

Guidance on Disclosing Cryptocurrency Holdings: Case Studies of Companies Listed on Stock Exchange of Thailand

แนวทางการเปิดเผยข้อมูลการถือครองคริปโทเคอร์เรนซี: กรณีศึกษา บริษัทจดทะเบียนในตลาดหลักทรัพย์ในประเทศไทย

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Abstract

This article provides guidance on disclosure for companies holding cryptocurrency, as discussed by the agenda decision published by the International Financial Reporting Standards (IFRS) Interpretations Committee. A comparison was made between the definition of cryptocurrency as stipulated in the Emergency Decree on Digital Asset Businesses B.E. 2561 and the accounting definition. This article offers disclosure guidance for companies holding cryptocurrencies in three cases. Firstly, companies hold cryptocurrencies for sale in the ordinary course of business. Secondly, when cryptocurrencies are held by a commodity broker-trader and thirdly, when companies consider cryptocurrencies as a long-term investment. Examples of disclosures by three companies are presented regarding their objectives in holding cryptocurrencies, applicable accounting policies, and financial reporting standards applied to the cryptocurrencies held. Only one company disclosed additional information on the types of digital assets held, and the methodology used for valuing cryptocurrencies. The article involved a comparison of disclosure examples, presented as notes in the financial statements of companies listed on the stock exchange of Thailand, which invested in and held cryptocurrencies. This article suggests critical aspects of financial reporting disclosure in

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accordance with established standards and offers recommendations for accounting practitioners. Additionally, it highlights potential areas for future research in the field.

Keywords: *Disclosure, Cryptocurrency, International Financial Reporting Standards*

บทคัดย่อ

บทความวิชาการนี้นำเสนอแนวทางการเปิดเผยข้อมูลสำหรับบริษัทที่ถือครองคริปโทเคอร์เรนซีตามทฤษฎีการเปิดเผยข้อมูลของคณะกรรมการมาตรฐานการรายงานทางการเงินสากล และได้อธิบายความหมายของคริปโทเคอร์เรนซีตามพระราชกำหนดการประกอบธุรกิจสินทรัพย์ดิจิทัล พ.ศ. 2561 เปรียบเทียบกับคำจำกัดความทางบัญชีของคริปโทเคอร์เรนซี การเปิดเผยข้อมูลสำหรับบริษัทที่จดทะเบียนในตลาดหลักทรัพย์ในประเทศไทยที่ถือครองคริปโทเคอร์เรนซีพบว่าทั้งหมด 3 กรณี ได้แก่ กรณีที่ 1 บริษัทถือครองคริปโทเคอร์เรนซีเพื่อขายตามลักษณะการประกอบธุรกิจตามปกติของกิจการ กรณีที่ 2 บริษัทถือครองคริปโทเคอร์เรนซีโดยนายหน้า-ผู้ค้า สินค้าโภคภัณฑ์ และกรณีที่ 3 บริษัทถือครองคริปโทเคอร์เรนซีเพื่อการลงทุนระยะยาว โดยทั้ง 3 กรณี บทความได้นำเสนอตัวอย่างการเปิดเผยข้อมูลของทั้ง 3 บริษัท การจากศึกษาพบว่า บริษัททั้ง 3 เปิดเผยวัตถุประสงค์ในการถือครองคริปโทเคอร์เรนซีนโยบายการบัญชีและมาตรฐานการรายงานทางการเงินที่นำมาใช้ถือปฏิบัติกับคริปโทเคอร์เรนซีที่ถือครอง แต่มีเพียงบริษัทเดียวที่เปิดเผยข้อมูลเพิ่มเติมด้านประเภทของสินทรัพย์ดิจิทัลที่ถือครอง และวิธีการวัดมูลค่าคริปโทเคอร์เรนซี บทความได้นำเสนอและเปรียบเทียบตัวอย่างการเปิดเผยข้อมูลของทั้ง 3 บริษัท และให้ข้อเสนอแนะแก่ผู้ประกอบการวิชาชีพบัญชีสำหรับประเด็นทางการบัญชีที่สำคัญที่บริษัทควรเปิดเผยตามมาตรฐานการรายงานทางการเงินที่เกี่ยวข้องรวมถึงทฤษฎีการเปิดเผยข้อมูลเกี่ยวกับหัวข้องานวิจัยในอนาคต

