

Redefining Financial Standards: Addressing the Accounting Challenges of Cryptocurrencies with a Blockchain Framework

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Abstract - The swift adoption of cryptocurrencies presents significant challenges for traditional accounting frameworks. This study explores the limitations of existing standards, specifically IFRS and GAAP, in effectively accounting for cryptocurrencies and emphasizes the need for modified standards that accurately reflect the unique characteristics of these digital assets. Through a combination of quantitative and qualitative analyses, this paper highlights substantial deficiencies in current accounting practices and advocates for the development of tailored accounting standards. Additionally, it introduces a blockchain framework aimed at enhancing the transparency, accuracy, and compliance of cryptocurrency accounting. This innovative framework leverages blockchain technology to align with the decentralized nature of digital assets, proposing a transformative approach to meet the unique demands of cryptocurrency transactions.

Keywords: Cryptocurrency, Accounting Standards, IFRS, GAAP, Digital Assets, Blockchain Technology.

I. INTRODUCTION

Despite the distinct digital characteristics of cryptocurrencies, the International Financial Reporting Standards (IFRS) framework currently lacks specific guidelines or requirements for their accounting treatment. This absence of detailed guidance has led to varying interpretations and applications of the existing IFRS standards, resulting in inconsistent accounting practices for cryptocurrencies among entities.

It has been over three years since the International Financial Reporting Interpretations Committee (IFRIC) issued an agenda decision to clarify how cryptocurrencies should be accounted for using the existing IFRS framework. They concluded that cryptocurrencies do not qualify as cash, cash equivalents, or financial instruments under IFRS definitions. However, it was determined that cryptocurrencies could be considered either intangible assets or inventory, depending on

the specific context. The different measurement bases for these classifications are explored further in this study.

Similarly, in October 2022, the Financial Accounting Standards Board (FASB) made a tentative ruling under US GAAP that certain crypto assets should be categorized as intangible assets and measured at fair value, irrespective of the holder's purpose. Furthermore, the FASB's December 2022 tentative decision stated that under US GAAP, changes in the fair value of crypto assets should be reported in net income, with specific disclosure requirements for these assets. Under IFRS, cryptocurrencies held for sale in the normal course of business can be treated as inventory according to IAS 2 Inventories, typically measured at the lower of cost and net realizable value.

An exception exists for broker-traders, who can measure their inventories at fair value less costs to sell. Broker-traders, who buy and sell commodities either on behalf of others or for themselves, typically acquire cryptocurrencies intending to sell them in the near term to financially benefit from price fluctuations or trading margins. The following provides a thorough historical overview, details the evolution and current state of cryptocurrencies, and explains their implications for accounting.

Money, in various forms, has been part of human history for at least 5,000 years. Before money, bartering was the primary method of exchange. This involved trading services and goods directly. The concept is simple: two parties negotiate the relative value of their goods and services and exchange them accordingly. Bartering, dating back to 6000 BC, was initially used by Mesopotamian tribes and later adopted by Phoenicians for trading across oceans. Goods like food, tea, weapons, and spices were commonly exchanged, with salt being so valuable that Roman soldiers were paid with it. During the Middle Ages, Europeans bartered silks and perfumes, traveling extensively for trade. In Colonial America, items like musket balls and deer skins were exchanged. Although the invention of money made exchanges more structured, bartering persisted, notably during the Great Depression of the 1930s when money was scarce.

Gradually, currency developed, using easily traded items as a medium of exchange. This system spread globally and still exists in some regions. By the sixth century BCE, Greeks invented metal coinage, and by 700 CE, the Chinese moved from coins to paper money, which became widespread. Money stabilized exchanges of goods, information, and services. In finance, cash refers to money readily available in physical or digital form or invested in short-term products. Economically, cash is only physical money.

Recently, cryptocurrency emerged as a new type of currency. Invented in 2008 by an unknown person or group known as Satoshi Nakamoto, its use began in 2009 with the release of open-source software. Cryptocurrencies are digital currencies designed to work without a central authority, such as a government or bank. They are secured by cryptography, making counterfeiting nearly impossible. Many cryptocurrencies operate on decentralized networks based on blockchain technology. A key feature of cryptocurrencies is their independence from central authorities, making them immune to government interference. They can be mined or purchased from exchanges, with thousands of cryptocurrencies available today. Bitcoin remains the most popular and valuable, alongside others like Ethereum, Litecoin, and Dogecoin. Companies worldwide increasingly use Bitcoin and other digital assets for various purposes. For example, KPMG's Canada office purchased Ethereum and Bitcoin in 2021, and Tesla allows merchandise purchases with Dogecoin.

