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IMPLEMENTATION OF ACCOUNTING STANDARDS FOR CRYPTOCURRENCY COMPANIES IN INDONESIA

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ABSTRACT

The development of number of cryptocurrency startups around the world, including in Indonesia, is increasing every year, demanding business people to provide financial services by accepting the presence of cryptocurrency technology directly in the real world. The purpose of this study is to explore the application of the Statement of Financial Accounting Standards (PSAK) adopting International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) on cryptocurrency companies at the Indonesian National Indodax Company (Bitcoin Indonesia). This research method is descriptive qualitative with data collection methods using interview and observation techniques. The results show that the Indodax Company (Bitcoin Indonesia) uses IAS 2 inventory because the company's core business is in brokerage, which measures cryptocurrency inventory recorded at fair value after deducting costs to sell and is recognized in the income statement and reported in the Available for sale financial asset account. At the same time, the entity applies IAS 38 intangible assets in the measurement, valuation, and presentation of financial statements that refer to computer software and internet domains, not cryptocurrency assets in the form of coins and tokens. In addition, entities that measure and value cryptocurrency assets (cash and tokens) using financial instruments IFRS 9 Financial Instruments: Recognition and Measurement are calculated and recorded as financial assets at fair value through profit or loss (FVTPL).

Contribution/ Originality: This paper reveals that the application of accounting standards used by Indodax Company (Bitcoin Indonesia), which is engaged in cryptocurrencies, namely IAS 2 for inventory, IAS 38 for intangible assets, and IFRS 9 for financial instruments, has provided certainty for all stakeholders in using cryptocurrencies.

1. INTRODUCTION

Currently, the number of cryptocurrency startups in the world has increased. Data reported by CoinMarketCap, (CoinMarketCap, 2022) shows that as of October 10, 2022, there are 21,266 digital currencies or cryptocurrencies in different parts of the world, each with a different cryptocurrency startup. The market capitalization value of all these cryptocurrencies is US$931.486.599.800,507 (CoinMarketCap, 2022). The number of financial service providers indicates that the world can accept the presence of cryptocurrency technology (Sironi, 2016). Some cryptocurrency startups are trying to apply cryptocurrency technology directly in the real world (DailySocial, 2018) and create an organization or foundation that aims to educate the public and companies in the country regarding this new technology (Technasia, 2022).

Most of these cryptocurrency startups provide cryptocurrency exchange services. The number of cryptocurrency developments in Indonesia has continued to grow from 2017-2022. In 2022 the number of cryptocurrencies amounted to one, namely Bitcoin Indonesia, now known as Indodax Company (Technasia, 2022).

In 2022 it added six, and in September 2022, it added seven cryptocurrency startups. So as of September 2022, the number of cryptocurrency startups in Indonesia is 20 (Technasia, 2022). Considering the existing developments, cryptocurrency is projected to experience rapid growth in Indonesia (DailySocial, 2022). Cryptocurrency as digital currency refers to transactions or exchanges that exist only digitally and are not linked to any physical currency. Ernest and Young (2018) cryptocurrency is a digital asset listed on the distributed ledger.

The distribution of the cryptocurrency ledger is defined as a phenomenon that will continue to grow and develop and always give rise to new types of assets. From some of the definitions above, it can be concluded that digital currency *(cryptocurrency)* is a digital currency in which financial transactions are carried out online and operate independently of banks and other financial institutions. Cryptographic system to secure transactions (Australian Accounting Standard Board (AASB), 2016).

Every cryptocurrency company responds to the phenomenon of the development of existing cryptocurrencies by running the business or opportunity to the fullest. Efforts to continue to grow the business (going concern) are based on reliable reporting of business conditions, following actual conditions. For this reason, financial accounting standards that follow the company's conditions must be free from misstatements, whether caused by fraud or errors (Australian Accounting Standard Board (AASB), 2016).

The purpose of this study is to explore the application of Statement of Financial Accounting Standards (PSAK) based on *international Accounting Standards* (IAS) and *International Financial Reporting Standards* (IFRS) on cryptocurrency companies at Indodax Nasional Indonesia Company. The indicators in this study are inventory accounting and intangible assets applied to cryptocurrency companies according to accounting standard-setting institutions and Public Accounting Firms with the application of IAS and IFRS used by cryptocurrency companies. In other words, this study will evaluate the application of PSAK used by cryptocurrency companies in Indonesia, whether it is the same as the views of some standard-setting institutions or whether there are differences in the application of accounting standards. Appropriate financial accounting standards will make it easier for cryptocurrency company accountants to prepare and present financial reports.

