Manuscript ID:
TIJCMBLIR-2025-020502

Volume: 2

Issue: 5

Month: October

Year: 2025

E-ISSN: 3065-9191

Submitted: 05 Sept 2025

Revised: 20 Sept 2025

Accepted: 10 Oct 2025

Published: 31 Oct 2025

Address for correspondence:
Mahesh Gajanan Birwadkar
Ph.D. Research Scholar in Accountancy & Auditing, MES Garware College of Commerce, Pune
Email:
mahesh.birwadkar@gipe.ac.in

DOI: 10.5281/zenodo.17164581

DOI Link:
https://doi.org/10.5281/zenodo.17164581

The Impact of Digital Currency on Accounting and Finance

Mahesh Gajanan Birwadkar[1], Dr. Sunil Zagade[2], Dr. Yashodhan Mithare[3]
[1]Ph.D. Research Scholar in Accountancy Auditing, MES Garware College of Commerce, Pune
[2]Research Guide, Former Professor, Department of Commerce, MES Garware College of Commerce, Pune
[3]Research Co-Guide, Professor, Department of Commerce, H. V. Desai College of Arts, Science and Commerce, Pune

Abstract:

Digital currency, encompassing cryptocurrencies, central bank digital currencies (CBDCs), and stablecoins, has emerged as a transformative innovation reshaping global financial systems. By leveraging blockchain technology, digital currencies offer enhanced transparency, security, and efficiency compared to traditional monetary systems. Their integration into financial transactions has profound implications for accounting practices, including valuation complexities, fair value measurement, audit procedures, and regulatory compliance. While digital currencies reduce transaction costs and enable cross-border trade, they also introduce risks such as volatility, fraud, and security challenges. The absence of a uniform regulatory framework further complicates financial reporting and taxation. Case studies reveal both successful implementations and challenges in adoption, highlighting the need for balanced regulation that supports innovation while safeguarding financial stability. Overall, digital currencies signify a paradigm shift in accounting and finance, demanding new frameworks for risk management, reporting, and international cooperation.

Keywords: *Digital Currency; Cryptocurrencies; Central Bank Digital Currency (CBDC); Stablecoins; Blockchain Technology; Accounting Practices; Financial Reporting; Valuation Challenges; Audit Implications; Regulatory Framework; Taxation; Risk Management; International Trade; Financial Innovation; Future Trends*

Introduction

Digital currency employs electronic information, usually encrypted, to establish ownership and facilitate transactions. Such currency is flowable, usable as a medium of exchange for payments, and in some cases accepted as legal tender. Particular types of digital currency include crypto--currencies, central bank digital currencies (CBDCs), and stablecoins. Digital currency attracts major interest from governments, corporations, and the financial community. Bitcoin, the first generation of digital currencies, became popular and widely used by individuals and businesses for commodities and services. Meanwhile, the growing usage of cryptocurrencies has prompted the need for regulatory development and intensified research on design and implementation. Given the considerable significance of digital currency in shaping the future world, a range of issues pertaining to accounting and financial aspects deserve systematic scrutiny. (Ally et al., 2016) (Carlos Laguna de Paz, 2022)

Overview of Digital Currency

Digital currency is a mode of payment that consists only of digital information. Its money supply and value, together with records of ownership, are kept on a public ledger called blockchain technology. Blockchain provides several advantages over conventional record keeping, such as greater security, transparency, authenticity, and traceability (Hartley, 2019). Digital currency is increasingly displacing traditional cash and bank deposits, especially on the Internet. For example, the online gaming industry, which was using conventional money, has largely switched to digital currency because the latter offers more security, speed, and stability in internal economic transactions. As governments and the public witness, the advantages of digital currency, usage continues to grow and become widely accepted in society. Digital currency was introduced in 1983 and incorporated in 1996, but only global financial instability and inaccessible payment resources revived interest in the late 2000s. During the global financial crisis of 2007–2009, the underlying trust and confidence in the traditional financial system were

How to Cite this Article:
Birwadkar, M. G., Zagade, S., & Mithare, Y. (2025). The Impact of Digital Currency on Accounting and Finance. The International Journal of Commerce Management and Business Law in International Research, 2(5), 5–15. https://doi.org/10.5281/zenodo.17164581

shattered, and governments shut down the payment system for various online businesses, such as gambling and pornography. Certain online communities, such as darknet markets, had no access to banks or traditional payment service providers. As a result, digital currency began to reemerge as an alternative form of currency that could be used, accepted, and exchanged globally, regardless of national borders, governmental policies, or regulatory scrutiny.

Types of Digital Currencies

Digital currency has grown in relevance due to increased efficiency in the transfer of purchasing power and a reduction in transaction costs vis-à-vis traditional payment methods. It has therefore become a focus of attention by central banks around the world (Ally et al., 2016) , (W. Peters et al., 2015). Government-issued digital currency is generally referred to as central bank digital currency (CBDC), while non-governmental digital currencies are often referred to as cryptocurrencies. Digital currency encompasses a variety of instruments and transactions on the digital plane that exhibit the major properties of money—namely, a unit of account, medium of exchange, and store of value.