คำสำคัญ: การเปิดเผยข้อมูล คริปโทเคอร์เรนซี มาตรฐานการรายงานทางการเงิน

Introduction

Investing in digital assets is an emerging trend in capital markets. The global digital asset market is predicted to grow by US\$11.93 billion between 2023 and 2027, with a compound annual growth rate (CAGR) of 22.05% (Businesswire, 2022). To better control this growing trend, several countries have issued rules and regulations to supervise business activities relating to digital asset investment. For Thailand, the Thai government legislated the Emergency Decree on Digital Asset Businesses B.E. 2561 (2018) to regulate business activities relating to digital assets as well as issuing the Emergency Decree on Amendment of Revenue Code (No. 19) B.E. 2561 (2018) with the objective of imposing levies on revenue derived from digital asset business transactions. Cryptocurrency is a popular type of digital asset among Thai investors and despite the regulatory complexities, the rise of crypto activities in Thailand has not slowed. The Digital 2022 Global Overview Report revealed that 20.10% of Thai internet users aged 16-64 own cryptocurrency assets (Kemp, 2022). Likewise, several companies listed

on the stock exchange of Thailand now invest in cryptocurrencies with the expectation of high returns. Investing in cryptocurrency creates new opportunities but financial reporting aspects in particular the financial disclosure remain challenging. Cryptocurrency has the “potential for advancing financial exchange, storage of value, venture capital but lacks clarity of form, governance, and disclosure” (Smith, 2019). Failure to disclose useful and relevant information affects appropriate decision-making by the company shareholders and investors, thereby impacting good corporate governance and transparency. To assist in financial reporting and disclosure, the International Financial Reporting Interpretations Committee (IFRIC) presented an agenda decision in June 2019 providing guidance on valid accounting treatment and disclosure for companies holding cryptocurrencies.

This article provides guidance on how companies that invest and hold cryptocurrency should disclose their information as well as discusses the importance of the disclosure and the impact on the company and users of financial statements. Cryptocurrency is defined in the Thai context as stated by Emergency Decree on Digital Asset Businesses B.E. 2561 (2018) in contrast with the accounting definition of cryptocurrency explained by the agenda decision and presents disclosure examples of three companies listed on the stock exchange of Thailand: The Brooker Group Public Company Limited (BROOK), Trinity Watthana Public Company Limited (TNITY), and AJ Advance Technology Public Company Limited (AJA). These companies invest and hold cryptocurrency for three different purposes as holding cryptocurrency for sale in the ordinary course of business, holding cryptocurrency as a commodity broker-trader firm and holding cryptocurrency for long-term investment. Recommendations on topics that companies should disclose relating to transactions with cryptocurrency are made and avenues for future research are discussed.

Definition of cryptocurrency under Thai law

In Thailand, activities and businesses relating to digital assets are regulated by the Emergency Decree on Digital Asset Businesses B.E. 2561 (2018). This decree defines a ‘digital asset’ as ‘cryptocurrency and digital token’ created on blockchain technology. Under Thai law, digital assets comprise of cryptocurrency and digital tokens, with cryptocurrency as a subset of a digital asset. Activities include the exchange of digital assets Emergency Decree on Digital Asset Businesses B.E. 2561 (2018). Businesses may act as brokers, dealers, fund managers, custodial wallet providers or other businesses relating to digital assets following the recommendation of the Securities and Exchange Commission, Thailand (Thai-SEC) (Kietduriyakul, Phongsathaporn, Kampusiri, Riumkidgarn, & Phatiwet, 2023). The decree defines ‘cryptocurrency’ as “a unit of data messages created on an electronic system or network for use as a medium of exchange, with a view to acquiring goods, services or any other rights or exchanging digital assets, and shall also include a unit of any other data messages

prescribed under the Notification of the Securities and Exchange Commission, Thailand (Thai-SEC), whereas digital tokens “determine the right to invest in a project or business to receive specific goods, services or any other rights as agreed upon by the parties” (Kietduriyakul et al., 2023). To sum up, the key difference is that cryptocurrency is a “medium of exchange”, while a digital token functions as a “determinant of rights”. Cryptocurrency becomes a digital token if the issuer intends to raise public funds.

Cryptocurrency in the accounting context

Currently, no accounting standards specifically address accounting practices for digital assets; therefore, businesses apply existing International Financial Reporting Standards (IFRS) and principles (International Financial Reporting Standards [IFRS], 2019). The definition of cryptocurrency according to the IFRIC is different from The Decree definition (Damrongsukniwat & Toommanon, 2022). In June 2019, the IFRIC issued an Agenda Decision which provided guidance regarding accounting practice and considerations for a ‘holder’ of cryptocurrencies entitled ‘Holdings of cryptocurrencies’. The agenda decision only discussed cryptocurrency type of digital asset and considered cryptocurrency as a subset of cryptographic assets characterized as follows (IFRS, 2019):

- 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, and
- c. does not give rise to a contract between holder and another party”.

Since there was no existing IFRS relating to the cryptocurrency holdings. The agenda decision instructed that before determining the accounting treatment of cryptocurrencies, the holding intention and utility of the cryptocurrencies from the ‘holder’s perspective’ must be determined. For cryptocurrency classification, the agenda decision stated that cryptocurrency may be considered as ‘cash or cash equivalent’; however, cryptocurrency is not legal tender and is a type of asset that is not backed by a government nor used for setting prices for goods and services directly. Therefore, cryptocurrency cannot be defined as ‘cash or cash equivalent’ or classified as other ‘financial assets’ because it does not provide the holder with a contractual right to receive cash or another financial asset, nor provide the holder with a residual interest in the assets of a company after liability deductions. Cryptocurrency is not a tangible asset and cannot be classified as ‘property, plant and equipment’. This begs the question as to how a company that holds cryptocurrency should classify and report the cryptocurrency on financial statements, and which accounting practices should be followed.