While there seem to be an increase in the tendency towards more adoption of cryptocurrency, accounting for it remain to present major challenges. Cryptocurrencies lack the characteristics of regular currencies as described in IAS 32, being decentralized and not legal tender. They consist of electronic transactions recorded on a blockchain, each containing transactions and digital signatures.

Cryptocurrencies are not considered cash, cash equivalents, or foreign currencies under U.S. GAAP. Entities using cryptocurrencies for exchange or speculation find they do not qualify as inventory. Cryptocurrencies are not tangible personal property and do not meet the definition of inventory under U.S. GAAP. Nor are they financial instruments, as they do not represent cash or contractual rights. Generally, cryptocurrencies are accounted for as indefinite-lived intangible assets, except when held as investments by investment companies, which use fair value accounting.

According to the IFRIC's June 2019 decision, cryptocurrencies are intangible assets, as they are identifiable non-monetary assets without physical substance. Accounting depends on the holder's purpose. If held for trading by dealers or brokers, IAS 2 Inventories applies, treating them as current

assets measured at fair value. If held for other purposes, IAS 38 Intangible Assets applies, allowing for revaluation or cost models for subsequent measurements. Most cryptocurrencies have indefinite useful lives, so no amortization is charged, but impairment considerations are crucial. Both IFRS and GAAP treat cryptocurrencies as intangible assets, with the primary difference being impairment loss reversals, allowed under IFRS but not US GAAP.

However the authors name can be used along with the reference number in the running text. The order of reference in the running text should match with the list of references at the end of the paper.

1.1 Research Problem

The International Accounting Standard Board (IASB) has issued a Conceptual Framework to complement the IFRS standards in preparing financial statements and to achieve the objective of financial reporting. This objective is stated as "to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about the provision of resources to the entity" (IASB, 2010). This information has fundamental and enhancing qualitative characteristics, for instance the information must be relevant and faithfully represented.

The accounting rules to classify cryptocurrency have not caught up with today's needs, and there is a real challenge to get universal agreement on the precise accounting treatment of cryptocurrencies. As no accounting standard currently exists to explain how cryptocurrency should be accounted for, accountants have no alternative but to refer to existing accounting standards. As a result, many certified public accountants (CPAs) and accounting firms have requested the Financial Accounting Standards Board (FASB) address this growing concern and consider issuing updated guidance more tailored to this new class of assets. In June of 2021, the FASB issued an invitation to comment where interested parties can voice their opinion regarding its upcoming technical agenda. Most accountants are considering cryptocurrencies as intangible assets under IFRS. Generally accepted accounting principles (GAAP) consider cryptocurrency to be an intangible asset that is recorded at cost, and impairment of the asset cost must be recorded. This means the value can be reduced on a balance sheet over time. This might not accurately reflect the economic value to a company if the cryptocurrency is held as an investment and rapidly appreciates in value. Moreover, only unrealized losses, not gains, get recorded as per GAAP. GAAP's intangible asset accounting rules don't allow for the subsequent reversal of an impairment loss, even if the asset recovers or surpasses previous price levels. These issues are the primary reasons that so many are requesting the FASB to

issue new standards specific to cryptocurrency and other digital assets.

This research aims to highlight the deficiencies in the current discrepancies in accounting for cryptocurrency using the same standards applicable to cash. At first glance, it would seem like the most readily apparent way to account for cryptocurrency, but it poses some problems. The main problem here is in the measurement and classification. Through examining the current practices of accounting for cryptocurrencies under existing (IFRS) and (GAAP), this research identifies the specific challenges these standards face when applied to cryptocurrencies as they affect the reliability of financial statements. Given the unique characteristics of cryptocurrencies, which diverge significantly from traditional financial assets, this study assesses the necessity for developing new accounting standards tailored specifically to address the complexities of cryptocurrencies. This would ensure more accurate and meaningful financial reporting in the context of modern finance's digital evolution.