Cryptocurrencies, the most widely used digital currencies, can be classified as non-convertible or convertible. Non-convertible digital currency cannot be exchanged for fiat currency and therefore can only be used for transactions within the virtual domain in which it was created. All non-convertible digital currencies are centralized and issued by a single authority. Convertible digital currencies can be exchanged for fiat currency and might be either centralized or decentralized. Decentralized convertible digital currencies are known as cryptocurrencies. Bitcoin, Litecoin, and Ripple are distributed, open-source, peer-to-peer cryptocurrencies with no central authority. Launched in 2009, Bitcoin was the first decentralized, convertible digital currency and the first cryptocurrency. It was designed as a digital analogue to cash that could be spent directly on the Internet without the need for a payment intermediary. It employs blockchain technology to record all transactions and verify new ones.

1. Cryptocurrencies

A cryptocurrency is a digital asset that uses cryptography to secure and verify transactions. The best-known example is Bitcoin, which is an incentivized peer-to-peer network based on an open-source protocol.

A Central Bank Digital Currency (CBDC) is a digital currency issued (and, more precisely, "a liability") by the central bank. It is therefore denominated in the national unit of account and constitutes electronic central bank money. A stablecoin is a third kind of digital currency; stablecoins are private-sector digital currencies — normally associated with a private-sector issuer and used primarily for making payments. Stablecoins tend to be pegged to a traditional fiat currency on a one-to-one basis, or they are supported by collateral that ensures its stability.

2. Central Bank Digital Currencies (CBDCs)

Central Bank Digital Currencies (CBDCs), issued by central banks and denominated in national units, represent a new form of central bank money alongside conventional currency and bank reserves. While many scholars maintain that CBDCs would have broad economic significance, some also emphasize potential risks. (Yang & Zhou, 2022)

3. Stablecoins

Stablecoins gain value from their links to an asset or a technology, generally allowing them to maintain a more stable value compared to other digital currencies. The earliest stablecoins used a collateral or monetary policy framework to tie to an underlying asset or currency, such as a fiat currency or commodity. One prominent early example, BitUSD, launched in 2014 as part of the Bitshares platform, used market mechanisms to maintain its peg. Stablecoins provide a degree of price stability for cryptocurrencies, which can be adopted more broadly both as a means of exchange and for storing value within the digital economy. Initially, the greatest volume of stablecoins uses a collateral or reserve backing, where a large quantity of assets is held to back a unit of the digital currency. The supply of stablecoins does not necessarily need to match the backing, but when this is a strict 1:1 relationship it allows for redemption of the units of the digital currency for the reserve asset (R. Grasselli & Lipton, 2021). In this way, the stablecoin parallels a commercial bank's deposit liabilities, where backing is found in the collection of physical assets and commercial or government-issued debt. Many of the largest stablecoins continue to use reserve or collateralized backing. USDT, also referred to as Tether, is an example of a reserve-backed stablecoin where the holding company claims to keep a 100% reserve of physical assets for all tokens at any one time. Similarly, USDC (USD Coin) is a fully-reserved stablecoin with the treasury assets managed by the Centre consortium and financial reserves kept with regulated financial institutions. A common way to maintain the peg is to hold a reserve in the asset the stablecoin is pegged to (US Dollar, Euro, etc.). However, these are often not fully backed by physical reserves, leading potentially to a 'fractional' reserve, and also corrode one of the key advantages of cryptocurrencies in the form of censorship resistance. An alternative approach for stablecoins is seen in the MakerDAO platform and its multi-collateralized Dai model, where instead of a single asset the unit of the currency is backed by a wide range of collateral types, which are themselves cryptographic tokens linked to real-world assets such as Bitcoin, Ethereum, Wrapped BTC, and many others. As the value of these tokens fluctuates, the mechanism refills collateral or releases tokens to maintain an overall peg to the US Dollar (Kahya et al., 2021). For the system to remain stable, a correctly parameterized governance framework is required. One key vulnerability is the mechanism via which Dai units are minted through an endogenous process, similar to the money creation process of commercial banks.

The Evolution of Financial Transactions

Payment innovations involving networks between manufacturers and consumers rely on network externalities that require reaching a critical mass of users. Digital currency expansion raises antitrust issues related to network externalities and global competition. To remain compatible, all users should use software meeting the same rules. The online trade increase in the mid-1990s, driven by the information revolution and declining computer prices, spurred demand for electronic payment methods. Electronic cryptocurrencies like Bitcoin emerged as digital currencies with value based on user acceptance and use cryptographic protection and public ledgers. Unlike central bank-regulated currencies, Bitcoin operates without regulation, requiring specific hardware and software for verification. Digital currencies are not physically printed and are governed by their own rules. Supporters highlight Bitcoin as a currency that does not cause financial crises. Electronic Funds Transfer (EFT) technology has become more advanced, enabling banks and financial institutions to transfer large sums nationally and internationally using computer and telecommunication technology (Boskov, 2018). The new digital economy may disrupt the financial sector with new players, services, and ways of doing business, leading to benefits like increased competition, innovation, and efficiency. However, it also poses serious risks, such as market concentration dominated by big tech companies replacing banks, challenges in regulation and supervision, and threats to monetary policy and financial sovereignty. Various countries are adopting legislation and regulatory sandboxes to address these issues. The European Commission has proposed a Digital Financial Strategy to eliminate fragmentation, adapt regulations for new technologies, facilitate data sharing, and ensure financial stability, consumer protection, and fair competition. International cooperation is crucial given the cross-border nature of digital financial services. Key issues include legal protection for personal data in big data analytics, limits on AI use of personal data, the role of Big Tech in finance, questions about the nature of money, and the potential impact of Central Bank Digital Currencies (Carlos Laguna de Paz, 2022).

