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## CRYPTO ASSET ASSESSMENT MODELS IN FINANCIAL REPORTING CONTENT TYPOLOGIES

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**Abstract.** Given the pace of development of the digital economy, companies' operations with crypto assets are an objective inevitability for most states. At the same time, national jurisdictions no longer have the opportunity to ignore the fact of business working with crypto assets. Meanwhile, without consensus in the consistent resolution of financial, tax, and other cross-country relations, operations with crypto assets can belong to the underground economy sphere to a large extent. In this regard, the issues of regulating macroeconomic factors when reflecting crypto assets in the structure of the current classification, the procedure for their fair valuation, taking into account the formation of classification and content construction in the financial statements of companies, are relevant. Another aspect is to conduct comprehensive analysis in order to consider scientific and practical approaches to the procedure of classification and evaluation of cryptographic assets in scientific research, professional judgments of major audit international organizations. In this regard, the study focuses on a practical analysis of the current accounting policies of companies operating with crypto assets, taking into account the position of the International Financial Reporting Interpretations Committee (IFRIC). Based on the results of the conducted research, the existing models of classification and evaluation of crypto assets are assessed, and the most problematic practical aspects of their application are highlighted. This made it possible to propose promising models for managing the value of crypto assets, containing the existing practices currently used by companies and their possible directions. It was concluded that the most promising way out of the conflict of interests of business and the current rules of International Financial Reporting Standards (IFRS) is to refine the existing standards, introduce rules of classification and evaluation of crypto assets. The authors also do not exclude that the best solution is to develop a new IFRS standard for the accounting of crypto assets.

**Keywords:** crypto assets; IFRS; bitcoin; valuation models; economics; recognition and measurement; intangible assets; inventory; cash and cash equivalents; financial instruments

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## **1. Introduction**

International Financial Reporting Standards (hereinafter referred to as IFRS) are a universal system of communication between the reporting company and its users. The international standards must not be national accounting standards and are not specific to certain jurisdictions. In turn, national accounting standards take into account the specifics of a country's economy, and to a greater extent, the interests of regulatory authorities and regulators. As a result, such an approach may significantly distort the economic meaning of the items recognized in financial statements (Bhatia, 2016; Hilkevics, Semakina, 2019).

Unlike national accounting standards, IFRS were initially focused on providing reliable financial information that can be useful to external users, particularly investors and creditors, in making economic decisions about making investments (Jewitt, 2017; Turishcheva, 2019). At the same time, IFRS may apply to enterprises in a global agglomeration voluntarily, unless the legislation of the jurisdiction provides otherwise. It should be noted that the practice of applying IFRS contains transactions specific to a particular industry. The International Financial Reporting Interpretations Committee (IFRIC) clarifies practical solutions for reporting specific transactions when a specific standard or standards do not provide a definitive solution (Lyapina, 2016). In particular, IFRIC 6 "Liabilities Arising from Participating in a Specific Market – Waste Electrical and Electronic Equipment", IFRIC 1 "Changes in Existing Decommissioning, Restoration and Similar Obligations" and others. The fact that the events described in the IFRIC took place in the practical activities of companies long before the explanations appeared is essential for conducting scientific and practical research (Giungato, 2017). The practice of companies in recognizing and evaluating such transactions was taken into account in developing the clarification statement (Cohney, 2019). It was the practical experience, interpretation of information by business that formed the basis of IFRIC clarifications. Besides, practical experience in interpreting information by business serves as a basis for the legal status of crypto assets, both in terms of the economies of the world countries and in a global approach that affects the restrictions in the circulation of individual states (Petrov, 2019).

However, there is no consensus among professional communities and specialists in operations with crypto assets on the classification and evaluation of such objects. Therefore, it is relevant to summarize the practical and scientific experience in the classification and evaluation of crypto assets. Based on this, the purpose of the study is to analyze approaches to the classification and evaluation of crypto assets in scientific papers, professional judgments of the largest auditing organizations, accounting policies of companies, and develop a model for managing the value of crypto assets from best practices.

## **2. Literature review**

Crypto assets, as a modern economic phenomenon, over the past few years, have become an integral part of the business for global companies. Companies that need to develop accounting policies for disclosing information and presenting indicators in financial statements, as well as companies that do not exclude the possibility of conducting operations with crypto assets, are interested in practical comments and scientific developments in this area (Adhami, 2018). In particular, the research at the Cambridge Center for Alternative Finance (University of Cambridge, Judge Business School) expressed its gratitude to 89 cryptographic companies for their participation in this research. Moreover, according to Szetela (2016), the potential number of companies, which may be interested in practical and scientific research on operations with crypto assets, is limited to the current number of companies in all fields of activity.

In a scientific study by Hileman and Rauchs (2017), it is noted that as a result of the study, over 300 scientific papers on various aspects of the turnover of cryptographic assets have been published over the past few years. Traditionally, most researchers note the starting point of the discussion regarding the formation of the cryptographic network software, the phenomenon of crypto assets, in particular, Bitcoin, and the subsequent challenges for business, the economy, as individual countries, and cross-country economic relations (Goudos,

2017). In this regard, the starting point is a study by a group of authors published under the pseudonym Satoshi Nakamoto in 2008 (Nakamoto, 2008), where the main idea of creating Bitcoin, as well as the purpose of scientific research, is to describe a new way of irreversible transaction between buyer and seller without intermediaries. Most of the authors' works are devoted to the research of the mathematical model of the network, principles of its work, and functioning of the blockchain elements (Firdaus, 2019). Such studies are beyond the scope of this study, but there is a general understanding of critical mining opportunities (Brummer, 2019) (for example, for Bitcoin, it is 21 million units with a 2140 production deadline (Dorofeyev, 2018), which may be used in professional judgment to assess risks in the financial statements of companies.

