.

5/2- Classification of cryptographic assets and accounting for them as an investment

Companies differ in the purpose of holding cryptographic assets, companies that intend to hold cryptocurrencies in the hope of increasing value, the accounting for them is similar to dealing with securities such as shares, and investments in shares represent equity. A security is defined as "a participation interest or other rights in property or ownership rights to other projects in the currency issuer entity." (7)

IAS No. (25) defines an investment as "an asset held by an enterprise to accumulate wealth through distribution (such as interest, dividends, and rents), to increase capital or for other benefits to the investing enterprise such as those obtained through commercial relations." (22)

It is stated in the Iraqi Accounting Rule No. (14) the definition of investment "is one of the assets held by the facility to increase its resources or develop wealth through the distributions it obtains (in the

form of interests, royalties, dividends, or rental returns) or for the purpose of increasing its nominal value. or for the purpose of obtaining other benefits same to those obtained through commercial relations." $^{(24)}$

cryptographic asset does not meet the above definitions because it is not an equity, but from another perspective, when many individuals hold cryptographic assets in the hope that their value will rise, as if the way people hold their investments in stocks, as well as companies that hold cryptographic assets in the hope of increasing value, accounting for it is similar to dealing in shares. As for the cryptocurrency that is being sold quickly, it is considered a medium for trading. Trading securities are recorded at fair value with unrealized gains and losses recorded in profit or loss. Investments that are held for the long term with the hope that they will rise over time will be classified as available for sale securities. They are recorded at fair value with unrealized gains and losses recorded in the comprehensive income statement ⁽⁹⁾

In the opinion of (Hartley), the cryptographic assets are reported as a short- term investment in the case of trading securities, or a long- term investment in securities available for sale. Accounting standards are already in place for both methods, and cryptographic assets can easily be classified in the same way with slight modifications to existing standards. ⁽⁹⁾

Cryptographic asset is more like equity investments than debt investments as it has no maturity date. In fact, long- term investments in stocks make it similar to cryptographic assets. Also, equity investments do not have a fixed value with certainty, as the price can fluctuate based on the value of the company. The value of the cryptographic assets also fluctuates based on various factors, such as supply and demand. Based on this analysis, cryptographic assets can theoretically be considered as an investment. ⁽⁹⁾

There is an opposing trend, due to the absence of a tangible physical asset for cryptographic asset, they cannot be financial investments, and the investment, whether in stocks or bonds, must be a contract between the two investment parties, so cryptographic assets are not considered an investment because there is only one party. (25)

6/2- Classification of cryptographic asset and accounting for them as inventory

IAS No. 2, define inventory as "items of physical property that have any of the following characteristics: (1) held for sale in the ordinary course of business (2) in production with a view to selling (3) they are currently consumed in the production of goods or services which will be available for sale." (14)

Inventory is defined in the Iraqi accounting rule No. (5): "Inventory means all tangible physical assets owned by the facility with the intention of trading, or using in the course of its ordinary activity, or that are still in the production or manufacturing stages, or the letter of credits, and the advance payments made by the facility to obtain these assets." (27)

Here, the question arises, is it possible that the characteristics of inventory mentioned in the above definitions correspond to the characteristics of cryptographic asset?

cryptographic asset can be classified as inventory if the company is mining and held it for sell in the ordinary course of business, or receives them from miners for the purpose of selling them in the future,, they can qualify as inventory according to guidance in (GAAP), for example, a company that mines Bitcoin as its main activity keeps it for sale in the ordinary course of business, but even so, cryptographic asset is not a tangible asset, Therefore, it cannot be classified as inventory as stated in the accounting policies under GAAP standards. ⁽⁹⁾

Companies use cryptographic asset as a means of payment for obtaining goods and services, or receiving dues for selling its goods and services, or collecting their debts. Therefore, cryptocurrencies cannot be accounted for as inventory. (32)

Cryptographic assets are not a commodity and cannot be accounted for as inventory considering International Standard No. (2). (39)

7/2- Classification of Cryptographic assets and accounting for them as an intangible asset:

The classification of "intangible assets" is the best option for accounting for Cryptographic assets according to extensive research conducted by Price Waterhouse Coopers (PwC)- - one of the largest accounting firms in the world- - they believe, at the end, that "Cryptographic asset is not cash or a currency, non- monetary asset, it has no physical form., for that, alternatively, should probably be considered an intangible asset with an indefinite life." (23)

As stated by International Accounting Standard, IAS No. (38), "intangible asset is an identifiable non-monetary asset without physical substance, monetary assets are money held and assets to be received in fixed or determinable amounts of money." (16)

As stated in the Iraqi accounting rule No. (2) Paragraph (3, a) the definition of an intangible asset "is an asset of an identifiable non- monetary nature that has no physical existence and is considered to exist when: a. It is controlled by the economic unit as a result of previous events such as purchase and internal development. b. "It is expected that potential future economic benefits for the economic unit will flow from it." (28)

To be recognized as an intangible asset, the following conditions are required:

- 1- "The ability of an asset to be identifiable and the possibility of controlling it, measuring its value in a specific way."
- 2- "Expecting the flow of future economic benefits from the asset."
- 3- "The possibility of a reliable existing measurement." (28)

If we separate each of the elements of the definitions of intangible assets mentioned above separately, we can reach the extent of their conformity with the nature of the Cryptographic assets, as follows: $^{(39)}$

1- Identifiable: If the asset is separable and identifiable (that is, it can be divided or separated from the entity by selling, transferring, leasing, licensing, or exchanging it) or if it "originates from a contractual or legal right."

Since Cryptographic assets can be sold in units on an exchange, it is separable and thus meets the definition of an intangible asset.

- 2- If the intangible asset arises from contractual rights or other legal rights: it does not apply here because there is no contract or other legal rights.
- 3- It is expected that future economic benefits will flow from it to the company: it is possible for the entity to obtain the economic benefits of the Cryptographic assets, by using it for payment (when accepted) or the possibility of selling it.
- 4- A non- monetary asset: We have already concluded that Cryptographic asset will not be considered "cash" or "money" and therefore will be a non- monetary asset.
- 5- It has no physical existence: Cryptographic assets are exactly, virtual digital currencies that do not have a physical existence.
- 6- It is controlled by the economic unit as a result of previous events as an asset: we find that when the facility buys or receives the Cryptographic assets as payments, there is a (previous event) and it is able to control these currencies until the decision is made to sell them or use them as a medium of exchange.

It appears that the Cryptographic assets as seen by (PCW) meets the definition of an intangible asset in IAS 38 as it can be separated from its owner by selling or transferring it individually, it does not give the holder the right to obtain a fixed or determinable number of currency units. Cryptocurrency holdings are traded on the exchange, therefore, there is an expectation that the entity will receive future economic benefits. It is non-monetary, as the encrypted currency is subject to significant changes in value, as it is a form of digital money and has no physical existence. Therefore, the most appropriate classification is as an intangible asset. (25)

Grant Thornton holds that, because Cryptographic asset is not generally accepted as legal tender and is not backed by the government, it does not qualify as cash, and because those currencies are subject to price fluctuations, they do not meet the definition of "cash equivalents" and do not meet the requirements of "financial instruments". This is because Cryptographic asset is not a contractual obligation to receive cash and is not an equity instrument, and we believe that it cannot be a type of inventory, as it is not a tangible asset. In each of these accounts related to Cryptographic assets to determine the best classification, we see that "intangible assets" is the only account with which a Cryptographic assets can fit

under IAS No (38), as it is an identifiable asset of a non- cash nature and does not have a physical existence $^{(38)}$

Some intangible assets have an indefinite useful life when the period during which the asset is expected to generate net cash flows to the company cannot be determined. In accounting, intangible assets with an unlimited life are not amortized but are tested for impairment. $^{(16)}$

This is the case of Cryptographic assets when they are viewed as intangible assets, and therefore they are not amortized due to the lack of a specific age for them. The facility holding Cryptographic assets must annually test the impairment in value according to the International Accounting Standard (36). (29)

The third topic:

Accounting measurement of Cryptographic assets according to the possibilities of reporting them in the financial statements.