1.2 Research Question

To explore the complexities of cryptocurrency accounting, this study seeks to answer the following questions:

1. Are there deficiencies in the current practices of accounting for cryptocurrency as an intangible asset, particularly in the application of impairment rules that are traditionally used for other intangible assets?
2. Given the unique nature and challenges posed by cryptocurrency, is it important to establish new accounting standards specifically tailored for cryptocurrency accounting to enhance clarity, accuracy, and relevancy in financial reporting?

1.3 Research Hypothesis

Given the research questions posed, the hypotheses to be tested are as follows:

Test I:

- Null Hypothesis (H0): There are significant deficiencies in using existing standards for cryptocurrency accounting; the problems are highly material.
- Alternative Hypothesis (H1): There are no or only minor deficiencies in using existing standards; the problems are not material or are of low materiality.

Test II:

- Null Hypothesis (H0): There is a need for new, specific standards for cryptocurrency accounting.

- Alternative Hypothesis (H1): There is no need for new standards; existing standards are sufficient for cryptocurrency accounting.

1.4 Scope of Study

This study aims to assess whether there are highly material problems associated with using existing accounting standards for cryptocurrencies and to evaluate the necessity for developing new standards. To achieve these objectives, the research will draw on a variety of sources, including academic articles, industry studies, and consultations with experts in economics, finance, and accounting. These interactions will facilitate the comprehensive collection of relevant information. Furthermore, quantitative methods will be applied to a specific case study to gather the necessary data. This data will then be systematically compared and analyzed to derive meaningful insights and conclusions.

II. LITERATURE REVIEW

Cryptocurrencies are increasingly used both as a medium of exchange for daily payments—the primary purpose for which Bitcoin was introduced—and for speculative purposes. More companies globally are leveraging Bitcoin and other digital assets for various investment, operational, and transactional purposes. Despite their growing popularity as the most prominent examples of blockchain technology in use today, the accounting rules for classifying cryptocurrencies have not kept pace with their rapid development, posing a significant challenge for achieving universal agreement on their precise accounting treatment.

Academic research on the measurement and classification of blockchain and cryptocurrencies in accounting is notably scarce. Preliminary studies suggest that blockchain technology can potentially enhance accounting information systems and auditing quality [1]. In the finance and economics literature, most prior research on blockchain technology has focused on economic dynamics arising from activities such as mining, smart contracts, decentralization, and token offerings ([2],[3]). Additional studies have explored the applications of blockchains and cryptocurrencies in financial markets [4], while others have specifically addressed the pricing and returns of cryptocurrencies [5].

As public companies and asset management firms increasingly hold cryptocurrencies as alternative investments and report them as significant assets, it is vital for market participants to understand the financial and value implications of these virtual assets. Current GAAP and IFRS guidelines fail to adequately address many aspects of cryptocurrency transactions. This study illustrates the current financial reporting practices for cryptocurrencies and highlights the

resulting inconsistencies and distortions in assessing companies' financial performance.

According to the Conceptual Framework for Financial Reporting (March 2018), cryptocurrencies are classified as assets. Recognizing the rapid growth of the cryptocurrency market, the IASB identified digital currencies as a potential project in 2015 through its Agenda Consultation process. Discussions in various accounting standards board meetings primarily focused on how to classify cryptographic assets from the holder's perspective. In June 2019, the IFRS Interpretations Committee issued an agenda decision and published "Holdings of Cryptocurrencies" to guide firms in applying existing IFRS Standards to cryptocurrency holdings. Despite this guidance, no specific IFRS accounting standard for cryptocurrencies currently exists[6].

The Interpretations Committee determined that IAS¹ 2 Inventories applies to cryptocurrencies when they are held for sale in the ordinary course of business. If IAS 2 does not apply, then IAS 38 Intangible Assets can be used for cryptocurrency holdings. Under IAS 32 Financial Instruments: Presentation, a cryptocurrency holding could be classified as a financial asset if the holder has a contractual right to receive cash or another financial asset. However, the Interpretations Committee does not consider cryptocurrencies to be financial assets within its evaluated range. Cryptocurrencies are not cash, but they can be considered financial assets for security tokens that represent equity interests (such as rights to residual profits, dividends, or liquidation proceeds) or for stablecoins that provide a legally enforceable right to redeem for cash. Given the rapidly evolving nature of crypto asset transactions, there is still much to consider.