### **3. Theoretical background**

Since IFRS are not national accounting standards but are designed to be used by companies regardless of their jurisdiction, international and multinational businesses need to develop clear approaches to the recognition, classification, and valuation of crypto assets (Movchan and Yakovleva, 2019). Such approaches must take into account the conceptual framework for the preparation of IFRS reports, the requirements of specific IFRS standards and the established practice of reflecting crypto assets by companies presenting IFRS reports to a wide range of users (Chernysheva, 2019; Amirova et al., 2018; Klunk et al., 2019; Sokolov et al., 2019; Rahman, 2017; Swarts, 2020).

Since the basic research on this issue is global and comprehensive, the task of this study is not to repeat theoretical aspects but to generalize approaches and define controversial positions. Arguments for and against recognition of crypto assets should be taken into account (Bonneau, 2015; Shatalova et al., 2016). However, in the authors' opinion, specific material facts should not be ignored. In particular, such circumstances may indicate a risk group for the presentation of inaccurate information to users of financial statements and problematic aspects of the classification and evaluation of crypto assets (Urquhart, 2019).

Since the object of the study is the approaches to the classification and evaluation of crypto assets, it is essential to look at basic concepts. In particular, PWC has defined crypto assets as "forms of exchange that are performed not physically, but only in a digital form. They are not tied to any real currency and are not secured by any government, central bank, legal person, or underlying asset or commodity. At the same time, they can be quoted on the exchange against other currencies. The most famous example of cryptological currency is Bitcoin". At the same time, the IFRIC provides the following recommendations for specific types of objects, namely:

- a. a digital or virtual currency recorded on a distributed ledger that uses cryptography for security.
  - b. not issued by a jurisdictional authority or other party.
  - c. does not give rise to a contract between the holder and another party"
- (Information from the financial statements of Holdings of Cryptocurrencies – June 2019 <https://cdn.ifrs.org/-/media/feature/supporting-implementation/agenda-decisions/holdings-of-cryptocurrencies-june-2019.pdf>).

In this regard, the justification that a crypto asset is an asset requires proof. The business position is that a crypto asset is an asset. This is evidenced by the fact that, according to Crypto Currency Market Capitalization at the end of 2019, more than 2000 types of crypto assets are quoted and traded with a total capitalization of \$197,546,751,279. At the same time, many companies accept payment for their products (works, services) in crypto assets. Some of them accept payment in their cryptographic currency, for example, the restaurant chain Burger King – Whoppercoin (Restaurant Brands International). At the same time, companies' cryptocurrency can be considered as a customer loyalty program in the form of coupons, points, and other marketing developments. One of the leading bitcoin companies, Bitcoin Group Ltd., reflects bitcoins as an intangible asset. Thus, the business community defines crypto assets as a resource capable of delivering economic benefits.

In terms of the conceptual framework of IFRS, crypto assets have all the attributes of an asset, such as right, control, and expected economic benefit. The professional community, leading audit companies confirm this

position and, in their releases, designate different types of cryptographic currency as cryptographic assets, for example, YE (IFRS: accounting for crypto-assets).

At the same time, for a long period, IFRS did not regulate the issue of reporting and disclosure of information on operations with cryptographic assets, as well as the formation of their cost, classification, revaluation after recognition, reflection of operations on termination of their recognition. Thus, such problems were solved in practice based on professional judgment, and in the environment of scientific research, various assumptions were made, which may be the basis for their practical application (Korableva et al., 2018).

As options for the classification of crypto assets, studies of specialists, professional communities and leading audit companies propose the following:

- a) money,
- b) supplies,
- c) financial assets,
- d) intangible assets.

Other classification groups are considered impossible to apply due to a complete contradiction with the basic conceptual IFRS framework. However, there are cross-references to other standards related to valuation, testing for impairment, and recognition of foreign currency differences (Ziyadin et al., 2018, 2020; Akhmetshin, 2015; Bisultanova et al., 2018; Popova et al., 2019; Singareddy et al., 2019; Yemelyanov et al., 2018).