Impact on Accounting Practices

Digital currency necessitates the development of new accounting practices. Digital currency transactions differ fundamentally from those conducted with normal currency, impairing the ability to draw receipt documents with the conventional accounting method. Important to the development of these new accounting methods is the consideration of the valuation and recognition of digital currency. In addition, the tax system has yet to adapt, so tax liability arises with the conversion of digital currency into legal tender, which challenges the existing accounting framework. Regarding the auditing of digital currency, several initiatives towards securitization of digital currency through improved processing technology can be identified (Hartley, 2019).

1. Transaction Recording

The adoption of digital currency has a significant impact on the accounting profession, requiring several adjustments to existing practices. From a macro perspective, digital transactions are more complex than those conducted with traditional currency, necessitating a re-examination of the accounting standards that govern them. The broad spectrum of transactions that fall under the category of ‘‘digital’’ introduces levels of uncertainty. The accounting implications of digital currency depend heavily on its intended use. When employed as a medium of exchange, these currencies impact everyday accounting transactions for the purchase and sale of goods and services. When used solely as a store of value, digital currencies complicate the measurement and reporting of financial instruments and assets held by an entity or individual. Despite these far-reaching implications, the fundamental mechanics of double-entry bookkeeping remain unchanged by the integration of digital currency (Ally et al., 2016). Blockchain, the technology that underpins most digital currencies, simplifies the recording and verification of transactions. It ensures that such movements occur only between authorized counterparts and records them in immutable ledgers accessible to all parties involved. However, the integration of digital currency into accounting systems presents significant questions regarding measurement and recognition. In existing practice, the measurement of assets and liabilities incorporates assumptions about the currency unit used in transactions. Financial statements include balances derived from transactions conducted due to the exchange of currency. Accounting ledgers for entities dealing directly in digital currency are constructed from and recorded in the digital currency itself, making the general-case measurement a significant consideration. When transactions are denominated using one type of currency and reporting occurs in another, additional complexity arises. Guidelines on currency translation have evolved to address value fluctuations (P Dwyer, 2014). Considering these implications is crucial for appropriate journal entries and the continued integrity of financial records.

2. Valuation Challenges

The valuation of digital currencies is subject to substantial asset-specific uncertainty (P Dwyer, 2014). Assets exhibiting high price volatility wrought material valuation challenges when machine-to-machine exchange of product or service occurs without a human intervening before data entry; such situations prevailed during most of the 2017–2019 period. A rapidly changing lexicon compounded difficulties—especially in auditing—because language about digital currencies, crypto-assets, tokens, non-fungible tokens, stablecoins, security tokens, and the like was in flux, with none perhaps sufficiently entrenched to permit unambiguous specification of the precise transaction to be recorded. Accounting systems conventionally grapple with

value measurement, but digital currency exacerbated the liability and equity components of the problem (Molloy, 2019).

3. Audit Implications

Digital currencies, characterized by rapid transfers across global web-embedded networks, augment the velocity and span of financial transactions. Such technologies challenge the effectiveness of traditional audit mechanisms and summon a call for alternative approaches (Brender et al., 2018).

The adoption of digital currencies, alongside the acceleration of the financial system, presents serious challenges to auditors worldwide. Blockchain-enabled real-time audit methods are arising as promising alternatives to prevailing financial statement auditing. Further, the transaction-denominated form of digital currencies ensures the all-digital processing of the auditing system, requiring a reconsideration of audit procedures and methods in the era of blockchains. The multiple-application nature of digital currency implies that the related audit activity will vary among organizations. Some entities might witness a reduction in audit workload when targeting traditional audit objectives, while others might observe an increase in IT audit and advisory tasks when addressing the whole financial reporting process.

Regulatory Framework

The regulatory environment governing digital currencies is presently underspecified and incomplete. Emerging trends encompass a broad range of issues that have not yet been fully addressed by existing statutes. The new digital economy triggers disruption in the financial sector through novel players, services, and business models. Facebook's announcement of a cryptocurrency, payment services through WhatsApp, legislation permitting cryptocurrency companies to secure bank licenses, Coinbase's public listing, and Miami's proposal to remunerate workers in Bitcoin illustrate this transformative wave. Although these developments promise benefits such as enhanced competition and innovation, they also introduce risks including market concentration dominated by large technology firms, the potential obsolescence of traditional banks, and the ascendancy of decentralized finance (DeFi) that seeks to eliminate intermediaries altogether. The increasing complexity of financial regulation and supervision, alongside challenges to monetary policy and financial sovereignty, necessitates legal framework adjustments. Several countries have begun tackling these challenges by enacting legislation or creating regulatory sandboxes. The European Commission has proposed a Digital Financial Strategy aimed at addressing fragmentation, facilitating cross-border services, adapting regulations to encompass crypto-assets, artificial intelligence, and cloud computing, and enhancing data sharing while safeguarding data protection and competition. International cooperation remains crucial owing to the inherently cross-border character of digital financial services. Additional implications concern legal protections for personal data, constraints on algorithmic decision-making, the deployment of supervisory technology (SupTech), the role of major technology companies in finance, the evolving nature of money, and the ramifications of Central Bank Digital Currencies (CBDCs) (Carlos Laguna de Paz, 2022).