Cryptocurrencies cannot be accounted for using the same standards applicable to cash or cash equivalents. Virtual currencies are not legal tender, and most governments have not clarified how digital assets will be treated from a regulatory perspective. Moreover, unlike cash or cash equivalents, digital assets often experience significant value fluctuations. Cash or a cash equivalent must have an insignificant risk of change in its fair value by definition.

¹ IAS (International Accounting Standards) were a set of accounting standards issued by the International Accounting Standards Committee (IASC) between 1973 and 2001. In 2001, the IASC was replaced by the International Accounting Standards Board (IASB), which began issuing IFRS (International Financial Reporting Standards). IFRS incorporates and supersedes the earlier IAS, aiming to provide a global framework for financial reporting that ensures transparency, accountability, and efficiency in financial markets.

In March 2019, the IFRS Interpretations Committee discussed accounting for cryptocurrencies, addressing the ongoing evolution, growth potential, and diversity of crypto-assets. Subsequently, in June 2019, the IFRS IC issued an agenda decision clarifying the appropriate IFRS-based accounting treatment for cryptocurrencies. The IFRS IC concluded that holdings of cryptocurrencies should be accounted for under IAS 38 Intangible Assets unless they are held for sale in the ordinary course of business, in which case IAS 2 Inventories would apply. Currently, public companies must account for digital currencies as intangible assets with an indefinite life under GAAP in the United States and international financial reporting standards (IFRS) abroad. In both cases, companies initially recognize cryptocurrencies on the balance sheet at their cost basis. While they do not need to be amortized as indefinite-lived intangible assets, a loss must be recognized if the asset becomes impaired.

Currently, US GAAP (Generally Accepted Accounting Principles) does not include specific guidelines for accounting for cryptocurrencies, despite various regulatory bodies setting rules related to commodity trading. In 2020, the American Institute of CPAs (AICPA) established a Digital Assets Working Group, which released a practice aid titled "Accounting for and Auditing of Digital Assets" to provide nonauthoritative guidance on how to account for digital assets under GAAP[7]. Additionally, auditing firms like PwC issued their own "Crypto Assets" guides in 2021, applying the FASB Accounting Standards Codification and relevant accounting literature to cryptocurrency accounting[8].

According to the AICPA practice aid, crypto assets lack physical substance and are generally accounted for under FASB ASC 350 Intangibles-Goodwill and Other as indefinite-lived intangible assets. These assets are initially recorded at cost and subsequently tested for impairment loss. If an impairment loss is recognized, the value of the cryptocurrencies should not be adjusted upwards, even if their value later increases. If a crypto asset provides a contractual right to receive cash or another financial instrument, such as stable coins that can be redeemed for cash from the issuer, it meets the definition of a financial asset.

In specific situations, a broker-dealer within the scope of FASB ASC 940 Financial Services – Brokers and Dealers may hold digital assets for sale in the ordinary course of business, such as in proprietary trading. In this case, the broker-dealer can account for digital assets as inventory, measured at fair value, with changes in fair value recognized in profit and loss. An investment company under FASB ASC 946 Financial Services – Investment Companies should determine whether the crypto assets it acquires represent a debt security, equity

security, or other investment, and measure these investments at fair value.

It is crucial to understand the general rules for accounting for intangible assets to make a better sense of the accounting for cryptocurrency, particularly those related to impairments, and the differences between GAAP and IFRS. Intangible assets, which lack physical substance, include patents, copyrights, franchises, goodwill, trademarks, and trade names. Amortization and impairment pertain to the valuation of these assets on the balance sheet.

Amortization accounts for the expense of using an intangible asset's value to generate revenue. Companies calculate the present value of the intangible asset and define its useful life expectancy, similar to depreciation. The annual amortization amount is deducted each year to reflect the asset's current value. When the fair value of an asset is less than its carrying value, both GAAP and IFRS allow for recognition of an impairment loss. However, they differ in calculating impairment losses and whether such losses can be reversed.