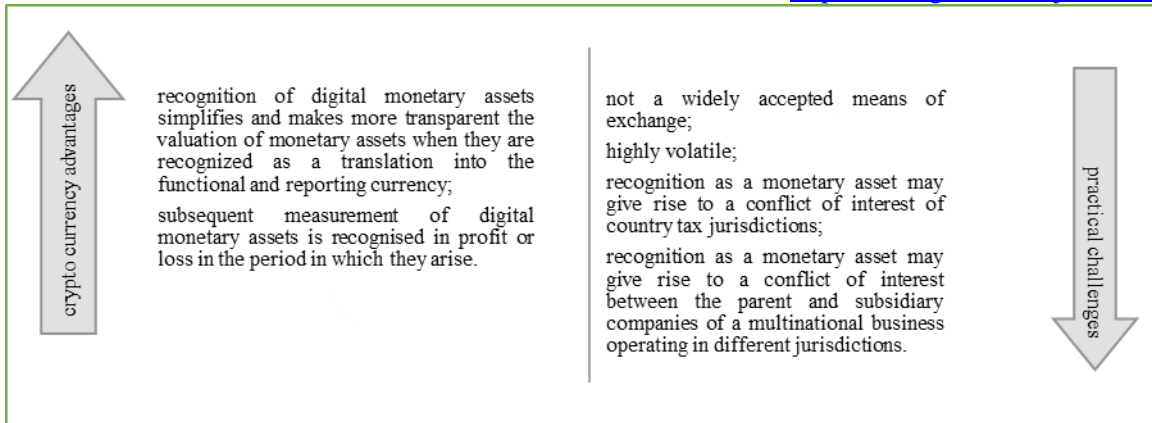
The following can be summarized in the academic papers preceding the issuance of the Committee's recommendations on the interpretation of international financial statements. Crypto assets are characterized by multiple classifications of both long- and short-term assets, as well as assets with no fixed term. Since crypto assets do not have a tangible form (Fisch, 2019; Saenko et al., 2019), taking into account the opinion of most researchers, it can be identified that this type of asset cannot be classified as, for example, fixed assets accounted for under IAS 16 "Property, Plant and Equipment", which applies to tangible items, or as investment property under IAS 40 "Investment Property", which applies to land, a building (or part thereof), or as biological assets under IAS 41 "Agriculture", which applies to biological assets (i.e., living animals or plants).

#### **4. Data analysis and Results**

The authors will conduct a comparative analysis of the procedure for the recognition of crypto assets in the industry aspect in the financial statements of the world's largest companies.

Crypto assets have many signs of cash. The rationale is that crypto assets are considered as means of payment by some companies, in particular, companies that accept digital money through special services or directly – AirBaltic, Microsoft, DELL, Whole Foods, Amazon, eBay, and others, the total number of which exceeded 50 in 2019 according to the research of the information resource 99Bitcoins (Asano, 2020). However, there is no unequivocal evidence that crypto assets are recognized as cash in IFRS financial statements. However, a precedent has been established at the level of national accounting laws where a crypto asset is considered an alternative means of payment. In particular, based on the statistical state information of Riigi Teataja, in Estonia, the right of companies to recognize crypto assets as a means of payment in the preparation of financial statements under national standards is presented:

The research by Prochazka (2018) notes that some transactions with crypto assets have signs of working with digital monetary assets. Recognition of a crypto asset as a means of payment has several advantages in terms of cost formation and subsequent revaluation following IAS 21 "Impact of Changes in Foreign Exchange Rates". However, the IFRIC concluded that crypto assets do not have cash features. At the same time, the interpretation contains a thesis that the Committee is not aware of the cryptographic currency that can be used in exchange for a particular product or service as a monetary unit. Thus, the restrained wording leaves a significant backlash for further developments in the cryptocurrency market and the expectation of perception of identification of transactions with cryptographic assets by national tax jurisdictions (Fig. 1).



**Fig. 1.** Evaluation of recognition of crypto assets as digital monetary assets

Source: The authors' research

However, companies that reflect crypto assets in their financial statements explain in the comments on these statements that they do not classify them as cash or cash equivalents. In particular, the company DigitalX Ltd. in the disclosure of information describes: "Cash and cash equivalents. For presentation in the statement of cash flows, cash and cash equivalents includes cash on hand, deposits held at call with financial institutions, cash held with bitcoin exchanges, other short-term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value, and bank overdrafts. Cash and cash equivalents do not include the Group's holdings of bitcoins" (Information on financial statements <https://www.digitalx.com/asx-announcements> ).

Thus, despite some derogations regarding the possibility of recognizing crypto assets as digital monetary assets, this is not currently possible for IFRS reporting purposes. However, in the accounting process, this approach has several advantages for reporters and external users (Xie, 2019). In particular, such assets, despite their high volatility, can be measured under the provisions of IFRS 13 "Fair Value Measurement".

Companies that accept crypto assets directly or pay directly for goods and services provided or received without a third-party payment processor, like BitPay or Coinbase, include Overstock.com, Inc. In this case, the company Overstock.com, Inc. in the Consolidated Statement of Financial Position reflects crypto assets in the line items "Intangible assets", "Prepays and other current assets" (Fig. 2).