1. Current Regulations

The digital ecosystem represents one of the most momentous and rapid innovations in world finance. Yet, its insufficiently developed risk models and appropriate precepts, coupled with incomplete knowledge on the part of regulators, underscore regulatory vulnerabilities (Carlos Laguna de Paz, 2022). A sparse legal framework has further heightened regulatory uncertainty surrounding its implementation (Ally et al., 2016). Nonetheless, even accounting standards promulgated by the Financial Accounting Standards Board (FASB) in the United States have proved inadequate in the face of digital currency's swift development (Foy, 2019). Consequently, the lack of universally accepted accounting principles presently undermines efforts to scrutinize digital currency's economic and regulatory bearings. Consistent, comprehensive guidelines remain largely unsettled, however, despite regulatory controls cultivated in certain jurisdictions. For example, the Cryptocurrency Act of 2020 structures compliance around the chairpersons of the Commodity Futures and Trading Commission, Securities and Exchange Commission, and Internal Revenue Service, who delineate the scopes of cryptocurrencies classified as commodities, securities, or taxable property respectively.

2. Future Regulatory Trends

Currently, digital currency has many regulatory issues to consider. Of particular concern is the function of the currency itself—and particularly whether it operates as a store of value. Digital currency is used every day for retail transactions and payments, but it is rarely adopted as a unit of account or store of value for saving or investing purposes. These issues are the foundation for the next round of digital currency regulation. One path toward less volatility would be to build central banks that issue government digital currency. These central bank digital currencies (CBDCs) would be supported by the government and federally insured. The coins could further be backed by a CBDC's value as legal tender and could borrow from the expansive, deep, and liquid nature of fiat-currency reserves. An alternative method proposed for regulation would be focused on the issued coin. Stablecoins are pegged to another asset and provide a stable store of value, unit of account, and medium of exchange, if backed by a highly liquid and safe asset.

Tax Implications of Digital Currency

The use of digital currency for payment and settlement creates tax-reporting and payment challenges for businesses and individuals. The U.S. Internal Revenue Service (IRS) classifies Bitcoin and other cryptocurrencies as property, and the IRS holds that any gain or loss calculated for federal tax purposes is considered taxable income (Elliott, 2017).

The lack of regulatory clarity raises questions regarding income reporting for digital-currency transactions, income calculation, and the role of the platform or custodian in income recognition and withholding. As highlighted by a 2016 Australian government advisory committee, excessive tax burdens on digital-currency transactions may have negative consequences for businesses and consumers, acting as a disincentive for investment and innovation (Ally et al., 2016). Digital currencies are not underpinned by a government or central bank; transaction settlements occur peer-to-peer, outside the traditional banking system. Such features have generated interest from FinTech developers, banks, and governments seeking exposure to cryptocurrencies, resulting in a variety of investment vehicles, including wallets and exchange-traded funds (ETFs). These developments necessitate addressing fundamental questions concerning the role and impact of digital currency within the accounting, finance, and broader business environment: - Is digital currency "money" or some other type of asset, such as inventory or intangible assets? - Does the option to settle transactions with digital currency have any effect on the measurement and recognition of revenues, expenses, or other related items? - Are there any other effects on the accounting and finance environment associated with the supply and use of digital currencies? The following analysis examines how digital currency affects accounting and finance and discusses the implications for associated regulations and standards.

1. Tax Treatment of Cryptocurrencies

According to Elliott (2017), the tax treatment of cryptocurrencies substantially affects taxpayers, particularly in areas such as wage payments, taxable events, information reporting, and recordkeeping. Employees receiving wages in virtual currency must treat them as taxable income; employers are obligated to report such payments on Form W-2 and withhold federal income taxes accordingly. Despite this, contrasting views exist regarding the Internal Revenue Service's classification of Bitcoin as property. Some contend that categorizing Bitcoin as property is impractical because its price fluctuates in a manner similar to recognized currencies. Given the current absence of a centralized exchange capable of electronically recording transactions and maintaining identity matches, administering property-based taxation on cryptocurrencies presents significant logistical obstacles. Although the IRS's objective to tax cryptocurrencies as property is understandable, the lack of a viable operational framework increases the risk of imposing an unwieldy compliance burden on taxpayers.

2. Reporting Requirements

A digital currency issuer must disclose information regarding the nature and extent of its activities that expose it to credit risk, including financial assets that are neither past due nor impaired. All digital currency accounts and loans exposed to credit risk must be disclosed separately from other accounts, as necessary to understand the nature and extent of risks related to digital currency (Molloy, 2019). When digital currencies are held as assets, this accounting treatment also applies to the tracking of obligations related to digital currency transactions. An issuer must present movements on all digital currency accounts separately from those on other financial or non-financial accounts. Issuers must provide detailed information about how digital currency holdings arise, how balances are tracked, and any projections or guarantees related to these holdings. When preparing forecast information, the recipient's digital currency balance must be studied relative to the portfolio so that common risk factors are not double-counted. Furthermore, issuers must disclose any transactions with related parties involving digital currency balances, the nature of these relationships, changes in risk exposures, and terms and conditions affecting digital currency holdings and potential obligations. Financial instruments, including digital currencies, used to hedge investments in foreign operations must be included in such disclosures.