Under GAAP, an impairment loss occurs when the carrying amount of an intangible asset exceeds its fair value. The recognized impairment loss is the difference between the carrying amount and the fair value. In contrast, IFRS compares the carrying amount of an asset to its recoverable amount, which is the higher of the asset's fair value less costs to sell and the present value of future cash flows. GAAP prohibits the reversal of impairment losses, whereas IFRS allows reversals for all intangibles except goodwill.

Cryptocurrencies are reported as indefinite-life intangible assets. Research by [9] highlights concerns from accounting firms and CPAs that existing standards for intangible assets may not be suitable for cryptocurrency accounting. The primary issue is that only unrealized losses, not gains, are recorded. For instance, if a business buys Bitcoin worth \$500,000 and its fair value drops to \$400,000, the business must recognize a \$100,000 loss. Even if the value later increases to \$600,000, GAAP does not allow for reversing the loss. IFRS permits reversing the gain but only to the initial carrying amount, \$500,000. This can mislead financial statement readers, as the economic realities of a company's holdings are not accurately reflected.

Jana Schmitz (2021) discusses the European Financial Reporting Advisory Group (EFRAG) paper, which defines crypto assets and liabilities and suggests three options for developing IFRS requirements:

1. No amendments to current IFRS standards.
2. Amendments and/or clarifications to current IFRS standards.

3. Development of a new IFRS standard specifically for crypto assets and liabilities.

In [10], CEO of CPA Australia, emphasizes the need for clear accounting standards for cryptocurrencies to assist auditors in managing these digital assets effectively. Authors in [11] argues that cryptocurrencies should be valued at market value on balance sheets to reflect their true economic value.

Despite the increasing use of digital assets, there remains a significant gap in accounting standards. Both US and international guidelines suggest that crypto investments should be accounted for as intangible assets, with adjustments made only for price declines. This issue underscores the necessity of developing specific accounting standards for cryptocurrencies to provide clarity and accuracy in financial reporting.

A conceptual framework underpins financial reporting by providing a coherent system of concepts that guide standard-setting. This framework ensures that standards are useful and consistent, enabling the IASB to address emerging issues like cryptocurrency accounting more effectively. The framework also enhances the understanding and confidence of financial statement users, facilitating the resolution of new and complex issues based on existing theory. The qualitative characteristics of useful financial reporting—relevance and faithful representation—are essential in making decisions about the reporting entity. Therefore, developing new standards or modifying existing ones to include cryptocurrencies is crucial for maintaining the integrity and usefulness of financial reporting.

III. METHODOLOGY

This study employs a mixed-method research design to provide a comprehensive analysis of the current accounting standards applied to cryptocurrency transactions. The methodology integrates quantitative and qualitative data to offer a multi-dimensional perspective on the materiality of existing standards' deficiencies and the necessity for new, bespoke standards.

3.1 Research Design

- **Quantitative Analysis:** Surveys will be distributed to a broad range of accounting professionals to gather numerical data on the perception and effectiveness of current accounting practices for cryptocurrencies. The survey will include scaled questions to quantify the degree of perceived deficiencies and the impact of these deficiencies on financial reporting.
- **Qualitative Insights:** In-depth, semi-structured interviews will be conducted with industry experts,

including accountants, auditors, and financial regulators who have direct experience with cryptocurrency in a professional setting. These interviews aim to uncover nuanced insights into the practical challenges and limitations of the existing standards.

3.2 Data Collection

- **Surveys:** The survey participants will be selected to represent a diverse range of professionals within finance and accounting, ensuring a comprehensive understanding of the industry’s stance on cryptocurrency accounting. Demographic information, including job role, experience level, and industry sector, will be collected to contextualize responses and identify any trends or biases.
- **Interviews:** Interviews will be conducted with selected experts who have a proven track record of dealing with cryptocurrencies in their professional practices. Each interview will be tailored to the expert’s specific experiences but will follow a guideline to ensure consistency in the data collected.

The combination of quantitative data from surveys and qualitative insights from expert interviews will allow for a detailed assessment of the current state of cryptocurrency accounting standards. This dual approach not only provides statistical support for any findings but also enriches the data with real-world applications and expert opinions, enhancing the study’s validity and depth.