Assets
Current assets:
Cash and cash equivalents
Accounts receivable, net
Total current assets
•Prepays and other current assets
Property and equipment, net
Intangible assets, net

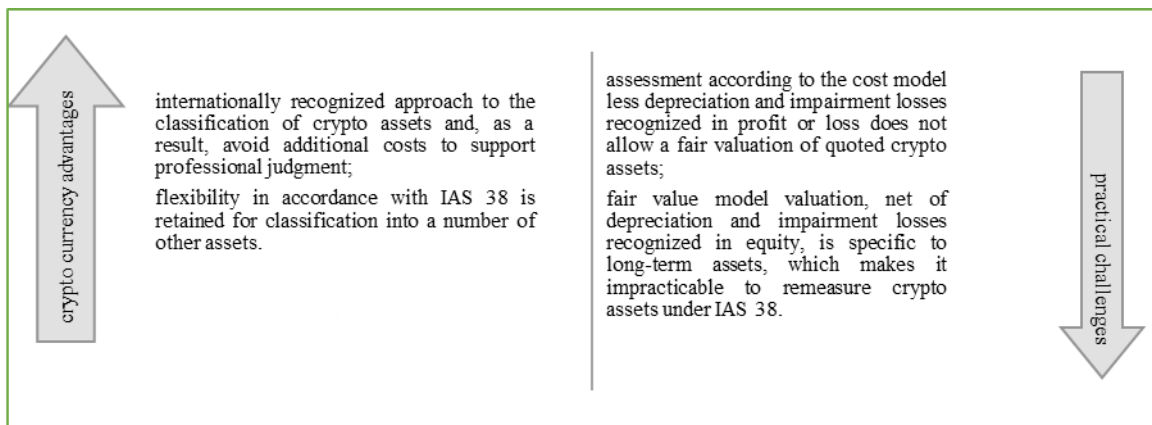
**Fig. 2.** Fragment content typology of the Consolidated Statement of Financial Position Overstock.com, Inc.

Source: Information on financial statements <https://investors.overstock.com/financial-information>



It should be noted that the accounting policies of Overstock.com, Inc. contain an essential provision for the next disclosures on the classification and evaluation of crypto assets. "We are an online retailer and advancer of blockchain technology. Certain assets, including long-lived assets, certain equity securities, goodwill, cryptocurrencies, and other intangible assets, are measured at fair value on a nonrecurring basis; that is, the assets are not measured at fair value on an ongoing basis, but are subject to fair value adjustments using fair value measurements with unobservable inputs (level 3), apart from cryptocurrencies which use quoted prices from various digital currency exchanges with active markets, in certain circumstances (e.g., when there is evidence of impairment)". Also, the company concludes transactions in crypto assets. Concerning this information, the following information is disclosed in the company's accounting policy: "We hold cryptocurrency-denominated assets ("cryptocurrencies") such as bitcoin, and we include them in Prepaids and other current assets in our consolidated balance sheets. Our cryptocurrencies are recorded at cost less impairment. We recognize impairment on these assets caused by decreases in market value, determined by taking quoted prices from various digital currency exchanges with active markets, whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable". In its urn, the classification of crypto assets as intangible assets under IAS 38 "Intangible Assets" is an algorithm of professional judgment recommended by the International Financial Reporting Interpretations Committee. It may be noted that the established criteria are, to a maximum extent, typical of crypto assets.

One of the essential conditions is the absence of a material form (non-monetary asset), which in itself does not guarantee the classification of the object as an intangible asset. In particular, intangible items purchased initially for sale will be accounted for following IAS 2 "Inventories", which is also provided for in IAS 38. A condition for recognition of an intangible asset is its identifiability. There are two equivalent arguments. The first, if the object is separate from other assets of the organization, for example, sold, leased, exchanged for another asset, it is a confirming factor for professional judgment in recognizing the object as separate (detached). The second argument, which can be confirmed or disproved with equal credibility, is that the object must arise from contractual or other legal rights (Kucuk, 2019). Another critical confirmation of the assumption of classifying a crypto asset as intangible is that non-monetary assets do not guarantee a fixed or guaranteed amount of cash (IAS 21 "Effects of Changes in Foreign Exchange Rates"). In this regard, one can identify the main advantages and problems of recognition of a crypto asset as an intangible asset, a summary of which is presented in Fig. 3.



**Fig. 3.** Evaluation of recognition of crypto assets as intangible assets

*Source: The authors' research*

However, accounting policies for crypto assets classified as intangible assets have essential practical problems with valuation after initial recognition. For certain types of crypto assets, there is an active market and the prices

of such assets can be established reliably. For other types of crypto assets, the market may be uncertain. At the same time, reporting companies have the right to use the opportunity provided by IAS 38 "Intangible Assets" in respect of objects measured at fair value for which an active market in the reporting period has disappeared. Consequently, such intangible assets may then be measured at a price prevailing in the period in which the active market for such assets existed. By taking advantage of this opportunity, companies can inflate the value of their assets to achieve a specific business objective.

At the same time, the valuation of intangible assets using the fair value model provides for reflection of revaluation in comprehensive income, which is more typical for long-term assets as a maneuver to maintain financial results. The fact is that the decrease in the value of the asset will occur directly through comprehensive income, and only in the case of its shortfall, the further decrease shall be reflected in profits and losses. However, companies have the right to close capital gains by the amount of profit earned each year.

The accounting policies of the companies under study do not provide for such a maneuver, which may be adequate for the objects with a high degree of volatility. However, valuation by the cost model, net of depreciation and impairment losses recognized in profit or loss, does not provide a fair estimate of marketable crypto assets. Consequently, companies may consider dividing crypto assets into classes using different models. However, the change in the valuation model may require additional disclosures to be made with the restatement as a retrospective change in accounting policy.