This paper is arranged systematically as follows; Section 1 provides a background summary of the application of financial accounting standards for cryptocurrency companies in Indonesia; Section 2 consists of a review of the relevant literature; Section 3 describes the research methods; Section 4 contains the results, and section 5 contains conclusions and recommendations.

2. LITERATURE REVIEW

2.1. Agency Theory

Agency theory is a relationship between the owner and the agent based on the existence of a contract-based bond that occurs between several members as the main actors in the company, namely between the owner *(principal)* shareholders with (*agents)* manager (Delves & Patrick, 2010). The relationship between the two parties allows for a conflict of interest to arise (Ross, Westerfield, & Jaffe, 2010). Managers who manage the company certainly have more internal company information than shareholders.

2.2. Compliance Theory

Compliance theory emphasizes two things regarding legal compliance, namely instrumental and normative perspectives. The instrumental perspective assumes that individuals are integrally driven by self-interest, responses to intensive change, and punishments (violations) associated with individual behavior or actions. The normative perspective relates to people's habits considered moral and against their interests (Tyler & Jackson, 2014). Individuals tend to obey the laws or rules that apply, following the beliefs in society.

2.3. Digital Currency (Cryptocurrency)

Australian Accounting Standard Board (AASB) (2016) defines cryptocurrency as digital currency, which refers to transactions or exchanges that exist only digitally and are not linked to any physical currency. Digital currency cannot be equated with electronic cash, such as an online bank account with a retail bank. An online bank account with a retail bank indicates the amount, for example, AUS dollars, held in the specified account. In other words, digital currencies are not linked to cash-related or physical currencies. However, currently, digital currency (cryptocurrency) can now be used as a medium for shopping (online shopping), paying bills (payments), or browsing media to explore new information needed by users.

The distribution of the cryptocurrency ledger is defined as a phenomenon that will continue to grow and develop and always give rise to new types of assets. One interesting phenomenon is that cryptocurrencies facilitate the transfer of funds between two parties in a transaction. This transfer is facilitated using "public" and "private" keys for security purposes. These funds transfers are carried out with minimal processing fees, enabling users to avoid the high fees that most banks and financial institutions have (Ernest & Young, 2018). Digital currency (cryptocurrency) is a digital currency in which financial transactions are carried out online and operate independently of banks and other financial institutions. Cryptographic system to secure transactions.

2.3.1. Types of digital currency (Cryptocurrency)

a. Bitcoins

Bitcoin is a digital cryptocurrency consisting of blocks of data that are processed and used for online purchases. Bitcoin is the world's most popular and leading cryptocurrency because it is the first realization of cryptocurrency technology, namely the idea of a new type of money (Chu, Chan, Nadarajah, & Osterrieder, 2017). Bitcoin is electronic money created in 2009 by Satoshi Nakamoto (Burniske & Tatar, 2018). Bitcoin uses blockchain technology, which keeps a record of every single transaction, and the processing and authentication of transactions performed by a network of users (Bitcoin Project, 2017). Since bitcoins are limited in number and their value is determined by market forces, they are also traded like stocks on various exchanges.

b. Ethereum

Ethereum is a global decentralized software platform powered by blockchain technology. Ethereum is not only a platform but also a programming language (Turing complete) that runs on the blockchain, helping developers to build and publish distributed applications (Investopedia, 2018b). At Market (2017) considers that although bitcoin and Ethereum are cryptocurrencies, the fundamental difference lies in the blockchain system. Bitcoin was designed purely as a digital currency. The Ethereum blockchain is a more general implementation of blockchain technology. In addition, bitcoin is treated as an alternative currency, or digital currency, while Ethereum facilitates peer-to-peer contracts and applications via its currency vehicle. So bitcoin has emerged as a more stable digital currency, while Ethereum is more about “smart” contract applications.