Risk Management in Digital Currency

The advantages of digital currency include lower transaction costs, absence of chargebacks, and enhanced transaction traceability. Nonetheless, the technology is characterized by inherent risks, such as exchange-rate volatility, potential for fraud, and security concerns (Ally et al., 2016). During the initial years of Bitcoin, various fraudulent activities were reported. While many early incidents were opportunistic—reflecting the rapid market expansion rather than a direct consequence of limited regulatory oversight—some were sophisticated and difficult to prosecute due to lack of legal access to the digital currency systems. Fraud can occur at almost every stage of a digital currency transaction: during transfer, receipt of goods or services, withdrawal of digital currency from an exchange, sale of digital-currency products or services, or the exchange process. The Internet has become an important market where criminals trade these products and services.

1. Volatility Risks

Digital currencies experience substantial exchange value fluctuations relative to traditional currencies, pricing out many investors. The largest currency of this type is Bitcoin. Arguably more vulnerable ones include Litecoin, Ripple, and Ethereum. The latter was created in 2015 and operated as a means of payment via smartphone applications. Several recent developments have aimed at making valuations of digital currencies more predictable. Their volatility risk depends on market efficiency. Bitcoin and other digital currencies are generally viewed as independent of news-driven news. Volatility risk also arises in regard to exchange rates across digital currencies. This has increased since November 2013 and reached a sizeable magnitude during the COVID-19 Pandemic, reversing—from early 2018 on—the downward pattern observed since the middle of 2014. It represents a persistent, long-term feature. The markets are characterized by a multifractal behavior and extreme events. The system

identifies higher efficiency periods during the asset's price rise, indicating that a qualitative jump occurred in the market. (Özdemir, 2022).

2. Fraud and Security Risks

Fraud and security risks are significant concerns associated with digital currency use. Digital currencies offer increased transaction speed and decreased processing costs, which facilitates a broader range of fraudulent activities within the financial system. The ease of transmitting funds anonymously enables money laundering and the use of illicit funds generated by criminal and terrorist organizations. Clubs or syndicates of experienced hackers establish crime networks to design new schemes and exploit weaknesses, necessitating continuous system renewal to counteract attacks. The financial fraud detection field aims to identify suspicious activities or transactions within the financial system. Fraudulent activities entail deceiving others by carrying out financial transactions illegally for personal gain, potentially causing victims to incur direct or indirect financial losses. The integration of information systems into financial processes and the expansion of communication technologies such as cloud and mobile computing increase the likelihood of fraud occurrence (West et al., 2015). Traditional manual methods are time-consuming and inefficient for large datasets; therefore, financial institutions increasingly utilize automated data mining and computational intelligence approaches to analyze big data for fraud detection.

Impact on Financial Reporting

The increasing importance of digital currency in transactions and financial applications requires accounting and reporting frameworks to accommodate the asset's unique attributes. The diversity of digital currency types—cryptocurrencies, central bank digital currencies, and stablecoins—poses challenges in developing coherent reporting standards. The risk of currency substitution further complicates the accounting accounting treatment and disclosure requirements. The accounting challenge presented by digital currency depends on the scope of the asset. The distinction rests primarily on control, which establishes whether the entity has the ability to obtain future economic benefits and restrict access to others. For cryptocurrencies, the balance sheet recognises a financial asset when the entity holds or controls the private key. Cryptocurrencies held in a third party wallet do not satisfy the control criterion. Central bank digital currencies are claims on the government, but the controls framework dictates recognition and measurement as cash and central bank reserves if held in a central bank digital currency wallet. The principle provides a consistent approach to classification and measurement: the asset is recognised per its legal characterisation, not according to the distributed ledger technology foundation. Liquidity or convertibility risks arise with the potential for obsolescence associated with digital currency; the scope of these risks depends on whether the entity holds private keys to its digital currency. When four banks holding private keys on the same ledger pose greater exposure to liquidity risk than one bank holding all private keys, the latter may be preferable, particularly during financial distress. The currency substitution risk, the effect of digital currencies on the international monetary system, and the use of CBDCs as a tool of monetary policy would have significant ramifications for reporting entities. The ambiguities and difficulties in accounting for digital currencies escalate with the need to establish fair values, as identified by (Hartley, 2019) in the cryptocurrency context. Additional disclosures will be required to satisfy the qualitative characteristics of financial reporting and enable users to understand the entity's exposure and assess the impact of digital currency on financial position and performance.

1. Fair Value Measurement

The growing adoption of digital currency, which has expanded the potential for efficient business transactions, raised new challenges for auditors and accountants. Regulators at the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) have proposed operating measurement and presentation models. However, emerging issues complicate implementation, including the availability of quoted prices in active markets, treatment of transaction and conversion fees, and the nature and extent of required disclosures. There are also implications for financial statement users who must evaluate the risks of enterprises with substantial digital currency holdings. Digital currency is intangible and does not have physical substance. It can be used in payment transactions or held as an investment. Under U.S. GAAP, digital-currency holdings can be measured either at (a) fair value or (b) as indefinite-lived intangible assets with any decline in value accounted for as an impairment loss. The determination depends on the specific circumstances. Regardless of the measurement attribute used for digital-currency holdings, conversion from digital currency to U.S. dollars or other single currencies is a revenue-generating activity resulting in income or expense each time conversions occur. When holdings are measured at fair value, an increase in value is presented as income and a decrease as an expense; conversion-related income or losses are recognized separately. For indefinite-lived intangible assets, digital-currency holdings are not remeasured for changes in fair value. Income or losses from sale or conversion are presented beneath income from continuing operations and the length of time holdings were held is irrelevant. Auditors and accountants face new challenges with the rise of digital currencies. Digital currency serves as a medium of exchange; consequently, businesses can accept digital currency for goods or services, pay suppliers or employees, or hold it as an investment. Similar to conventional currencies, supply and demand affect value—there is no fixed conversion rate from digital to conventional currency. Central banks in multiple jurisdictions have discussed or already released central bank digital currencies (CBDCs) (Swamy & S, 2012). The goal of fair value measurement is to reflect the best estimate