Leopold and Vollmann (2019) suggests two characteristics that are most relevant for classifying any type of digital asset. The first is the purpose of the digital asset, and the second is how the inherent value is derived. For the holding of cryptocurrency in particular, the agenda decision concluded that IAS 2: Inventories and IAS 38: Intangible Assets are applicable standards for the accounting treatment of cryptocurrencies (IFRS, 2019). The rule of thumb according to the agenda decision is that if a business holds cryptocurrencies for sale, then they can be classified as inventory. Therefore, IAS 2 applies, and the business must initially measure the cryptocurrency at cost, with subsequent measurements as the net asset value. If the business is a commodity broker-trader that acquires inventory to sell and generates a profit from broker-trader margins, such inventory (cryptocurrency) is excluded only from the measurement requirements of IAS 2. IAS 2 is not applicable if the company holds the cryptocurrency as a long-term investment. In this case, the cryptocurrency is defined as an Intangible Asset under IAS 38 and shall apply either a 'cost model' or 'revaluation model' (IFRS, 2023e). Subsequent measurement of the digital asset under the 'cost model' relates to cost less any accumulated amortization and impairment, with a fair value under the 'revaluation model' minus any accumulated amortization and impairment. However, generally, amortization is not expected for cryptocurrency because it has an indefinite useful life. The conceptual framework describes two basic methods to measure financial statements as the current value and historical cost. Preparers of financial statements should apply the appropriate method that faithfully represents the nature of the transaction (IFRS, 2023a). Chou, Agrawal, and Birth (2022) conducted research on the perception of stakeholders for cryptocurrency measurement. They found that the most suitable model for cryptographic assets was the fair value model.

The key measurement considerations of cryptocurrency according to the agenda decision are summarized in Table 1 below (Leopold & Vollmann, 2019).

Table 1 Cryptocurrency measurement considerations

Purpose of holding cryptocurrency	Applicable IFRS	Initial measurement	Subsequent measurement
For sale (in the ordinary course of business)	IAS 2: Inventories	Cost	Lower cost and net realizable value
Commodity broker-trader	IAS 2: Inventories (Excluded from the measurement requirements of IAS 2)		Fair value less sale cost
Long-term investment	IAS 38: Intangible Assets		Fair value less any accumulated amortization and impairment or cost less any accumulated amortization and impairment

Source: Adapted by the author from Leopold and Vollmann (2019)

Disclosure of cryptocurrency

Financial disclosure serves as an effective or ineffective communication depending on the relevance of the information. Relevant financial information is fundamental to good financial reporting. The literature review suggested that disclosure requirement was a foundation of a well-functioning traditional market (Liebau & Krapels, 2021). The value of accounting standards, stronger financial market regulations and reduction of information asymmetries increased disclosure levels and timely disclosure of annual reports, confirming that companies with a higher quality of disclosure experienced smaller stock price declines during times of market crash, while companies adhering to disclosure requirements had increased liquidity (Liebau & Krapels, 2021). Disclosure is useful information for financial statement users, while insufficient relevant information hampers company decision-making. Too much irrelevant information clutters financial statements, creating unnecessary work for users to identify relevant information. The Conceptual Framework for Financial Reporting (IFRS, 2023a) states that relevant information contributes to a “faithful representation of the financial position and performance” and improves financial statement clarity.

A company that invests and holds cryptographic assets must disclose all relevant information for financial statement users. The Thai-SEC also stressed the importance of disclosure and stated that if investments in digital assets cause significant changes in profits or asset sizes, details regarding cryptocurrency holdings should be disclosed to the public. However, the absence of standard-setting on accounting activities for digital assets makes disclosure of activities related to cryptocurrency challenging. The nature of the cryptocurrency also contributes to difficulties in financial reporting. Böhme et al. (2020) suggested that disclosure of cryptocurrency was challenging because of the special nature of cryptocurrency, based on distributed systems that were designed to be difficult to change, to provide strong guarantees on its behavior. The agenda decision instructed that disclosures on holdings of cryptocurrencies should follow the relevant IFRS. The agenda decision on ‘Holdings of cryptocurrencies’ discussed the importance of disclosing such information and set out disclosure requirements for cryptocurrency holdings (IFRS, 2019). Firstly, if a company holds cryptocurrencies for sale, disclosure should follow paragraphs 36–39 of IAS 2, while if the company holds cryptocurrencies for a long-term investment, disclosure should follow paragraphs 118–128 of IAS 38. Cryptocurrencies measured at fair value should follow paragraphs 91–99 of IFRS 13 which specify the disclosure requirements. If the management believes that a company’s accounting policies significantly alter the value of cryptocurrencies in the financial statements, then paragraph 122 of IAS 1 applies. The last disclosure requirement is derived from paragraph 21 of IAS 10 which requires a company to state any non-adjusting events that occurred after the reporting period. A company can include information about any events and estimate their financial effect, or not as the case may be. The disclosure requirements of holdings of cryptocurrencies from the agenda decision are summarized in Table 2 below.