Given the nature of Cryptographic assets and the volatility in their fair value, it seems counter-intuitive that Cryptographic assets are measured in financial statements by the same accounting methods in most cases, issuers and owners will need to consider various factors including the purpose of holding the Cryptographic assets, and analysis of the accounting literature. to determine the appropriate accounting treatment and focus on the requirements of subsequent measurement. The potential accounting measurement can be presented according to the purpose of holding the Cryptographic assets as follows:

1/3 Accounting measurement if the Cryptographic assets are classified as a foreign currency:

If the Cryptographic asset is considered a foreign currency, IAS No. (21) can be used, and it can be translated using the exchange rate between the functional currency and the Cryptographic assets. Upon initial recognition, the transaction is established by the amount resulting from multiplying the foreign transaction amount by the prevailing exchange rate between it and the reporting currency on the date of the transaction. On the basis of the prevailing exchange rate, and upon subsequent measurement on the balance sheet date, monetary items in foreign currency should be reported at the closing rate. (38)

2/3 The accounting measurement in the case of considering Cryptographic assets as a medium of exchange:

Considering the guidance of the Japanese Accounting Standards Board (ASBJ) issued on March 14, 2018, on the practical procedure for accounting for Cryptographic assets as part of the Japanese Accounting Principles (GAAP). If the entity holds the cryptocurrency for the purpose of trading and as a means of payment, they discuss the following:

- a. In the subsequent measurement, if there is an active market for the circulation of the Cryptographic assets, this currency is measured at the fair value when preparing the general budget, and any gain or loss is recognized for the book value.
- b. If there is no active market for Cryptographic assets, this virtual currency must be measured at their cost. If the estimated disposal value is less than the cost, the currency shall be measured with the disposal value and, the difference from the book value recognized as a loss, and this loss is not reflected in subsequent periods. (3)

With regard to accounting for Cryptographic assets in the event that the company keeps them for the benefit of its customers, the standard confirms the following: (3)

- a. On the date of depositing the virtual currency, which is meant (the code number for the customer's balance of the digital currency) and based on the agreement between the company and the customer, it is recognized as an asset, the measurement is made at the fair value at the same time, the company must recognize the obligation to return the Cryptographic assets to the customer at its fair value.
- b. On the date of preparing the balance sheet, Cryptographic assets is accounted for as if the company had kept it for its own benefit, it depends on the existence of an active market or not.

Accordingly, no gains or losses should arise Cryptographic assets held by the facility for the benefit of its clients (3)

3/3: Accounting measurement if Cryptographic assets are considered as investments:

For investment firms, which hold Cryptographic assets as investments, they should account for them as they would any other investments, initially measuring the value at cost and then adjusting to fair value later as a financial asset while recognizing changes in value. ⁽⁶⁾

According to what was stated in "IAS No. (39)" and International Financial Reporting Standard "IFRS No. (9) " it is measured "at fair value, whether it is a trading investment or a long- term investment, and profits or losses are recognized through the components of comprehensive income." (38)

4/3: The accounting measurement in the case of accounting for it as inventory for the purpose of selling in the ordinary course of business:

Cryptographic assets are mined, and for this purpose companies use high-powered computers to solve complex algorithms, and once they are solved, they create a new currency. Mining companies are required to label Cryptographic assets like a stockpile. This would allow Cryptographic assets to be considered a unique type of inventory as an intangible stock. And when companies sell it right after that, every time they mine they incur costs. The mined Cryptographic assets should have cost of goods sold elements, and as such it meets the "held for sale in the ordinary course of business" (ASC 330) standard. ⁽⁹⁾

For example, a company may hold Cryptographic assets for sale in the normal course of business. The Cryptographic assets can usually be treated as a stock, and this means recognizing the stock at its cost or net realizable value, whichever is lower. But if the facility operates as a trading broker for Cryptographic assets, then International Accounting Standard No. 2 states that "its inventory must be valued at fair value minus selling costs." This type of inventory is obtained mainly for selling purpose in the near future and making a profit. Thus, this measurement method can only be applied in very narrow circumstances where the business model is to sell Cryptographic assets in the near future with the aim of making a profit from price fluctuations. (33)

The Cryptographic assets can be evaluated in the manner of Fifo, Lifo or Average, in the ordinary course of work and at the end of the period, the Cryptographic asset is evaluated at the cost or market price, whichever is lower (LCM), and it can be evaluated at the market value as it evaluates precious metals such as gold, for example, and as stated in (GAAP) especially if it is classified as intangible inventory, with the recognition of profits and losses as stated in International Accounting Standard No. (2) (39).