A different choice of classification of crypto assets as inventory (reserves) exists in companies' practice and is supported by the recommendations of the International Financial Reporting Interpretations Committee. YE's professional judgment also provides an unqualified opinion that crypto assets may be classified as inventory under certain circumstances (Information on IFRS financial statements: accounting for crypto-assets, YE [https://www.ey.com/Publication/vwLUAssets/EY-IFRS-Accounting-for-crypto-assets/\\$File/EY-IFRS-Accounting-for-crypto-assets.pdf](https://www.ey.com/Publication/vwLUAssets/EY-IFRS-Accounting-for-crypto-assets/$File/EY-IFRS-Accounting-for-crypto-assets.pdf) ). A condition of recognition is that the object is initially intended for sale rather than for use when acquired or created (production). If one extends the theoretical settings to practical situations, this is the field of mining and trading of crypto assets. At the same time, it should not be a single transaction, but a permanent basis, primary or one of the main activities.

One of the companies classifying crypto assets as inventory is DigitalX Ltd. In this case, a professional judgment on the classification of similar objects in the same circumstances in different periods is of scientific and practical interest. Consider the reporting period before the International Financial Reporting Interpretations Committee recommendations were formally issued. Crypto assets are reflected in the Bitcoins line item (Fig. 4).

Assets
Current assets:
Cash and cash equivalents
Trade and other receivables
Prepayments
Bitcoins
Total current assets

Fig. 4. Content typology of the fragment of the Consolidated Statement of Financial Position of DigitalX Ltd

Source: Information on financial statements <https://www.digitalx.com/asx-announcements>

In the explanatory notes to the financial statements, DigitalX Ltd. specifies that "Cash and cash equivalents do not include the Group's holdings of bitcoins which are classified as bitcoin inventory". The professional judgment of the company in classifying crypto assets as inventory is based on the following: "Bitcoin is an open-source software-based online payment system where payments are recorded in a public ledger using its unit of account called a bitcoin. The Group is a broker-trader of bitcoin as it buys and sells bitcoins principally for the purpose of selling in the near future and generating a profit from fluctuations in price or broker-traders' margin. The Group measures bitcoin inventory at its fair value less costs to sell, with any change in fair value less costs to sell being recognized in profit or loss in the period of the change. Bitcoins are derecognized when the Group has transferred substantially all the risks and rewards of ownership. As a result of the Bitcoin protocol, costs to sell Bitcoin inventories are immaterial in the current period, and no allowance is made for such costs. The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest. Bitcoin inventory fair value measurement is a Level 1 fair value as it is based on a quoted (unadjusted) market price (Bitfinex exchange) in active markets for identical assets. Bitcoin inventory is derecognized when the Group disposes of the inventory through its trading activities or when the Group otherwise loses control and, therefore, access to the economic benefits associated with ownership of the Bitcoin inventory".

Subsequently, the accounting policies of DigitalX Ltd. were partially changed after the International Financial Reporting Interpretations Committee recommendations, and the content is graphically presented (Fig. 5).

Assets
Current assets:
Cash and cash equivalents
Trade and other receivables
Prepayments
Bitcoins
Total current assets

**Fig. 5.** Correction in the content typology of the fragment of the Consolidated Statement of Financial Position of DigitalX Ltd  
 Source: Information on financial statements <https://www.digitalx.com/asx-announcements>

The company refers to digital assets as a more extended line of crypto assets – Bitcoin and Ethereum. However, the classification of crypto assets has not been changed, and they are recognized as inventory, which is measured at fair value less costs to sell. However, fair value measurement approaches have required adjustments for the following reasons: "For fair value disclosures, the Group has determined classes of assets and liabilities based on the nature, characteristics, and risks of the asset or liability and the level of the fair value hierarchy as explained below.

(a) Digital assets

Management notes that the topic of digital assets and the accounting for digital assets continues to be considered by the International Accounting Standards Board (IASB) and continues to monitor new comments and interpretations released by the Board and other standard-setters from around the world. In line with this, the Group has considered its position for the year ending 30 June 2019 and has determined that the Group's digital assets fall into 3 categories:

- Inventory method (historical method used by the Group)
- Intangible asset method (the method noted by the IASB in its most recent deliberations)
- Financial asset method (used where the digital asset meets the criteria of a financial asset)

Management notes that under the 3 methods noted above, the treatment continues to be to measure digital assets at fair value (unless otherwise disclosed) under the respective accounting standards.



(b) Fair value of Digital Assets

Digital assets (including bitcoin inventory) are measured at fair value using the quoted price in United States dollars on from several different sources, with the primary being Coin Market Cap ([www.coinmarketcap.com](http://www.coinmarketcap.com)) at closing Coordinated Universal Time.

Management considers this fair value to be a Level 1 input under the AASB 13 Fair Value Measurement fair value hierarchy as the price on the quoted price (unadjusted) in an active market for identical assets.

Management uses several exchanges, including Binance, KuCoin, Independent Reserve, and others, in order to provide the Group with appropriate size and liquidity to provide reliable evidence of fair value for the size and volume of transactions that are reasonably contemplated by the Group.

Unlisted digital assets are fairly valued using a combination of Level 2 and Level 3 techniques" (Information on financial statements <https://www.digitalx.com/asx-announcements>).

When considering the presentation of the accounting policy, taking into account the theoretical aspects of possibilities for recognition of crypto assets as inventory, the most optimal conditions are for companies that are broker-traders (Fig. 6).