c. XRP

XRP or ripple is the cryptocurrency or token used on the Ripple network to facilitate money transfers between currencies. The settlement system generally uses the US dollar as the common currency to convert between other currencies (Forbes, 2018). Bitcoinmagazine (2018) describes the fundamental difference between ripple and bitcoin, namely, ripple is a validation server that tends to lead people to assume that ripple is a blockchain-based technology. Ripple is not a blockchain. Ripple uses HashTree to condense data into a single value compared across servers that validate when providing consensus.

d. Bitcoin Cash

Bitcoin cash is one type of cryptocurrency fraction of bitcoin. Bitcoin Cash emerged after going through a complex fork on the Bitcoin network (Cointelegraph, 2018). Outlines that a further difference between bitcoin cash and bitcoin is a complex adjustment mechanism in the bitcoin cash protocol. To maintain a relatively flat block flow, the bitcoin protocol adjusts the difficulty factor of the hash puzzle. With bitcoin cash, difficulty adjustments are much more manageable, adjusting every 600 seconds according to the network's computing power.

e. EOS

Investopedia (2018a) defines EOS as software that allows people to create a blockchain network architecture for specific purposes. EOS.IO software introduces a new blockchain architecture designed to enable vertical and horizontal scaling of decentralized applications. The software can adjust multiple central processing unit (CPU) so the blockchain system can work up to millions of transactions per second. This software itself is made by block. One is a company from the Cayman Islands. Coinswitch (2018) further assesses the token system's difference between EOS and Bitcoin. On EOS, the token type used is the native currency of the EOS app platform. While the bitcoin token used is a digital currency. Moreover, one of the aspects that makes EOS so different and better from all other cryptocurrencies is that it does not charge any transaction fees.

2.4. International Accounting Standards (IAS 2): Inventories

Inventory is a company reserve for the production or sales process when needed (Weygandt et al., 2019). IAS 2 provides guidance when determining the cost of inventories and the subsequent recognition of costs, including any write-downs to net realizable value (Pannel Kerr Forster (PKF), 2017). International Accounting Standards No. 2 (2018) has been adopted by Statement of Financial Accounting Standards (PSAK) 14(rev. 2021) on Inventory. It also guides the cost formula used to assign inventory costs. Inventories are measured at a lower cost and net realizable value (IAI, 2021a). Net realizable value is the estimated selling price in the ordinary course of business, less the estimated completion costs and the costs required to make the sales.

2.5. International Accounting Standards (IAS 38): Intangible Assets

Weygandt et al. (2019) define intangible assets as rights, privileges, and competitive advantages resulting from ownership of assets with a long-term life and which do not have physical substance. Proof of ownership of an intangible asset is in the form of a contract or license. International Acounting Standards No. 38 (2018) adopted Statement of Financial Accounting Standards (PSAK) 19 (rev.2021) defines *intangible assets* as non-monetary assets that can be identified without physical form. From some of the definitions above, it can be concluded that intangible assets are assets or assets that cannot be seen and provide long-term benefits. International Acounting Standards No. 38 (2018) adopted by PSAK 19 (rev.2021), explains that the nature or characteristics of intangible assets are identifiable, controllable, and the existence of future economic benefits. Identifiable means an identifiable non-monetary asset without physical form or being distinguishable or separable. These assets arise from contracts or other legal rights (International Acounting Standards No. 38, 2018). PSAK No. 19 (rev.2021), paragraph 12 explains that assets are said to be identifiable if they are separable and arise from contractual rights. Control means that the asset is capable of obtaining future economic benefits and can limit the access of other parties to obtain these economic benefits (International Acounting Standards No. 38, 2018). The emergence of legal rights that can be enforced in court manifests the control of intangible assets' benefits. Therefore, in the absence of law, the entity cannot show the existence of a court.

On the other hand, legal rights are not an absolute condition for control or control because the entity can control future economic benefits in other ways (IAI, 2021b). The future economic benefits from an intangible asset include all sales or cost efficiency or other benefits from using the asset. For example, in the production process, using intellectual property rights may not lead to future income but can reduce future production costs.