of a price that would be obtained in transactions under normal market conditions, including all available information related to future cash flows and adjustment rates. Under fair value measurement, companies report losses when asset fair values decrease and gains when liabilities are paid, affecting reported equity or revenues. Since no actual transaction occurs, accounting provides information on potential outcomes. Measuring performance with fair value includes both achieved and unachieved results, making it difficult to distinguish between management's objectives and market effects. A comprehensive fair-value approach for all balance-sheet items abandons achievement criteria and the transaction basis for income statements. Reliability, objectivity, and neutrality are essential in accounting but are challenging to assign to all fair-value measurements. Many management personnel are skeptical of fair value as a tool for financial reporting and some users, especially banks and insurance companies, also oppose valuing all items at fair value. If financial statements are measured at fair value but not all users agree, the usefulness and relevance of these reports diminish. The relation between fair-value measurement and the economic crisis, as well as the impact of regulations, is a subject of debate, especially in comparison with historical cost measurement (Farcane et al., 1970).

2. Disclosure Requirements

There is currently little explicit guidance under US GAAP for entities that use digital currency (such as cryptocurrencies). Regarding fair value measurements, it is unlikely that digital currency held would satisfy the criteria to be classified as a financial instrument since it is primarily used as a medium of exchange rather than exclusively as a contractual right to receive or deliver cash upon settlement. A restriction on exchange or uses could be regarded as a contingency that prevents digital currency from being recognised as an asset. Both currency and currency demand deposits have previously been classified as cash for statement of cash flow purposes (Foy, 2019). A similar argument may be made for digital currency provided that the intent is to use it primarily as a medium of exchange. The definition of cash also requires unrestricted access to the currency for use in current transactions. Restrictions on holding or use could mean that digital currency held should be classified as a financial asset or other asset rather than cash.

Digital Currency in International Trade

Digital currency use continues to increase as is the range of applications and some of the use cases, as with SMS, became apparent very early on, others require more time and experimentation to emerge. International trade — the exchange of goods and services between parties in separate countries — is an obvious example. Arguments in favour of the increased use of digital versions of money in trade include the alignment of the payment method with the goods exchanged, for instance when a business uses international digital services like Skype, AWS or Azure, or purchases digital products from overseas vendors. More generally, the advantages of digital currency such as ease of use and security have motivated many companies to use it for this purpose to support their clients, staff and supply chains, and as a consequence, a proportion of trade must be concluded in this form (Ally et al., 2016). Besides transaction and verification costs, the other notable risk is the value discrepancy between different digital currencies, when multiple were involved to complete a transaction. Digital currencies are assigned their own exchange rate and therefore two parties engaged in international trade must also consider the currency risk for these assets (Boskov, 2018).

1. Cross-Border Transactions

Cross-border transactions have become more pervasive with the rapid advancement of digital technology. The introduction of digital currency (e.g., Bitcoin) has fundamentally reshaped the concept of value exchange. The flow of payment across geographic markets is much faster. The payment reference is immediately recognized and the subsequent settlement and clearance are much simplified. The cost is also significantly reduced, all of which make the cross-border payment process more efficient and transparent (Ally et al., 2016). The flow of payment across international borders for fractions of a cent, such as with Bitcoin, facilitates the transfer of remittances into developing countries. Online casinos and other businesses favor Bitcoin, for its ease of cross-border transactions and lack of restrictions. Travel and tourism companies can experiment with digital payments, making reservations easier for out-of-country tourists and integrating into loyalty programs. Digital currencies can contribute to the growth of the tourism industry in developing economies and provide a broader market reach for small and medium enterprises. Digital currency has also transformed the domestic payment system, with far-reaching implications for international payment transactions. The current cross-border transaction model follows a rigid framework that revolves around a country’s currency and banking system. Mobile operators, also billers for user payments, influence the model. Different currencies in cross-border transactions require real-time exchange rates and incur high conversion charges from banks, foreign exchange agents, and payment processing companies, increasing overall costs (Jegatheesan et al., 2015). Extra charges, including service fees and exchange rate premiums, make e-commerce transactions costly globally. Day-to-day banking services involving foreign currency transactions face additional charges of 3-4% from providers such as Visa and MasterCard, further raising transaction costs. While the cost of paying by credit card is well justified by the convenience that it offers, a digital global currency could eliminate the need for currency exchange and lower transaction costs. Such a form of payment has the potential to maximize ease of business and increase the range of users engaged in international trade. Increased trade activity, along with the support of an additional income stream (e.g., user-to-user trading of the currency), can bolster the

economies of participating countries and strengthen the foundations of a global economy. These services could also pave the way for a free-trade agreement in the long term. The question arises as to whether a global virtual currency with universal acceptance is a feasible option to overcome the financial crisis.