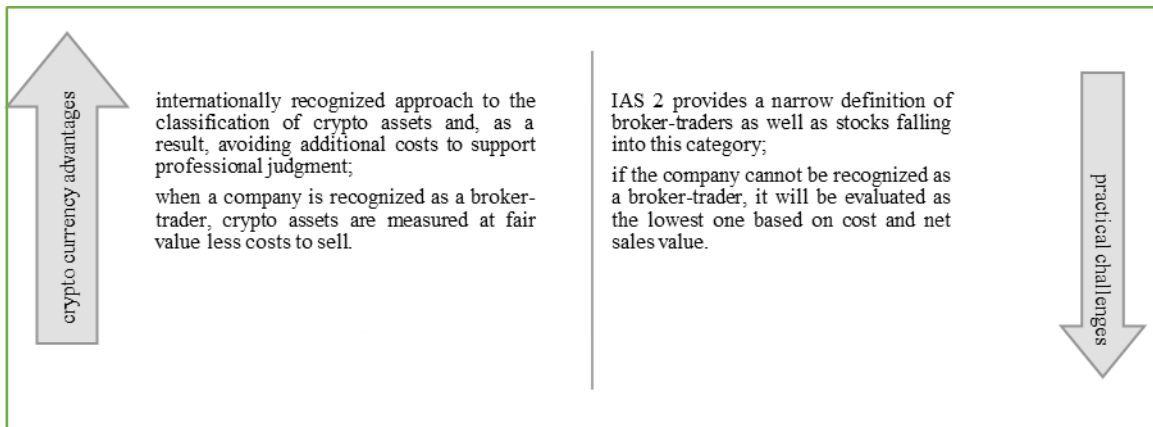


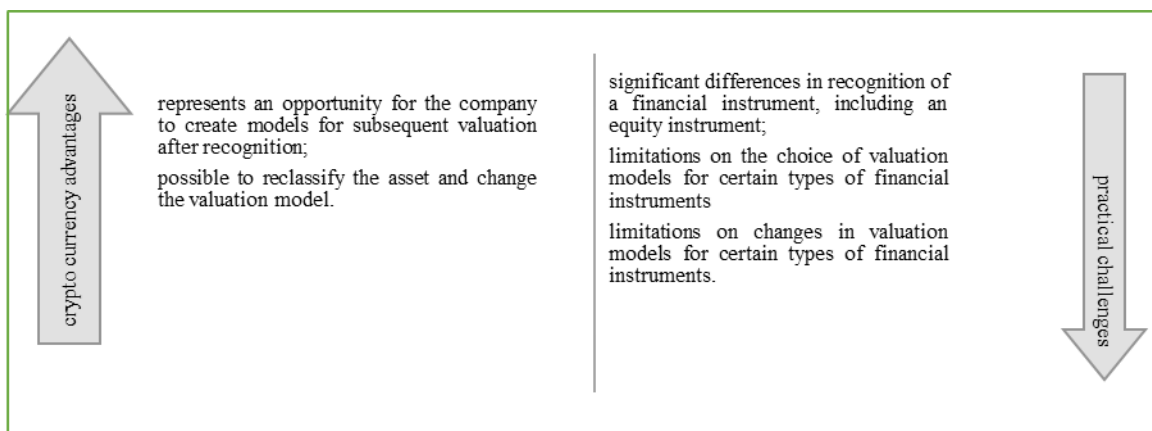
Fig. 6. Assessment of the nature of recognition of crypto assets as inventory

Source: The authors' research

Recognition of crypto assets as inventory is a sound professional judgment for companies with the main business of acquiring crypto assets for further resale. This is also supported by the recommendations of the International Financial Reporting Interpretations Committee and the practice of business in applying the classification. IAS 2 "Inventories" provides flexibility to measure inventories as the lowest cost based on their cost of production and net sales cost. However, this approach does not provide a reliable valuation for crypto assets listed in open markets because their balance cost, even if increased in the market, will not exceed their initial sale cost (Williamson, 2018). Besides, this model involves the creation of an impairment reserve and the presentation of the sales cost of the reserve less the amount of the reserve itself. The only maneuver to avoid such a valuation model is to recognize the company as a broker-trader. In this case, the inventory will be measured at fair value less costs to sell with recognition of changes in profit or loss.

It should be noted that the main obstacle to entering such a valuation model is the presentation of reasons for recognizing the company as a broker-trader, as well as the inventory belonging to this category. Concerning the recognition of inventory, the reasoning is that these items were acquired initially for sale. At the same time, they may not need or need minimal changes in their sale. Furthermore, an additional condition is the fact that for the company, this is not a single transaction, but its main activity. If all of these conditions are met, the company may recognize itself as a broker-trader, which makes it possible to measure inventory at fair value less costs to sell. In turn, when a crypto asset is recognized in the classification of a financial instrument, it is assessed as an unlikely

event by leading audit companies, as well as by the International Financial Reporting Interpretations Committee. The main argument is that a crypto asset is not cash and does not provide the holder with contractual rights. However, the research by Allen (2019) notes that a crypto asset can be an equity instrument, but only under the following condition: it must secure a contractual right to a residual interest in the net assets. From a practical point of view, when considering specific crypto-asset transactions, it is possible to identify some arguments in favor of classification as a financial instrument. However, the terms of recognition may be so unreliable that it will mislead users of the financial statements. For example, one could consider operations with a crypto asset that entitles a holder to cloud storage or a crypto asset that entitles a holder to a share of gross royalty. In the first case, for law, it is not a right to a financial asset, but a future economic benefit from the service provided, and in the second case, a crypto asset does not entail a contractual right to the residual interest in the assets. Thus, the main arguments against the classification of a crypto asset as a financial instrument are the obstacle to recognize the crypto asset as cash, while crypto assets are not an instrument of the capital of another company and do not provide the holder with contractual rights (Fig. 7).