2.6. International Financial Reporting Standards (IFRS 9): Financial Instruments: Recognition and Measurement)

IAS 39 was replaced by IFRS 9 and adopted by Statement of Financial Accounting Standards (PSAK) 71(rev.2020), explaining the recognition and measurement of financial instruments in assets, liabilities, and equity. Financial assets it is measured at cost. Likewise, cryptocurrencies are measured at the value of their acquisition when traded on the crypto market (Ernest & Young, 2018). After the cryptocurrency is obtained, its fair value is determined again through other comprehensive income (Fair Value Through Other Comprehensive Income – FVTOCI). In financial liabilities and equity, cryptocurrencies are measured at fair value through profit and loss (FVTPL) (International Financial Reporting Standard 13 (IFRS), 2018). This is in accordance with the definition of financial liability, namely any liability in the form of a contractual obligation to exchange financial assets or liabilities with other entities under conditions that are potentially unfavorable to the entity (IAI, 2021c).

3. METHODOLOGY

In this study, the authors used descriptive qualitative research. According to Moleong (2016) qualitative research is research that intends to understand the phenomena of what is experienced by research subjects, for example, behavior, perceptions, motivations, actions, etc., holistically and through descriptions in the form of words and phrases of the language, in specific natural contexts and by utilizing various natural methods. Descriptive research to find out and describe the reality under study, making it easier for researchers to obtain valid and objective data in understanding the methods of recognizing, recording, and reporting fixed assets and inventories at the Cryptocurrency Company Indodax Nasional Indonesia in Indonesia.

Sources of data used by researchers in this study are primary data and secondary data. According to Moleong (2016) primary data is a source of data collected, processed, and published by the organization or company that uses it. The data used by the researcher is the result of interviews and observations. At the same time, secondary data is a source that does not directly provide data to data collectors. Such as documents or archives related to the company. Literature and journals related to the things studied. In this study, secondary data obtained by researchers are financial reports, graphs, tables, scientific journals both at home and abroad, research journals, books, and other literature. The authors can compare these data with the results of interviews and observations so that the results obtained can be tested for validity. This study uses data sources in the form of opinions or opinions from informants, namely Accounting and Finance Managers (1 person), Accounting and Finance supervisors (1 person), and Accounting and Finance Staff (1 person) at Indodax Nasional Indonesia company(INI).

The informant is expected to be able to explain the topic studied by the researcher. Interview materials were asked of informants, ranging from problems or research objectives. Researchers certainly understand the purpose of conducting interviews with informants. The interview process is related to the research objective of the researcher, namely, to find out and analyze the application of IAS and IFRS to cryptocurrency companies in Indonesia. Other themes discussed during the interview can also be developed freely but still focused on the main issues that will be asked of consumers. In conducting the interview process, the researcher was equipped with sufficient knowledge about the issues discussed.

The data analysis method uses activities in qualitative data analysis in the form of data reduction patterns (*data reduction)*, data presentation *(data display)*, and also drawing conclusions or verification (conclusion drawing/verification). Overall, these activities are interconnected (Moleong, 2016). Data reduction is selecting and simplifying data obtained from the field. Researchers have reduced data before researching by selecting several international accounting standards (IAS), such as International Accounting Standards No. 2 (2018); International Acounting Standards No. 38 (2018) and International Financial Reporting Standard 9 (IFRS) (2018).