Table 2 Disclosure requirements of cryptocurrency holdings

Paragraph 112 of IAS 1 Presentation of Financial Statements requires a business to disclose additional information that is relevant to an understanding of its financial statements	
Objective of disclosure	Applicable disclosure requirements
Cryptocurrencies are sold in the ordinary course of business	Paragraphs 36 – 39 of IAS 2: Inventories
Cryptocurrencies are held for long-term investment	Paragraphs 118–128 of IAS 38: Intangible Assets
Cryptocurrencies are measured using fair value	Paragraphs 91–99 of IFRS 13: Fair Value Measurement

Table 2 Disclosure requirements of cryptocurrency holdings (cont.)

Paragraph 112 of IAS 1 Presentation of Financial Statements requires a business to disclose additional information that is relevant to an understanding of its financial statements	
Objective of disclosure	Applicable disclosure requirements
Non-adjusting events occur after the reporting period	Paragraph 21 of IAS 10: Events After the Reporting Period

Source: Adapted by the author from IFRS (2019) and IFRS (2023b)

This article provides disclosure guidance and examples of companies listed on the stock exchange of Thailand holding cryptocurrencies in three case scenarios as follows:

First case: Disclosure of cryptocurrencies held for sale in the ordinary course of business.

Second case: Disclosure of cryptocurrencies held by a commodity broker-trader firm.

Third case: Disclosure of cryptocurrencies held for a long-term investment.

First case: Disclosure of cryptocurrencies held for sale in the ordinary course of business

In Thailand, BROOK holds cryptocurrencies for sale. BROOK was the first company listed on the stock exchange of Thailand to announce cryptocurrency holdings as the first Thai company to make a direct investment in cryptocurrencies (Chudasri, 2021). In the first quarter of 2021, BROOK purchased 122.3158 Bitcoins worth US\$6.6 million through US-listed digital asset exchanges via its Hong Kong-based subsidiary. In its Statement of Financial Position as of December 31, 2021 (Figure 1), BROOK disclosed the cryptocurrencies as ‘Digital Asset Inventory’ under current assets.

THE BROOKER GROUP PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES							
STATEMENTS OF FINANCIAL POSITION							
AS AT DECEMBER 31, 2021							
			B A H T				
			Consolidated Financial Statement		Separate Financial Statement		
			NOTE	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
<u>ASSETS</u>							
CURRENT ASSETS							
Cash and cash equivalents			3	341,495,631.26	150,221,013.30	144,066,303.36	90,042,735.87
Trade accounts receivable - net							
Non-related companies			4	149,559,406.17	321,000.00	86,637,303.75	-
Related companies			2.2	210,481,375.72	6,642,107.74	5,899,660.37	5,875,000.00
Accounts receivable - Other							
Non-related companies			5	104,790,182.58	6,457,017.97	13,972,159.68	6,166,475.68
Related companies			2.3	-	-	47,106,680.78	9,302,472.03
Digital asset inventory			6	986,845,781.82	-	102,534.16	-

Figure 1 Partial statement of financial position for the year ended December 31, 2021 of

The Brooker Group Public Company Limited

Source: The Stock Exchange of Thailand (2022b)

Summary of Significant Accounting Policies
<p><u>Digital asset inventory</u></p> <p>Because digital asset transactions are new to the world, the International Accounting Standards Board (IASB) has not yet set the International Financial Reporting Standards (IFRS) in connection with this matter, companies consider that holding of digital assets are purchases/ sales transactions and recording the digital assets as inventories and measuring the value of digital assets at cost or net realizable value whichever is lower which is a careful disclosure guideline.</p> <p>The net realizable value of digital assets is based on quote prices on the active exchange market that the Group has determined is its principal market for the Digital Assets (Level 1 inputs).</p> <p>Fees for buying and selling digital assets ranged between 0.075 percent and 0.1 percent, which the Company recorded as expenses in each accounting period in which the transaction occurred.</p>

Figure 2 Notes to the financial statements for the year ended December 31, 2021 of

The Brooker Group Public Company Limited

Source: The Stock Exchange of Thailand (2022b)

The notes stated that the company disclosed its intention to hold digital assets as inventories. They were measured at cost or net realizable value, whichever was lower, following paragraph 9 of IAS 2 (IFRS, 2023c). However, the company should also disclose the types of digital

asset purchased and sold during the year because each type has its own unique features. Financial statement users should understand the overall investment strategy, particularly the types of digital assets that the company is holding. The company should also state the method used to calculate the cryptocurrency inventory value (Damrongsukniwat & Toommanon, 2022); for example, this may be the weighted average method and disclose how they recognized gains or losses from cryptocurrency sales. Movements in cryptocurrency carrying amounts may also be useful.