IV. RESULTS

The survey conducted for this study garnered responses from 40 accounting professionals, providing a gender distribution of 57.9% male and 42.1% female. The age profile was predominantly younger professionals, with 47.4% between 20-29 years and 31.6% between 30-39 years. Educational qualifications of participants varied, with 39.5% holding master’s degrees, 36.8% bachelor’s degrees, and 21.1% possessing Ph.D.s. This demographic information suggests a diverse but highly educated group of respondents, ideal for insightful analysis on the topic of cryptocurrency accounting.

4.1 Professional Background and Certifications

- **Certifications:** A significant portion of respondents (60%) did not hold any professional certifications. Among those certified, 28.9% were CPAs, demonstrating a significant presence of certified public accountants in the survey. Additionally, 13.2% held CMA designations, and 10.5% were CFAs. Figure 1 shows Certification earned by participants

- **Professional Role:** The respondents were distributed across various accounting roles: 50% were students, 21.1% were instructors, and 28.9% were practicing accountants, as shown in Figure 2. This mix provided a broad spectrum of perspectives from the academic and practical fields of accounting.



Figure 1: Certification earned by participants

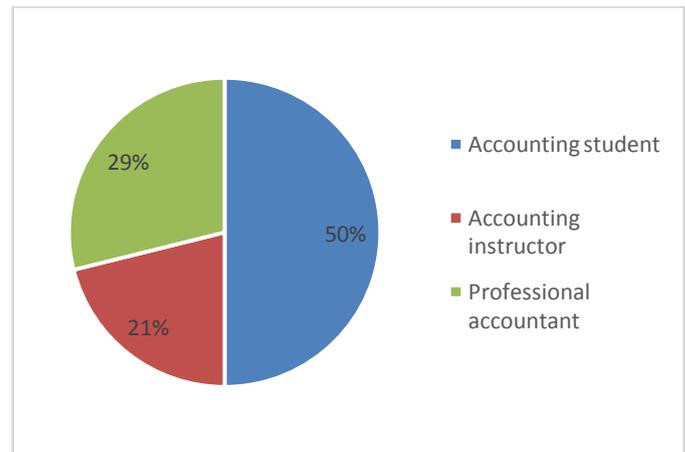


Figure 2: Professional Role by participants

4.2 Survey Findings

- **Asset Recognition:** A substantial majority (78%) agreed that cryptocurrencies should be recognized as assets on balance sheets, reflecting their increasing importance and usage within modern organizations, as shown in Figure 3.
- **Asset Definition Compliance:** Similarly, 78% affirmed that cryptocurrencies meet the formal definition of assets, indicating their capacity to enhance company value and generate cash flows.
- **Control over Cryptocurrencies:** Opinions were mixed regarding the control over cryptocurrencies as assets; 58.6% agreed that they could be controlled, a

fundamental asset characteristic, whereas 18.5% disagreed.

- **Economic Resource:** A robust 87.1% concurred that cryptocurrencies constitute economic resources resulting from past events, reinforcing their asset classification.
- **Future Economic Benefits:** 89.7% of participants believed cryptocurrencies could produce future economic benefits, supporting their asset status.