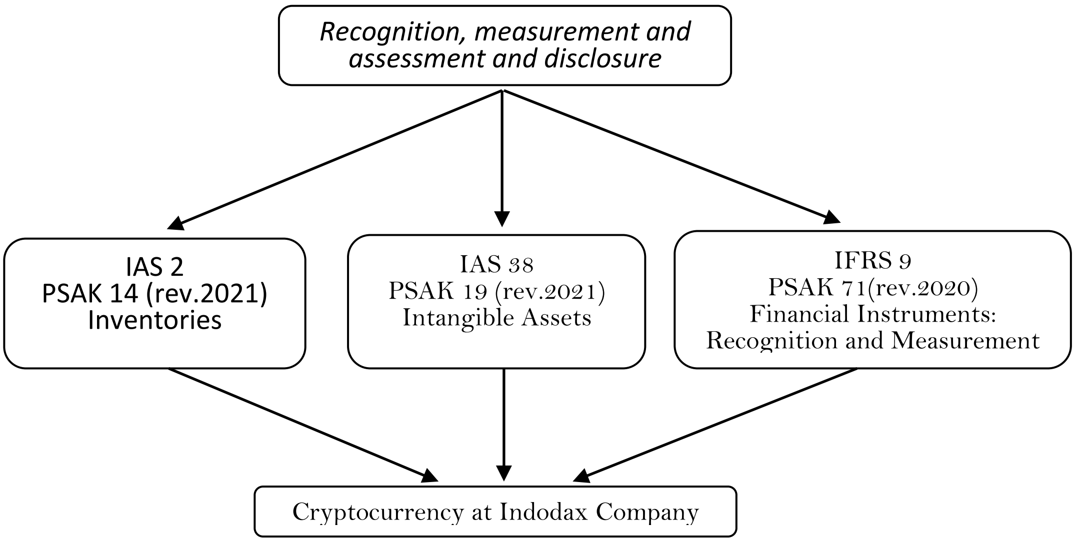

Figure 1. Research framework.

In Figure 1 this research framework shows and discusses how the recognition, measurement and valuation, and disclosure of International Accounting Standards (IAS) 2 have been adopted by Statement of Financial Accounting Standards (PSAK) 14 on Inventories and IAS 38 was adopted by PSAK 19 on intangible assets, and IAS 39 replaced by International Financial Reporting Standard (IFRS) 9, which was adopted by PSAK 71 on a cryptocurrency company, the Indonesian National Indodax Company.

4. RESULTS

Indodax (*Indonesia Digital Asset Exchange)* is a cryptocurrency company operating in Indonesia. Previously this cryptocurrency company was named Bitcoin.co.id. The company started its commercial operations in Indonesia on February 15, 2020, by Oscar Darmawan (Chief Executive Officer/CEO) and William Sutanti (Co-Founder). The Indodax rebranding process from Bitcoin.co.id was carried out in March 2020. Indodax's head office is located in Bali. In addition, Indodax branch offices are located in Jakarta, Semarang, and Surabaya. Indodax operates in buying and selling digital assets for 24 hours. There are three methods in the trading process at Indodax, namely the market maker method, market taker, and stop order method. The market taker method is a transaction using Rupiah or Digital Assets. The market taker method is a direct transaction at the point of agreement in the marketplace. The stop order method is a stop loss or takes profit system. In December 2020, the coins and tokens registered and traded in Indodax Nasional Indonesia amounted to 158 coins and tokens. The types of coins and tokens traded are determined through the Indodax Community Coin Voting (CCV) mechanism and Indodax Internal Decisions. The list of Coins and Tokens for crypto assets at Indodax Nasional Indonesia as of October 2022 is 223 types.

4.1. Recognition, Measurement and Reporting and Disclosure of IAS 2 Cryptocurrencies

IAS 2 provides guidance when determining the cost of inventories and the subsequent recognition of costs, including any write-downs to net realizable value (International Accounting Standards No. 2, 2018). IAS 2 has been adopted by Statement of Financial Accounting Standards (PSAK) 14 (rev. 2021) on Inventory. It also guides the cost formula used to assign inventory costs. Inventories are measured at a lower cost and net realizable value. Net realizable value is the estimated selling price in the normal course of business, less the estimated costs of completion and the estimated costs required to make the sale (International Accounting Standards No. 2, 2018).