2. Currency Exchange Risks

Within several digital currencies, the high volatility and lack of regulation emit major financial risks. These forces make digital coins more susceptible to exchange rate swings, amplifying fluctuations and increasing the likelihood of large losses (Stavroyiannis, 2017). The Chinese government has repeatedly rejected new digital assets based upon concerns over money laundering and speculative risk that might threaten financial stability. The People's Bank of China and other authorities barred Bitcoin exchanges from banking relationships over such concerns. Long-term Bitcoin price volatility also strongly and negatively influences the exchange rate; higher volatility triggers greater risk that encourages investors to move toward conventional currencies, potentially driving domestic currency appreciation (Riska Dwi & Nadia, 2018). High volatility is a costs for users who must choose between digital assets and alternatives.

Future Trends in Digital Currency

Other digital currencies are expected to have limited impact on accounting and finance because of their nature and intended use. Cryptocurrencies and CBDCs, on the other hand, are likely to have a significant influence on over-the-counter markets by reducing the need for intermediaries, lowering capital requirements, and streamlining transactions (Boskov, 2018). Digital currencies are thus projected to provoke a paradigm shift within financial markets and accounting systems. Consequently, a careful analysis of the emerging digital currency environment is imperative to understanding these future developments.

1. Adoption Rates

The proliferation of digital currency presents the opportunity to redefine financial transactions. Among new payment alternatives, digital currency has appeared as a single payment vehicle thus leading to the re-examination of adoption rates worldwide (Boskov, 2018). Voluminous literature exists concerning the diffusion of information technology and has sought to identify key determinants of adoption. Empirical analyses in various contexts have been undertaken in order to homogenise the results. An empirical investigation that explores behavioral acceptance of digital currency, on a sample of over 300 participants, follows the technology acceptance approach (Arias-Oliva et al., 2019). Factors fostering adoption include network suzerainty and financial institutions. National policy on payment systems and the perception of digital currency as an appropriate payment method also affect its adoption. Adoption of digital currency still seems slow and dwindles compared to usual technology uptake whereas it corresponds to an ultimate stage of financial transaction evolution. Indeed, the adoption of international financial reporting standards (IFRS) and its benefits have only been partially understood (Ojo, 2012). This section examines the adoption rates of digital currency, focusing on the determinants of diffusion and the current pace of uptake worldwide.

2. Technological Advances

The monetary system has undergone profound structural changes over the last decade. Digital currency has transformed financial transactions in terms of the speed of settlement, exchange costs, and liquidity. Alongside the vigorous growth of technological progress on the one hand and the dependence of business on technologies on the other, the way value is measured and maintained needs to evolve to accommodate new practices. Volatility remains one of the greatest impediments to the widespread use of digital currency. It has consistently tended to lag behind the growth of novel technologies and human settlements, thus delaying the introduction of means systems of exchange from the modern era. The emergence of digital currency in this respect is more than revolutionary. The speed with which this monetary instrument has penetrated most societal sectors and has begun demonstrating adoption in a number of activities is an exceptional example of its role and suggests that its effects on the economy may be tremendous. Digital currency has the potential to provide an important money alternative not only generally in the economy but also delicately and finely in systemic activities and steps, such as accounting and finance. It is, at the surface, a monetary innovation that could additionally catalyse the turnaround and quantum leap of the accounting and finance sectors toward modernisation.

Case Studies

Real-world experiences underline digital currency's benefits and shortcomings. Crypto companies such as Coinbase and Binance and digital assets such as Bitcoin, Ethereum, and Tether illustrate this technology's rapid rise in prominence. Interpol notes that the enhanced security underpinning these systems has contributed to criminals' ability to "obfuscate illicit financial flows" through money laundering, terrorist financing, extortion, and illicit trade. Academic research also supplies firsthand perspectives on these developments. To support a favourable economic environment for digital currencies, Australia should establish an innovative digital currency technology sector. Creating high-value jobs and a leading role in this industry will enable the country to deploy domestically developed expertise and products globally, thereby diversifying the economy. Furthermore, a transition to a deflationary currency could promote ecological sustainability by encouraging more efficient energy use and resource management (Ally et al., 2016).

1. Successful Implementations

The implementation of digital currency by enterprises indicates potential evolution in economic and financial development. Digital currency offers numerous benefits for commercial activities, yet its transition into accounting and auditing processes remains complex and challenging. The ongoing

development and widespread acceptance of digital currency tools suggest that many enterprises will adopt them for commercial exchange and economic development in a digital economy (Jiang, 2024). Many enterprises maintain digital currency accounts, but accounting operations for such transactions often fail to comply with existing standards. Common errors include incorrect confirmation of cash flow, cash equivalents, and accounts receivable; classification errors between investments versus cash equivalents; improper handling of depreciation and amortization for digital currency assets; erroneous classification of expected losses and impairment provisions as operating expenses; inadequate evaluation and treatment of digital currency payment vouchers; and inaccurate recognition and disclosure of digital currency transactions in financial statements. While some companies have successfully integrated digital payments—such as Aadhaar Pay, an initiative by the Ministry of Electronics and Information Technology, which functions as an online payment facility powered by the Unique Identification Authority of India—many others struggle to accomplish the transition. These solutions can harness the potential of both fiat and digital currencies, offering flexibility and efficiency in digital payment processing.