Second case: Disclosure of cryptocurrencies held by a commodity broker-trader firm

According to IAS 2 paragraph 5, commodity broker-traders “buy or sell commodities for others, or on their own account”. Such inventory is acquired for sale in the near future to generate a profit from price fluctuations (IFRS, 2023c). A worth-studying example of a Thai listed company that identifies itself as a commodity broker-trader is Trinity Watthana Public Company Limited (TNITY). This company invests in listed companies, derivatives, and lending. In 2019, the Thai-SEC permitted TNITY to operate as a bond representative.

TNITY displays its cryptocurrency as ‘Digital Asset Inventories’ under its Current Assets. The notes clarify that the company accounted for the holding of digital assets by reference to IAS 2: Inventories because the holding meets the definition of a commodity broker-trader in paragraph 5 of IAS 2. The company traded in the active market and profit was generated from fluctuations in the prices of the cryptocurrency. A commodity broker-trader values the inventory (cryptocurrency) at a fair value less sale cost following the agenda decision’s guidance and in accordance with paragraphs 3(b) and 5 of IAS 2. The preparer of financial statements must be aware that when the cryptocurrency is measured at fair value less sale costs, this excludes it only from the measurement requirements of IAS 2, following paragraph 5 of IAS 2 (IFRS, 2023c).

4.7 Digital assets inventories

Digital assets are measured at fair value less cost to sell, with changes in fair value recognised in profit or loss.

The Group's digital assets are primarily traded in active markets and are purchased with the intent to resell in the near future, generating a profit from the fluctuations in prices or margins. As a result, the Group has determined that its holding of digital assets should be accounted for under TAS 2 Inventories, and it meets the definition of a commodity broker-trader.

Under TAS 2, commodity broker-traders are those who buy or sell commodities for others or on their own account. The inventories held by commodity broker-traders are principally acquired for the purpose of selling in the near future and generating a profit from fluctuations in price or broker-traders' margin. As these inventories are measured at fair value less costs to sell, they are excluded from only the measurement requirements of TAS 2.

The Group recognises realised gains or losses on its digital assets when it sells digital assets that it holds under the weighted average method.

The fair value of digital assets inventories is based on quote prices on the active exchange market that the Group has determined that it is principal market for the digital assets (using Level 1 input).

Figure 3 Notes to consolidated financial statements for the year ended December 31, 2021 of Trinity Watthana Public Company Limited

Source: The Stock Exchange of Thailand (2022c)

In the notes, TNITY used the weighted average method for valuation. Nevertheless, the company should have disclosed the type of digital assets they are trading. The company disclosed the fair value hierarchy level categorizing the fair value measurements following IFRS 13. The notes followed the disclosure requirements of IAS 2, paragraphs 36-39. If the company decides to change its involvement relating to the cryptocurrency they are holding, it should disclose the intention of any possible future changes if these are significant and impact the decision-making of the investors.

Third case: Disclosure of cryptocurrencies held for a long-term investment

The third case is an example of disclosure from AJ Advance Technology Public Companies Limited (AJA). This company holds cryptocurrencies for long-term investment; hence, they adopted the accounting practice of IAS 38: Intangible Assets. 'Cryptocurrency assets' were presented on the company's Statement of Financial Position under Non-Current Assets separately from other assets, with notes presented in Figures 4 and 5 below.

3.8 Cryptocurrency assets

The cryptocurrency business is a new business globally and there are not yet any directly applicable financial reporting standards. Therefore, since the Group considers the objective of investing in cryptocurrency assets to be for long-term investment. The Group has adopted the principles of TAS 38, Intangible Assets, and classifies them as non-current assets. However, a company may increase or decrease its holdings of digital assets when it considers the necessity of the business and the market and conditions surrounding it.

The Group initially recognises cryptocurrency assets at cost, which is the fair value on the asset on the date of receipt. Following initial recognition, the assets are carried at cost (weighted average method) less any accumulated impairment losses (if any). The Group does not amortise cryptocurrency assets because they are indefinite useful lives. The assessment of their status with indefinite useful lives is reviewed annually.

Figure 4 Notes to financial statements for the year ended December 31, 2021 of

AJ Advance Technology Public Company Limited

Source: The Stock Exchange of Thailand (2022a)

17. CRYPTOCURRENCY ASSETS		
	(Unit : Baht)	
	Consolidated	Separate
As at January 1, 2021	-	-
Increase	110,828	-
<u>Less</u> Allowance for impairment of cryptocurrency assets	(14,287)	-
As at December 31, 2021	96,541	-
During the year 2021, a subsidiary start mining cryptocurrency assets. which measures the fair value of a cryptocurrency asset based on its closing price. CoinMarketCap which is categorized as a fair value measurement based on Level 2.		
As at December 31, 2021, a subsidiary's outstanding cryptocurrency assets amounted to 0.06114973 Bitcoin.		