In the recognition and measurement of IAS 2 Cryptocurrency, that Inventory is a company asset that can be sold and includes goods that are still in the process of being produced for sale, as well as in the form of materials or supplies (supplies). Cryptocurrencies within the scope of IAS 2 will be measured at cost and net realizable value (Tan & Zhang, 2021). As a result, a decrease in net realizable value will be recorded in the income statement. In contrast, an increase in net realizable value above the previously recorded decrease will not be recorded. For commodity cryptocurrency trading brokers, inventory measurement uses fair value and fewer costs to selling. Changes in fair value and fewer costs to selling are recognized as gains or losses for the period. On the other hand, paragraph 3(b) of IAS 2 notes that the cost basis of measurement does not apply to commodity traders, i.e., those who buy or sell commodities for others or on their accounts, and Inventory acquired principally intending to sell in the near term and generate profits from price fluctuations or broker-trader margins. On the other hand, paragraph 3(b) of IAS 2 notes that the cost basis of measurement does not apply to commodity traders, i.e., those who buy or sell commodities for others or on their accounts, and inventories acquired principally for the purpose of selling in the near term and make a profit from price fluctuations or broker-trader margins. Meanwhile, Paragraph 5 of IAS 2 shows that these traders measure their inventories at fair value and fewer costs to selling. When these inventories are measured at fair value, there are fewer costs to sell, and any changes in fair value are reduced. Inventory is acquired principally to sell in the near term and make a profit from price fluctuations or broker-trader margins. Meanwhile, Paragraph 5 of IAS 2 shows that these brokers measure their inventories at fair value and fewer costs to selling. When these inventories are measured at fair value, there are fewer costs to selling, and any changes in fair value are reduced costs to sell are recognized in profit or loss (Charted Profesional Accountants (CPA) Canada, 2020). Reporting cryptocurrencies using IAS 2 is generally not much different from the established standards. IAS 2 explains that the financial statements must report the accounting policies used in measuring Inventory. Cryptocurrency calculations must be reported in the financial statements using the inventory accounting method, whether using First in First Out (FIFO) or Average. The value of the cryptocurrency recorded in the financial statements is the appropriate value according to the appropriate classification (Delloite, 2018). After cryptocurrencies are recorded according to the appropriate classification, they will be recorded according to their fair value after deducting costs to sell. Costs to sell are recognized as an expense in the current period. In addition to costs to sell, the amount recognized as a reduction in inventories is the decline in the value of inventories in the current period (Delloite, 2018).

Table 1. Statement of financial position Indodax Nasional Indonesia company (Bitcoin) As of December 31, 202X.

ASSETS		**EQUITY**	
	IDR		**IDR**
Non-Current Assets		Issued capital	xxx
Intangible assets	xxx	Cumulative retained earnings	xxx
Goodwill	xxx	Other comprehensive income	xxx
Property, plant, and equipment	xxx		
Total Non-Current Assets	xxx	Total Equity	xxx
		Liabilities	
Current Assets		Non-Current Liabilities	
Trade receivables from third parties	xxx	Deferred tax liabilities	xxx
Other financial assets (receivables from related parties)	xxx	Total non-current liabilities	xxx
Available-for-sale financial assets	xxx	Current Liabilities	
Other non-financial assets	xxx	Trade payables to third parties	xxx
Income tax assets	xxx	Other financial liabilities (liabilities to related parties)	xxx
Cash and cash equivalents	xxx	Other non-financial liabilities	xxx
		Income tax liabilities	xxx
Total Current Assets	xxx	Total Current Liabilities	xxx

Source: Indodax Indonesia company, 202X.

The statement of financial position of Indodax Nasional Indonesia company shows that there is no inventory account. As shown in Table 1, the Financial Position Report of Indodax Nasional Indonesia company shows several accounts of intangible assets (intangible assets), goodwill, property plant and equipment, trade receivables from third parties, and other financial assets (receivables from third parties). From related parties/other financial assets (receivables from related parties), available-for-sale financial assets, other non-financial assets, income tax receivables, and cash and cash equivalents. In the statement of financial position of Indodax Assets, cryptocurrency at Indodax Nasional Indonesia company does not use IAS 2 adopted Statement of Financial Accounting Standards (PSAK) 14 (rev. 2021). This is clarified by the display in the statement of financial position. Furthermore, PSAK 14 (rev. 2021) states that the exception to inventory measurement applies to agricultural products and commodity brokers. This is very clearly stated in paragraph two of IAS 2. When viewed from the core business, Indodax Nasional Indonesia is a company engaged in the field of cryptocurrency traders or brokers. Entities engaged in these fields are entities that cannot measure and value asset inventories using IAS 2, subject to entity exceptions. Indodax Nasional Indonesia company measures cryptocurrency assets at fair value, with fewer costs to selling, and is recognized in the income statement. These assets are reported in the Available-for-sale financial assets account.