5/3: Accounting measurement in the case of keeping the Cryptographic assets for the purpose of selling for the benefit of others:

Procházka, sees, in the case of currency retention by intermediaries for selling purpose in the future, it is treated as a commodity, although the definition of commodities contained in International Accounting Standard No. 2 does not apply to it, but from an economic perspective it can be considered a commodity and can be accounted for and measured at fair value minus selling costs. Profits either from the price difference or from the profit margin of commercial brokers. (29)

It is recorded at fair value as an asset and liability at the market price and measured in the balance sheet at fair value minus selling costs. Any changes in value are recognized in profits and losses in light of International Accounting Standard No. (2). (3)

6/3: Accounting measurement in the case of accounting for Cryptographic assets as intangible assets:

IAS No. (38) specifies two alternatives for the subsequent measurement of intangible assets: the cost model and the re- valuation model. In the event that there is an active market for Cryptographic assets, the subsequent measurement is carried out using the re- evaluation method, but in the absence of an active market, the measurement is carried out using the cost method. Cryptocurrencies are often traded in an active market. (29)

If Cryptographic assets are classified as intangible assets, the ASC 350 (Accounting Standards Update), requires companies to initially record intangible assets at cost. As an intangible asset,

cryptocurrencies have indefinite lives and therefore should be tested for decline in value at least annually and more frequently if events or changes in circumstances indicate that impairment is likely to exist. (9)

Since cryptocurrency is an intangible asset, miners develop intangible assets, or create an intangible asset internally, therefore, they must capitalize all expenses incurred in mining (such as cost of computers, electricity costs, cost of workers, etc.), and should be accounted for according to International Accounting Standard No. (38), it is measured at cost, and revenues and profits are recognized when selling the produced encrypted digital currency. (38)

I do not agree with this opinion:

The reason is that if the company wants to benefit from the internal development of an intangible asset, it needs to meet international accounting standards and Accounting Rule No. (2) and thus be able to reliably measure the expenses attributed to the intangible asset during its development. As for the Cryptographic assets and the inability to I have to measure the cost of cryptocurrency reliably and it is very difficult to separate out the costs incurred to build Cryptographic assets, so it is not possible to verify and ensure that all expenses are capitalized.

In Silvia's opinion, Standard (38) allows intangible assets to be measured at cost at initial recognition and subsequently measured at cost less accumulated amortization and impairment losses. (33)

In the same concept, the Cryptographic assets is kept at the cost at the initial measurement, and no revenue or profits are recognized until the Cryptographic asset is sold later. Upon subsequent measurement, the revaluation model is used, and if there is an active market, the Cryptographic assets can be revalued at its fair value and any direct increases in other comprehensive income, or a decrease in profit or loss, can be calculated. Subsequent measurement is carried out at cost in the absence of an active market, and there is no amortization because Cryptographic assets generally have an indefinite useful life. (33)

Henri Venter, believes that the cost measurement model is not appropriate because the Cryptographic assets can be sold independently and results in direct cash flows, which are sensitive to market factors, and therefore, according to the latest ideas, the fair value will be the most appropriate measure to hold the digital currency, moreover, cryptocurrencies have neither a maturity date nor a definite life on which a historical cost model can be built. (39)

Accounting for Cryptographic assets in the opinion of many accountants, might be on the basis of fair value if it is considered as a financial asset, and that any changes in value should be recognized in the profit and loss account, but it does not give a contractual right to receive cash or its equivalent, so, the opinion about Cryptographic assets should be as an intangible asset, and are accounted for using the cost method or the revaluation method as an alternative treatment. (25)

In the opinion of the researcher, the new digital currency market is currently considered an active market, therefore, fair value measurements are the most appropriate measurement basis for the

presentation of the Cryptographic assets in both the statements of financial and performance position. In addition, we believe that the most relevant and useful information would be if changes in fair value were presented in profit or loss.

7/3 The end of the arguing about the accounting for Cryptographic assets

According to the Korea Times, this is the announcement by the Korea Accountability Institute (KAI).