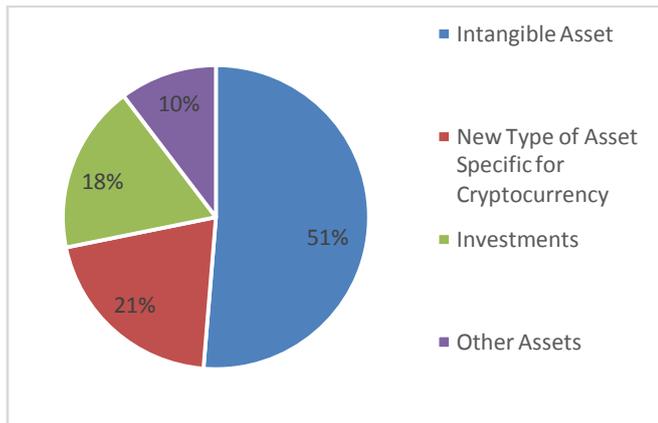


Figure 3: Classifying Cryptocurrency as an asset

4.3 Classification and Accounting Treatment

- **General Classification:** The majority view (80.5%) was that cryptocurrencies should be classified as a new type of asset. This suggests a departure from traditional asset categories, aligning with the unique characteristics of digital currencies.
- **Intangible Asset Classification:** Despite the innovative nature of cryptocurrencies, 80.5% of respondents also agreed that they meet the definition of intangible assets due to their lack of physical substance.
- **Impairment and Reversal:** There was a significant call for change in impairment handling:
 - **Impairment Application:** Only 41.4% felt that current impairment rules for intangible assets should apply to cryptocurrencies, reflecting the need for revised approaches given the volatility of digital assets.
 - **Impairment Reversal:** A strong majority (85.4%) supported the idea of allowing impairment reversals under IFRS, not currently permitted under GAAP, highlighting the need for flexibility in financial reporting to accommodate the frequent value fluctuations of cryptocurrencies.

Table 1 outlines the income statement for the fiscal year ending December 31, 2021. It shows total sales revenue of \$1,420,000 with costs of goods sold at \$600,000, resulting in a gross profit of \$820,000. After accounting for selling and administrative expenses, interest revenue, and a loss on

impairment, the company's operations yielded a net income of \$255,000. This net income factors in all operating expenses, interest expense, and income tax, alongside income from discontinued operations.

Table 1: Income Statement for the Year Ended December 31, 2021

Item	Amount
Sales Revenue	1,420,000
Cost of Goods Sold	600,000
Gross Profit	820,000
Selling and Administrative Expenses	320,000
Other Income and Expenses	-
- Interest Revenue	10,000
- Loss on Impairment	20,000
Income from Operations	490,000
Interest Expense	15,000
Income Before Tax	475,000
Income Tax	184,000
Income from Continuing Operation	291,000
Discontinued Operations	36,000
Net Income	255,000

4.4 Call for New Standards

- **Need for New Standards:** A compelling 88.8% of respondents advocated for the creation or modification of standards specifically for cryptocurrencies, indicating a widespread recognition of the inadequacies of current accounting frameworks to address the nuances of digital currencies.

These results demonstrate a clear consensus among accounting professionals for the need to reconsider and potentially overhaul how cryptocurrencies are treated within financial reporting frameworks. The support for recognizing cryptocurrencies as a new type of asset, coupled with calls for flexible impairment rules, underscores the urgency for developing tailored accounting standards that reflect the unique characteristics and challenges of these digital assets.

4.5 Discussion

After looking at the survey results, analyzing the financial statements, and going back to the interview, it is clear that most of participants, interviewee, and the quantitative study agree that crypto currency accounting is facing some deficiencies. It is not maybe about the asset category which is considering it as an intangible asset, but the main problem that all data and analysis agree on is using the

same impairment and revaluation rules and restrictions used for intangible assets.

Most of the survey participants considered that the best way to treat this crypto currency is to establish new standards specific to them, treating them as new type of asset with new rules regarding impairment and revaluation. Others agreed to treat them as intangible asset but with modifying new rules related to impairment and revaluation specific to the cryptocurrency. They all agreed that using the existing rules is decreasing the real value of these digital currencies. And they also agreed that this is a real problem that has a high materiality to the financial statements of the business.

The financial statements result, and the interview analysis support the opinion of participants in the survey.

V. PROPOSING A BLOCKCHAIN FRAMEWORK FOR CRYPTOCURRENCY ACCOUNTING

The unique characteristics of cryptocurrencies, such as their decentralization and digital nature, demand innovative accounting solutions that traditional frameworks fail to provide adequately. This section proposes a blockchain-based accounting framework designed to address the specific needs and challenges associated with cryptocurrencies.

5.1 Framework Overview

The proposed framework leverages blockchain technology to create a transparent, immutable, and verifiable record-keeping system that aligns with the fundamental properties of cryptocurrencies. The framework will consist of the following key components:

- **Distributed Ledger Technology (DLT):** Utilizing blockchain as the underlying ledger technology ensures that all transaction data related to cryptocurrency holdings and movements are immutably recorded, providing a clear and tamper-proof audit trail.
- **Smart Contracts for Automated Compliance:** Smart contracts can be employed to automate various accounting processes and ensure compliance with new standards specifically designed for cryptocurrencies. These contracts will automatically execute transactions based on predefined rules and criteria, such as real-time impairment testing or valuation adjustments based on market conditions.
- **Integration with Existing ERP Systems:** To ensure the framework's practical implementation, it will be designed to integrate seamlessly with existing enterprise resource planning (ERP) systems, allowing organizations to adopt blockchain technology without displacing their current financial infrastructure.