4.2. Recognition, Measurement and Reporting and Disclosure of International Accounting Standards (IAS 38): Intangible Assets

The initial measurement of IAS 38 intangible assets is measured using cost. These costs include the purchase price, including import duties and non-refundable purchase taxes after deducting discounts (International Acounting Standards No. 38, 2018). When an entity pays cash or cash equivalent when obtaining cryptocurrency, the costs that can be calculated are pretty straightforward, considering initial expenses such as the purchase price, purchase fees, and others (CPA Canada, 2018). IAS 38 defines an intangible asset as an identifiable non-monetary asset without physical substance (International Acounting Standards No. 38, 2018). If we look again at the previous definition of cryptocurrency, it is an asset that does not have a physical form or substance. In general, cryptocurrencies fall into the IAS 38 category. However, what often happens in field practice is that cryptocurrencies are used in exchange for goods or services. When an entity receives cryptocurrency as compensation for services or goods, the entity must use the relevant accounting standards (Delloite, 2018). The applicable accounting standard when the transaction occurs is International Financial Reporting Standard 15 (IFRS) (2018) (Revenue from Contracts with Customers). In IFRS 15, it is explained that when a customer promises consideration or payment in the form of an asset other than cash or cash equivalents, for example, cryptocurrency, the entity measures the value of the price using fair value (International Financial Reporting Standard 15 (IFRS), 2018). Measurement IAS 38 has two models for measuring intangible assets. The two models are the cost model (cost method) and revaluation (revaluation) (International Acounting Standards No. 38, 2018). Cryptocurrencies are measured at cost, less accumulated impairment losses when using the fee method. Cryptocurrencies cannot be amortized because the asset's useful life has no limit (Delloite, 2018). Impaired cryptocurrency values can be reversed at their fair value, deducted by disposal fees and value in use (CPA Canada, 2018). In reality, cryptocurrencies such as Bitcoin, Ethereum, and others have no other use than as a medium of exchange. Therefore a cryptocurrency impairment assessment will compare the recorded amount to the fair value. Using the revaluation method, cryptocurrencies will be calculated based on fair value less accumulated impairment losses. The fair value of cryptocurrency is the price that will be received or applied when the cryptocurrency is traded on the market (Australian Accounting Standard Board (AASB), 2016). Pricing is not defined in IFRS, but generally, the traded prices are recorded coin prices. Applying the revaluation method to cryptocurrencies requires the entity to measure the asset's fair value at the end of each reporting period (Tan & Zhang, 2021).

IAS 38 reporting of cryptocurrencies in financial statements under IAS 38 is a change in the fair value of cryptocurrency assets that must be recognized in other comprehensive income (OCI). Changes in fair value arise from an increase or decrease in price. In addition, the entity must disclose the underlying reason for not calculating the cryptocurrency using the amortization fee as a total intangible asset (International Acounting Standards No. 38, 2018). When an entity uses the revaluation model, the entity must include the effective date of the revaluation, the carrying amount revalued, or the cost method. Cryptocurrencies that have been revalued must be calculated in terms of surplus or deficit and must disclose the methods and assumptions when estimating the fair value of the asset (International Acounting Standards No. 38, 2018). According to IAS 38, an intangible asset is an identifiable non-monetary asset without physical substance. The nature or characteristics of intangible assets are identifiable, controllable, and have future economic benefits. The types of intangible assets in the statement of financial position of Indodax Nasional Indonesia company are software and domains (websites) purchased. Intangible assets purchased are recorded at cost and reduced by straight-line amortization over the useful lives of the assets. Intangible assets are then capitalized if it is probable that the economic benefits will flow to the company and the asset's cost can be determined reliably. The intangible assets categorized by Indodax Nasional Indonesia company are under the examples of intangible assets in IAS 38. Some examples of these assets are under paragraph IAS 38. The measurement and valuation of intangible assets at Indodax Nasional Indonesia company are cryptocurrency assets in the form of coins and tokens. However, following the presentation of financial statements, the intangible assets in question are computer software and internet domains.

4.3. Recognition, Measurement and Reporting and Disclosure of International Financial Reporting Standards(IFRS 9): Financial Instruments: Recognition and Measurement

Recognition and measurement of cryptocurrency assets (coins and tokens) at Indodax Nasional Indonesia company are calculated and recorded as financial assets at fair value through profit or loss (FVTPL) under IFRS 9 adopted Statement of Financial Accounting Standards (PSAK) 71(rev.2020). These coins and tokens are classified as financial assets measured at value fair value, fewer costs to selling through profit and loss, loans and receivables, held-to-maturity financial investments, or available-for-sale financial investments (Tan & Zhang, 2021).