Figure 5 Notes to Financial Statements for the year ended December 31, 2021 of

AJ Advance Technology Public Company Limited

Source: The Stock Exchange of Thailand (2022a)

In the notes, AJA specified the type of digital asset they are holding: 'Cryptocurrency', unlike BROOK and TNITY. AJA also stated how the cost of the cryptocurrency was measured as fair value on the date of receipt. Following the initial recognition, AJA stated that they applied the weighted average method less accumulated impairment to measure the cost. This disclosure practice provides a better understanding of financial statements and is recommended in comparison to BROOK and TNITY. AJA also demonstrated how they arrived at the cryptocurrency asset value of 96,531 baht by

showing the subtraction of allowance for impairment of the cryptocurrency asset from the beginning period value as useful information for investors.

Comparison and discussion concerning the disclosure practices of the three case scenarios

The three companies: BROOK, TNITY, and AJA held cryptocurrencies for different purposes. Both BROOK and TNITY held cryptocurrencies for sale and treated cryptocurrencies as inventories. TNITY satisfied the definition of a commodity broker-trader firm, hence IAS 2 applied for both companies. By contrast, AJA disclosed its objective for holding cryptocurrencies as a long-term investment, hence, IAS 38 applied. All three companies disclosed their purposes and intentions for holding digital assets and presented applicable accounting policies and standards. However, BROOK and TNITY did not disclose the types of digital assets they were holding, while AJA clearly stated the type of digital asset as ‘cryptocurrency’. Both TNITY and AJA disclosed how the values of the digital assets were calculated while BROOK did not. Table 3 presents a summary and comparison of the disclosure practices of the three case scenarios.

To make the disclosure more useful, BROOK and TNITY should consider IAS 2 paragraphs 36-39 (IFRS, 2023c) and disclose the carrying amount of the inventory (cryptocurrencies), the company’s accounting policies for measuring the inventory, the amount of inventory recognized as expense including the write-downs and reversals of write-downs to a net realizable value recognized in gain or loss, as well as the reasons for the write-downs and reversals. TNITY should disclose the amount carried at fair value less costs to sell. AJA disclosed a reconciliation between the beginning and ending carrying amount of the period as per IAS 38 paragraph 118 (IFRS, 2023e). AJA should also disclose the useful life assessed for the asset. If the useful life is indefinite, the company should also provide reasons to support such useful life. Furthermore, if AJA accounted for its cryptocurrencies using a revaluation model and reported the value at the revalued amounts, the company should also disclose the effective date of revaluation, the reconciliation of the opening and closing balance of the related revalued surplus and the carrying amount that would have been recognized had the cost model been applied (IAS 38 paragraphs 124-125) (IFRS, 2023e).

Table 3 Summary and comparison of disclosure practices of the three cases

Company	Objective of disclosure	Disclosure practice			
		The company disclosed the purpose and intention of holding digital asset	The company disclosed the type of digital asset holding	The company disclosed the applicable accounting policies and standards	The company disclosed how the value of the digital asset holding was calculated
The Brooker Group Public Company Limited	First case: Disclosure of cryptocurrencies held for sale in the ordinary course of business.	Yes – the company disclosed its intention to hold digital assets for sale.	No	Yes - the notes referenced paragraph 9 of IAS 2.	No
Trinity Watthana Public Company Limited	Second case: Disclosure of cryptocurrencies held by a commodity broker-trader firm.	Yes – the company disclosed that the digital assets were primarily traded in the market and purchased with the intent to resell; therefore, the holding met the definition of a commodity broker-trader firm.	No	Yes – the notes referenced IAS 2.	Yes – the company disclosed that it applied the weighted average method for valuation.

Table 3 Summary and comparison of disclosure practices of the three cases (cont.)

Company	Objective of disclosure	Disclosure practice			
		The company disclosed the purpose and intention of holding digital asset	The company disclosed the type of digital asset holding	The company disclosed the applicable accounting policies and standards	The company disclosed how the value of the digital asset holding was calculated
AJ Advance Technology Public Company Limited	Third Case: Disclosure of cryptocurrencies held for long-term investment.	Yes – the company stated the objective of investing in cryptocurrencies for long-term investment.	Yes – the company specified that the type of digital assets they were holding as ‘crypto-currency’.	Yes – the company disclosed that it adopted IAS 38.	Yes – the company disclosed how the value of the cryptocurrency was calculated, showing the subtraction of allowance for impairment of the cryptocurrency assets.

Disclosure guidance and recommendations

Currently, no disclosure requirement exists for companies holding cryptocurrency and no accounting standard specifically addresses accounting practices for transactions relating to cryptocurrency. A company that holds cryptocurrency must disclose all relevant information sufficient to understand the financial statements. This should also include the applicable general disclosures required by the IFRS depending on the accounting classification method adopted. Financial statements should be tailored to develop disclosures specific to company practice and circumstances.

The company should provide disclosures inclusive of the following topics:

1. Relevant transactions and involvement relating to cryptocurrency including the purpose of transactions, description and type of cryptocurrency held. Holding cryptocurrencies for different purposes requires different accounting practices and impacts financial reporting.