**Fig. 7.** Assessment of the nature of recognition of crypto assets as financial assets

Source: The authors' own research

With a higher probability, it can be argued that the current obstacles to the recognition of a crypto asset as a financial asset and, in particular, an equity instrument tend to be leveled. Improvements in the legal regulation of crypto-activity transactions are advancing more in national jurisdictions and international law, which justifies the consideration of this issue in subsequent periods, due to the emergence of other legal rights.

## 6. Discussion

When researching to generalize the existing approaches to the classification and evaluation of crypto assets, taking into account different scientific views, studies of the world's leading scientific centers, as well as professional judgments of audit organizations based on a comprehensive analysis of the formation of existing accounting policies of companies (Fang, 2017), to a greater extent, allow forming a conclusion about the ambiguity of the solution of these issues (Gubbi, 2013).

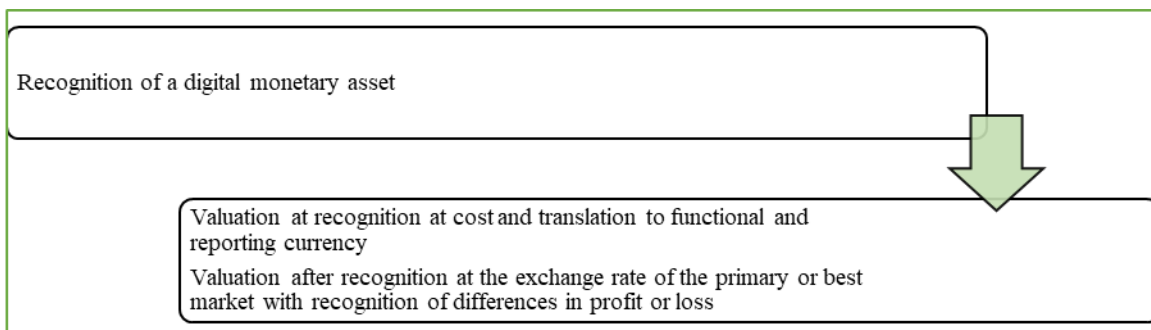
Multiple classifications and evaluation options, followed by reassessment after recognition of crypto assets, indicate that variability depends on several factors:

- intentions of the asset management (Zimakova, 2016);
- identification of the asset under IFRS and the recommendations of the IFRS Interpretations Committee (Patsakis, 2019);
- professional judgment on the fair presentation of information for users in financial statements (Bouri, 2017).

Generalization of practices, analysis of the best and most reliable models for assessing crypto assets can be a determining factor in choosing the accounting policy of the company, as well as determining further directions for improving their accounting and presentation of information in financial statements.

One of the most transparent models for classification, measurement, and disclosure in financial statements is the model for managing the value of crypto assets when classified as a digital monetary asset (Aste, 2019). The model of recognition of a crypto asset as a digital monetary asset could be used by companies that accept crypto assets directly or pay directly for goods or services rendered or received without the involvement of a third-party payment processor such as BitPay or Coinbase, which performs an instant conversion (Beck, 2017; Pujiyono et al., 2019).

In this case, a digital monetary asset is an asset that is used in exchange transactions for goods or services as a unit of calculation. The valuation approach will be equivalent to a currency other than the functional or reporting currency (Fig. 8).



**Fig. 8.** Prospective approach to the formation of a digital monetary asset valuation model

*Source: The authors' own research*

Thus, this model is not concerned with the recognition of crypto assets as cash or cash equivalents (Buchmann, 2016), but rather with a proposal to use best accounting practice in recognizing and measuring this type of asset (Fisch, 2018), if it is considered by management as an asset that is used in transactions for exchange of goods or services as a unit of calculation (Boreiko, 2019). If the recognition of a crypto asset as a digital monetary asset represents a remote prospect for the possible application of such a model in practice, then another set of models is already proven.

## Conclusion

The recognition of a crypto asset in a classification requires the company to choose a model for its subsequent valuation. In practice, the most actively used models are those for measuring crypto assets at fair value. Companies that identify themselves as brokers-traders are in a rather advantageous position in the current practice (Xie, 2019). When classifying crypto assets as inventory, brokers-traders measure them at fair value less costs to sell. An analysis of the accounting policies of some companies that identify themselves as brokers has shown that companies directly in the disclosure of information inform users of the financial statements that the cost of sale is insignificant (Driouchi, 2018).