Financial assets are derecognized when the contractual rights to cash flows from them expire or if the company chooses ownership of the financial assets and the risks and imbalances. When a music asset is started, it recognizes the difference between the recorded asset and the amount of the imbalance received (gain) or gained recognized in the income statement. The recognition of a financial asset or liability is under the initial recognition in International Financial Reporting Standard 9 (IFRS) (2018) i.e., an entity shall recognize a financial asset or liability if and only the entity becomes a party to the terms of the contract instrument. When an entity recognizes financial assets and liabilities, it must classify them as financial assets and liabilities. The financial assets and liabilities will be reclassified if certain conditions are met. Measurement of financial assets or liabilities is carried out in several stages: initial measurement, subsequent measurement, amortized cost, write-off, and impairment. At initial measurement, crypto assets (coins and tokens) use settlement date accounting after amortized cost, so traded financial assets and liabilities are classified at fair value on initial recognition. On subsequent measurement, the entity measures the financial asset or liability at fair value based on other income. This measurement is under IFRS 9. At the amortization cost measurement, the entity recalculates the gross carrying amount of the financial asset or liability. It recognizes the gain or loss arising from the modification in the income statement. Fees or service fees incurred to change the amount of the modified financial asset and amortized over the life of the modified asset.

The write-off of financial assets and liabilities occurs when the contractual rights to cash flows expire or when the company transfers ownership rights to the financial asset and its risks and rewards. When a financial asset is derecognized, the difference between the asset's carrying amount, the amount of consideration received or extraordinary, and the cumulative gain or loss recognized in other comprehensive income is reclassified to profit or loss. The scope of impairment is loans (debts) and receivables. These financial instruments are measured at cost or FVOCI. Trade receivables, loans, and other receivables with fixed or determinable payments not quoted in an active market are measured at cost. They will be amortized using the effective interest method with less impairment.

except for short-term receivables, because the effect of interest is not significant. Gains and losses are recognized in profit or loss when loans and receivables are derecognized or impaired. Presentation and disclosure of Indodax Nasional's company financial assets and liabilities in Indonesia are measured at fair value. *Fair value* is the price that would be received to sell an asset or to transfer a liability in an orderly transaction between market participants at the measurement date. Available-for-sale financial assets are non-derivative financial assets designated as available-for-sale on initial recognition. Available-for-sale financial assets are recorded at fair value in the statement of financial position. Changes in fair value are reported directly in equity under "Other comprehensive income.

5. CONCLUSIONS

Indodax Nasional Indonesia company (Bitcoin Indonesia) uses IFRS 9 (Financial Instruments: Recognition and Measurement) adopted by Statement of Financial Accounting Standards (PSAK) 71(rev.2020), in measuring and valuing cryptocurrency assets (coins and tokens). The measurement process uses fair value and fewer costs. The difference in fair value is recognized in the income statement. Indodax Nasional Indonesia company does not use IAS 2: Inventories adopted by PSAK 14(rev. 2021) because the company's core business is in the field of cryptocurrency brokers or traders. These business fields are excluded from applying PSAK 14(rev. 2021). At the same time, PSAK 14(rev. 2014) can be applied to entities engaged in buying and selling cryptocurrencies. In addition, Indodax Nasional Indonesia company does not use IAS 38: Intangible Assets adopted PSAK 19 (rev.2021). Intangible assets refer to patents, brands, royalties, software, and so on. Meanwhile, in the statement of financial position of Indodax Nasional Indonesia company, it is also presented that the intangible assets in question are computer software and internet domains. Recommendations from this research for Accounting Standards Setters, namely the International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB), can be used as study material in formulating official accounting standards in determining appropriate accounting treatment for cryptocurrencies. The existence of clear accounting standard guidelines provides certainty for all stakeholders in using cryptocurrencies. For the Financial Accounting Standards Board (DSAK) Indonesian accountants association (IAI), it is hoped that it will provide direction or views that are relevant to the existing reality that the development of startup entities engaged in cryptocurrency in Indonesia has developed. For further research, they can add research samples to other cryptocurrency companies besides Indodax Nasional Indonesia company.

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