2. The value of cryptocurrency may fluctuate significantly in each period, and companies should disclose the method they used when calculating the value of cryptocurrency or how the value was derived. For example, TNITY used the '*weighted average method*' to calculate the value of its cryptocurrency.

3. The applicable accounting policies and standards should be disclosed. For example, AJA adopted IAS 38 because the company held cryptocurrency for long-term investment. The company may provide possible future developments and changes in accounting policies and standards regarding digital assets and should have the flexibility to provide disclosures that are useful to its investors.

4. The measurement basis for the cryptocurrency held should be stated. For example, if fair value is being applied according to IFRS 13 to increase consistency and comparability in fair value measurements, the company should disclose the valuation techniques and measures used to determine the category level of fair value hierarchy. If the company recognized cryptocurrency as an intangible asset, the company should disclose how it initially and subsequently measured its cryptocurrency. For example, AJA stated that it initially recognized cryptocurrency at the fair value of the asset on the date of receipt. Cryptocurrency was later measured at cost using the weighted average method minus accumulated impairment.

5. Any significant favorable and unfavorable events and significant changes in the value of the cryptocurrency held that occurred between the end of the reporting period and the date when the financial statements were authorized for issue should be disclosed. According to paragraph 21 of IAS 10, a company shall adjust the value of the cryptocurrency in its financial statements to reflect adjusting events but not for non-adjusting events (IFRS, 2023d). However, if material non-adjusting

events occurred after the reporting period, the company should disclose their nature and estimate the financial effect or state that this cannot be done.

6. As well as IFRS disclosure requirements, the company should also disclose various risks and the risk management options associated with cryptocurrency holdings. The company may use IFRS 7: Financial Instrument: Disclosures as guidance for the risks of holding cryptocurrency (IFRS, 2023f). Chou et al. (2022) interviewed multiple stakeholder groups including academics, accounting practitioners and standard setters to determine their perceptions of accounting for crypto-assets. They found that disclosure of risk is a unique disclosure requirement for crypto-assets that is considered important by stakeholder groups. Price volatility, unpredictable returns and asset valuation uncertainty should be disclosed to better inform stakeholders (Chou et al., 2022).

7. To regulate the Internal control of its cryptocurrency asset, volume and market trading, a company may have blockchain-enhanced tools to increase operational efficiency, reliability, and responsiveness of financial reporting. However, holdings of cryptocurrency create new risks and the need for novel internal control (Deloitte, 2021). Hence, methods of internal control are meaningful voluntary information that the company should disclose to investors.

Conclusions and future research

AJA was the only company that disclosed the necessary requirements as the intention for holding digital assets, the type of digital assets held, the applicable accounting policies and standards, and the valuation method used to measure the digital assets. BROOK, TNITY, and AJA should follow IAS 2 paragraphs 36-39 and IAS 38 paragraphs 118-124, as explained in ‘Comparison and discussion concerning the disclosure practices of the three case scenarios above to provide additional necessary disclosures and increase transparency in the company’s operations of their digital assets. No accounting standard specifically addresses the disclosure requirements for a company holding cryptocurrency, and related disclosures are applied from the relevant IFRS directives. Apart from the disclosure requirements prescribed by the applicable IFRS, a company should also present any relevant information to improve the transparency of its financial statements.

This article discloses the accounting practice for cryptocurrencies based on IFRS directions focusing on the holders’ perspectives. Future research should examine the harmonization of accounting practice for cryptocurrency between the IFRS and GAAP and investigate cryptocurrency accounting practice from the miner’s perspective. Other types of cryptographic assets such as digital and asset-backed tokens together with disclosure of cryptocurrency holdings through collecting and analyzing accounting practices and opinions from standard setters, auditors and accounting scholars applying the grounded theory method should also be investigated to construct a common practice

for disclosure of cryptocurrency holdings. This research outcome can serve as a guideline for accounting standard setters to consider establishing solid disclosure practices which may lead to amendment of the present accounting standards or setting a standalone standard on cryptocurrency holdings in the future.