Therefore, the amount at which crypto assets are measured at fair value less costs to sell approximates their fair value. Since crypto assets are reflected as short-term (or current assets), i.e., are not long-term investments, their revaluation is reflected in profit or loss without accumulating value gains in equity through other comprehensive income (Frick, 2019). This valuation model is a correct reflection of the market (stock) price of an asset. Users of financial statements can obtain information about fair value hierarchy for certain types of cryptographic assets,

and if it is level 1, the source data can be publicly confirmed (Kosolapova, 2019). Thus, in the authors' opinion, this valuation model is in line with information requests from both the users of the financial information and the management of the reporting entity.

The valuation models considered are, in fact, asset value management models as a business model for achieving a business objective. If, in theory, restrictions on the use of a business model at fair value through profit or loss and, accordingly, at fair value through profit or loss through comprehensive income are not taken into account, then the sophisticated approach may be taken as variability. This variability allows the reporting organization to select a business model for the assessment of a crypto asset based on its professional judgment. The choice of a fair value model with changes in profit or loss will affect the performance. The choice of a valuation model for a crypto asset based on fair value with changes recognized in comprehensive income will have an overall impact on the cost of equity. However, if it is envisaged to write off the capital gains to the financial result, it is possible to extend the model to the level of the business model with the allocation of changes in profit and loss. It should be clarified here that this approach is a variation of solutions.

However, the proposed models provide for the development of a methodology for the evaluation of crypto assets. The methodology should contain a comprehensive approach to different types of crypto assets based on publicly available information classified by risk. In order to develop their model for managing the value of crypto assets, companies will need to take advantage of deviations from general accounting rules and the presentation of specific professional judgment. IAS 1 "Presentation of Financial Statements" provides for such opportunities, but only if compliance with the established rules will mislead users of financial statements. The exercise of particular professional judgment and deviating from the standard IFRS rules requires the reporters to disclose such information, which is a time-consuming process, as it involves recalculating the impact on each reporting item affected by the change. Prospective models for managing the value of crypto assets were formulated based on the best practices of crypto asset classification and evaluation, depending on the intention of the company management to use them (Fig. 9).

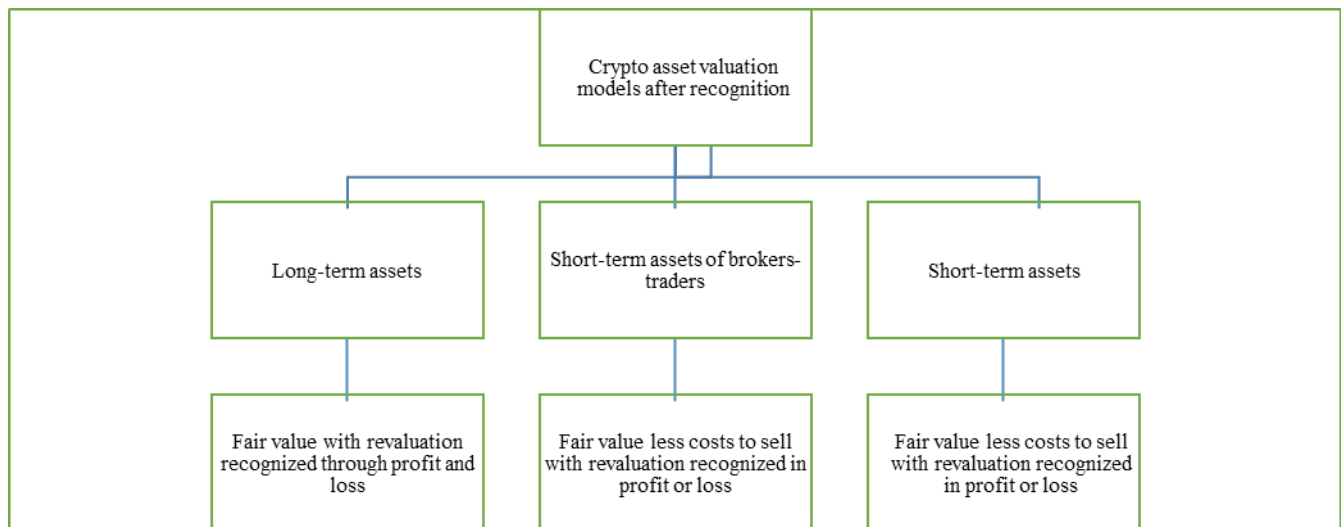


Fig. 9. Development of prospective models for managing the value of crypto assets after their initial recognition

Source: The authors' own research

It should be noted that the existing models for recognition and valuation of crypto assets as a means of payment, financial asset, intangible asset, and inventory have many peculiarities in the formation of accounting policies. However, there is no standard that is wholly correct for the accounting and presentation of information in financial statements. Each standard was primarily designed to recognize and disclose information of objects close to crypto assets in their essence, to which crypto assets are indirectly related. However, the current practice of

applying classifications and assessment of crypto assets by business proves the flexibility of accounting policy for the most accurate presentation of information about these objects in financial statements.

At the same time, companies are forced to present a reasonable professional judgment confirming the validity of the presented position. This is, to a greater extent, the rationale for revising the existing approaches to the classification and measurement of crypto assets in International Financial Reporting Standards. The authors believe that the way out for leveling the conflict of business interests and the current rules of IFRS is to refine the existing standards, introducing rules for the classification and evaluation of crypto assets. The authors also do not exclude that the best solution is to develop a new IFRS standard for accounting of crypto assets.

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