- **Real-Time Reporting and Valuation:** The framework will enable real-time financial reporting and valuation of cryptocurrency assets, reflecting market dynamics instantaneously in the financial statements, thus providing a more accurate representation of an organization's financial status.

5.2 Benefits of the Blockchain Framework

Implementing a blockchain-based accounting framework offers several benefits:

- **Enhanced Transparency and Trust:** By leveraging blockchain's inherent transparency, the framework ensures that all transactions are accessible and verifiable by authorized parties, enhancing trust among stakeholders.
- **Improved Security and Fraud Prevention:** The immutable nature of blockchain reduces the risk of fraud and unauthorized alterations to financial records, significantly enhancing the security of financial data.
- **Cost Efficiency:** Automating accounting tasks through smart contracts and reducing the need for manual interventions can significantly decrease operational costs and enhance efficiency.
- **Regulatory Compliance:** The framework can be programmed to comply with both existing and emerging regulations concerning cryptocurrency accounting, ensuring that organizations remain compliant as standards evolve.

5.3 Implementation Challenges

While the proposed blockchain framework offers substantial benefits, its implementation will face several challenges, including:

- **Technical Complexity:** Developing and integrating blockchain technology within existing accounting systems poses significant technical challenges and requires specialized knowledge.
- **Regulatory Uncertainty:** As regulatory frameworks for cryptocurrencies are still evolving, ensuring compliance requires flexibility and adaptability in framework design.
- **Adoption Resistance:** Changing traditional accounting systems to incorporate new technologies may encounter resistance from within organizations due to the disruption and learning curve involved.

VI. CONCLUSIONS AND RECOMMENDATIONS

This study provided a deep dive into the unique challenges that cryptocurrencies pose to traditional accounting practices. We found significant gaps in how current standards

(IFRS and GAAP) handle the dynamic nature of digital currencies, particularly in terms of valuation, impairment, and compliance reporting. The research highlighted a clear need for standards that reflect the unique attributes of cryptocurrencies, such as their volatility and decentralized nature. These findings underscore the urgency for the accounting profession to adapt and evolve in response to technological advancements.

6.1 Future Research Directions

The research opens several avenues for future exploration:

1. **Development of Cryptocurrency-Specific Accounting Standards:** There is a substantial need for research into the development of accounting standards that specifically address the unique characteristics of cryptocurrencies.
2. **Impact Analysis:** Further studies could explore the economic impacts of adopting new cryptocurrency accounting standards on global markets and business practices.
3. **Technology Integration:** Research could also focus on the integration of advanced technologies like blockchain within traditional accounting systems to enhance transparency and efficiency.

6.2 Policy Implications

Based on our findings, we recommend that standard-setting bodies such as the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) consider the following:

- **Initiate the Development of New Standards:** Engage with technology experts and financial analysts to develop new, robust accounting standards that can handle the complexities of cryptocurrencies.
- **Update Existing Frameworks:** Modify current frameworks to include provisions for digital assets, ensuring that they can accommodate the rapid changes in technology and market conditions.
- **Stakeholder Engagement:** Conduct regular consultations with stakeholders from various sectors including technology, finance, and law to gather insights that can guide policy adjustments.

6.3 Our Proposed Framework

In response to the challenges identified, we propose a blockchain-based accounting framework. This framework is designed to:

- **Ensure Transparency and Traceability:** Utilize blockchain technology to maintain an immutable record

of all cryptocurrency transactions, enhancing the auditability and transparency of digital asset movements.

- **Automate Compliance:** Implement smart contracts to automate and enforce compliance with new and existing accounting standards, reducing the risk of human errors and ensuring consistency across reporting.
- **Real-Time Valuation and Reporting:** Facilitate real-time asset valuation and financial reporting, reflecting the current market conditions more accurately and enabling quicker decision-making by stakeholders.

This proposed framework aims to bridge the current gaps in cryptocurrency accounting and pave the way for a more robust, transparent, and efficient accounting system that can adapt to the continuous advancements in digital currencies.

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