References

- Böhme, R., Eckey, L., Moore, T., Narula, N., Ruffing, T., & Zohar, A. (2020). Responsible vulnerability disclosure in cryptocurrencies. *Communications of the ACM*, 63(10), 62-71.
- Businesswire. (2022). Global digital asset management markets report 2023-2027. Retrieved January 17, 2023, from <https://www.businesswire.com/news/home/20221223005080/en/Global-Digital-Asset-Management-Markets-Report-2023-2027-Market-is-poised-to-grow-by-11.93-Billion-Focus-on-United-States-United-Kingdom-China-Germany-and-Japan> - - ResearchAndMarkets.com
- Chou, J. H., Agrawal, P., & Birt, J. (2022). Accounting for crypto-assets: Stakeholders' perceptions. *Studies in Economics and Finance*, 39(3), 471-489.
- Chudasri, D. (2021). BROOK cryptocurrency filing first. *Bangkok Post*. Retrieved January 17, 2023, from <https://www.bangkokpost.com/business/2114839/brook-cryptocurrency-filing-a-first>
- Damrongsukniwat, P., & Toommanon, V. (2022). Cryptocurrency and accounting for holdings of cryptocurrency. *Journal of Accounting Profession*, 18(59), 81-105.
- Deloitte. (2021). Blockchain and internal control: The COSO perspective. Retrieved January 17, 2023, from <https://www2.deloitte.com/us/en/pages/audit/articles/blockchain-and-internal-control-coso-perspective-risk.html>
- Emergency Decree on Amendment of Revenue Code (No. 19) B.E. 2561. (2018, May 13). *Thai Government Gazette*. Vol. 135, Parts 33a, pp. 71-73. Retrieved October 28, 2023, from https://www.rd.go.th/fileadmin/user_upload/kormor/newlaw/prk19.pdf
- Emergency Decree on Digital Asset Businesses B.E. 2561. (2018, May 13). *Thai Government Gazette*. Vol. 135, Parts 33a, pp. 43-70. Retrieved October 28, 2023, from <https://www.sec.or.th/TH/Documents/ActandRoyalEnactment/RoyalEnactment/enactment-digitalasset2561.pdf>
- International Financial Reporting Standards [IFRS]. (2019). IFRS interpretations committee meeting: Holdings of cryptocurrencies. Retrieved January 17, 2023, from <https://cdn.ifrs.org/content/dam/ifrs/meetings/2019/june/ifric/ap12-holdings-of-cryptocurrencies.pdf>

- International Financial Reporting Standards [IFRS]. (2023a). Conceptual framework for financial reporting. Retrieved December 15, 2022, from <https://www.ifrs.org/issued-standards/list-of-standards/conceptual-framework/#standard>
- International Financial Reporting Standards [IFRS]. (2023b). IAS 1 presentation of financial statements. Retrieved January 18, 2023, from <https://www.ifrs.org/issued-standards/list-of-standards/ias-1-presentation-of-financial-statements/>
- International Financial Reporting Standards [IFRS]. (2023c). IAS 2 Inventories. Retrieved January 18, 2023, from <https://www.ifrs.org/issued-standards/list-of-standards/ias-2-inventories/>
- International Financial Reporting Standards [IFRS]. (2023d). IAS 10 Events after the reporting period. Retrieved January 18, 2023, from <https://www.ifrs.org/issued-standards/list-of-standards/ias-10-events-after-the-reporting-period/>
- International Financial Reporting Standards [IFRS]. (2023e). IAS 38 Intangible assets. Retrieved October 28, 2023, from <https://www.ifrs.org/issued-standards/list-of-standards/ias-38-intangible-assets/>
- International Financial Reporting Standards [IFRS]. (2023f). IFRS 7 Financial instrument: Disclosures. Retrieved October 28, 2023, from <https://www.ifrs.org/issued-standards/list-of-standards/ifrs-7-financial-instruments-disclosures/>
- Kemp, S. (2022). Digital 2022: Global overview report. Retrieved October 28, 2023, from <https://datareportal.com/reports/digital-2022-global-overview-report>
- Kietduriyakul, K., Phongsathaporn, K., Kampusiri, P., Riumkidgarn, S., & Phatiwet, T. (2023). A complete guide to the regulations on cryptocurrency and digital token offering in Thailand. Retrieved October 26, 2023, from <https://www.bakermckenzie.com/-/media/files/insight/guides/2023/guide-to-regulation-on-cryptocurrency-and-digital-token.pdf>
- Leopold, R., & Vollmann, P. (2019). Cryptographic assets and related transactions: Accounting considerations under IFRS. Retrieved January 10, 2023, from <https://www.pwc.com/gx/en/audit-services/ifrs/publications/ifrs-16/cryptographic-assets-related-transactions-accounting-considerations-ifrs-pwc-in-depth.pdf>
- Liebau, D., & Krapels, N. J. (2021). An exploratory essay on minimum disclosure requirements for cryptocurrency and utility token issuers. *Cryptoeconomic Systems*, 1(2), 2-23.
- Smith, B. (2019). The life-cycle and character of crypto-assets: A framework for regulation and investor protection. *Journal of Accounting and Finance*, 19(1), 156-168.
- The Stock Exchange of Thailand. (2022a). Financial statement yearly 2021 (audited): AJ Advance Technology Public Company Limited. Retrieved January 18, 2023 from <https://www.set.or.th/en/market/product/stock/quote/AJA/news>

The Stock Exchange of Thailand. (2022b). Financial statement yearly 2021 (audited): The Brooker Group Public Company Limited. Retrieved January 18, 2023, from <https://www.set.or.th/en/market/product/stock/quote/BROOK/news>

The Stock Exchange of Thailand. (2022c). Financial statement yearly 2021 (audited): Trinity Watthana Public Company Limited. Retrieved January 18, 2023, from <https://www.set.or.th/en/market/product/stock/quote/TNITY/news>