In June 2019, the International Financial Reporting Interpretation Committee (IFRIC) resolved the controversy over the accounting for cryptocurrencies by issuing a resolution included in its agenda setting out the accounting considerations for holders of Cryptographic assets, which are consistent with the ideas presented in this research, as the International Financial Reporting Interpretation Committee said in [IFRIC] 9/23/2019

In a decision made in June it stated, "Cryptocurrencies are not legal tender or cash and do not appear to meet the requirements for financial instruments, due to the fact that they do not represent cash or equity in an entity and are not a contractual relationship or obligation to deliver or receive cash or any from other financial instruments, it will not achieve contractual rights to its owners, nor a contract that may be settled in the equity instruments of the same entity".

The committee decided that the Cryptographic assets held by the entity conforms to the definition of an "intangible asset" because it "can be separated from its holder and sold or transferred separately" and "does not confer on the holder a fixed or identifiable right." What is meant here is the number of currency units.

Based on this provision, companies must now account for Cryptographic assets and present and disclose them in the financial statements as intangible assets ⁽¹⁰⁾

8/3 Disclosure of Cryptographic assets in financial reports:

The accounting treatment of encrypted assets and all transactions associated with them require a comprehensive clarification of the facts. In the absence of a specific accounting standard for accounting for Cryptographic assets, there are no disclosure requirements specifically designed to disclose transactions related to these assets. The importance of the issue for the entities that deal with these assets and the necessity to ensure that their financial statements contain comprehensive and accurate disclosures required by international financial reporting standards. Entities can rely on the accounting classification according to the type of dealing with encrypted assets, and disclosure in the financial statements may include the following topics: (30)

 Description of the crypto assets held, including their characteristics including the purpose of the transactions.

- Accounting policies and judgments made when they are applied Based on what is stated in the international standard (IAS 1, paragraphs 117 (b), 122)
- The accounting standard applied to crypto assets held.
- Basis of measurement.
- On/off balance sheet processing of Cryptographic assets held for third parties
- Post- financial reporting events.
- Description of the valuation methods and the inputs used to determine fair value, Based on the requirements of the international standard (IFRS 13) (Fair Value Measurement)
- Nature and extent of risks arising from holding crypto assets.
- Risk management process, strategies, and procedures.

Conclusions.

- 1- Cryptographic assets, the most famous of which is Bitcoin. It is an unconventional currency and is different from other currencies Paper and cash are not issued by the central authorities (central banks), nor are they linked to commodities or services of intrinsic value. Rather, it is issued through a process called mining (virtual version), which is an electronic program that includes many equations called algorithms. This is done by the miners. The program issues the currency and is added to the electronic wallet of the miner, and the encrypted currencies are transferred using "blockchain" technology, It is a form of an encrypted ledger.
- 2- Because of the many potential uses of cryptocurrencies, we concluded that the current GAAP accounting standards do not have a specific way to deal with cryptocurrency, and the challenge faced by accountants is how to report cryptocurrencies in the financial statements of companies holding those currencies.
- 3- In the absence of an accounting standard, guidance or interpretation that can be applied to transactions or economic events related to the needs of users of the financial statements, the administration should seek to apply accounting policies that are commensurate with the economic essence of the transactions in accordance with what was stated in IAS No. (8).

Recommendations.

- 1- Since the IASB has not yet resolved the issue, companies should follow the accounting treatments of cryptocurrencies based on similar transactions to which the provisions of the current standards apply.
- 2- It requires the International Accounting Standards Board (IASB) to issue a new IFRS standard or accounting guidance that includes how to account for encrypted digital currencies and disclose them in the financial statements and the need to include:
 - A. Amending the definition of cash and its equivalents to include the definition of cryptocurrencies.

- B. Amending the definition of a financial asset to include the definition of cryptocurrencies.
- C. Amending the measurement guidelines in International Accounting Standard IAS No. (2) and No. (38) to include a broader and more comprehensive definition of cryptocurrencies.
- 3- Accountants will need to monitor the developments on an ongoing basis for the guidance issued by the (IASB) and the IFRIC Committee to know any newly issued directives, and their effects on accounting for cryptocurrencies.
- 4- Conducting more research and studies related to encrypted currencies in the field of accounting for them and the basis for reporting and accounting disclosure about them in the financial statements.

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