2. Lessons Learned

The committee advocating a regulatory framework that balances risk reduction with the encouragement of innovation, favoring a wait-and-see approach because of the digital currency sector's nascent stage. Such a stance is bolstered by the observations that authorities can prudently facilitate industry development by ensuring equitable treatment of digital-currency and non-digital-currency participants, low transaction frictions and costs, and correspondingly low barriers to entry (Ally et al., 2016). Claims about the future of cryptocurrencies merit empirical scrutiny, including analysis that incorporates stakeholders' roles and examines market growth potential. Factors inhibiting more widespread use also deserve exploration—questions, for example, concerning ease of use, security, and the potential for misuse in illicit activities. Implementation in Australia will affect payments, retail, and banking, with retailers most receptive because of prospects for reduced payment-processing fees. Overly burdensome regulations and taxes may discourage investment and, in turn, limit economic benefits. The tax authority might therefore review the practicality of taxing cryptocurrencies as commodities and consider treating them as regular financial payments. Any regulatory environment should safeguard consumers and protect both the financial system's integrity and the tax base.

Comparative Analysis with Traditional Currency

Digital currency is defined as a currency in the form of a digital asset that can be transacted on a peer-to-peer network without interference from a central authority (Wu et al., 2022). Advantages of digital currency include facilitating transactions at any time, faster processing, enhanced security, environmental sustainability through paperless transactions, and the prevention of counterfeiting. Disadvantages include the requirement for users to possess certain knowledge to operate digital wallets and the risk of hacking and private key theft. Compared to traditional currency, a digital currency is not a physical currency such as banknotes or coins. Without a physical counterpart, the exchange utilized is electronic (Jegatheesan et al., 2015). Mobile operators acting as billers in digital currency transactions present challenges in user trust, a factor less prevalent with physical cash and commercial bank money. The main challenge with foreign exchange involves acquiring real-time exchange rates and managing high transaction costs imposed by banks and payment providers, which further increase overall transaction expenses, particularly for cross-border online transactions. Charges by card providers such as Visa and MasterCard can add 3–4% to transaction costs, rendering e-commerce more expensive. A global currency without exchange rate issues could reduce these costs; however, such a system raises questions about valuation and the maintenance of long-term value. Using a universal currency across borders also has significant economic implications, including considerations related to demand, gross domestic product (GDP) impact, inflation, and the respective roles of different countries in the global economy.

1. Advantages of Digital Currency

Digital currency offers several advantages over traditional currency. Existing research highlights that digital currencies can provide considerably lower trading and transaction costs than their traditional counterparts (P Dwyer, 2014). Digital currency enables faster, simpler, and more-global transfer and storage of value. Moreover, transactions can bypass government-imposed capital controls and currency restrictions while also providing unrivalled convenience for remote payments (Camera, 2016). Ensuring consumer funds are secure in digital currency transactions remains an ongoing challenge, although emerging biometric technologies effectively safeguard uncorrupted payments (Jegatheesan et al., 2015).

2. Disadvantages of Digital Currency

Despite its advantages, digital currency has several notable drawbacks. One significant disadvantage involves financial regulations and international exchange costs. When using traditional financial institutions for cross-border transactions, parties face volume regulatory restrictions and exchange rate deductions. Most financial institutions are government controlled and enforce laws in line with national ideologies. In concrete currency international transfers, it is unavoidable to pay a percentage fee and involve a Forex dealer, adding complexity (Jegatheesan et al., 2015). A unified payment infrastructure may be necessary to enable lossless digital-currency transactions. With regard to payment platforms, mobile payment gateways appear to be the most appropriate medium for universal digital-currency implementation. Other modalities, however, could also be viable.

Challenges Facing Digital Currency Adoption

The widespread use of digital currencies is essential for their continued development and adoption. Digital currency adoption is hindered because people still do not fully embrace them. As a result, digital currencies need to be easy to access and use and must be simple and convenient for spending. Digital currencies must work alongside the existing banking system to support the development of the digital-currency ecosystem. Furthermore, the physical world does not always lend itself to digital currencies; for example, digital currencies might be less suitable for unplanned or impulse purchases (Boskov, 2018). Significant challenges remain before digital currencies can replace cash as their success relies on the ability to offer anonymity and privacy in a digital format (Ally et al., 2016). The inherent technology of digital currency is still new, and improvements to the hardware or new hardware technologies could currently hinder adoption. If the technology needs new hardware, it will take time for this new hardware to be available to the mass market in sufficient numbers.

1. Public Perception

Public perception of digital currency remains one of the most significant challenges hindering widespread adoption, along with technological obstacles like security concerns and insufficient infrastructure. Empirical evidence from China underlines that financial knowledge directly influences an individual's intention to use digital currency, with perceived value serving as the mediating factor. Positive drivers of adoption include openness to innovation and perceived convenience, while emotional feelings and national identity—particularly patriotism—exert a substantial impact on perceived value. In markets such as China, the state-issued nature of digital currency strengthens users' sense of belonging and attachment (Wu et al., 2022).

2. Technological Barriers

Digital currencies have the potential to alter the recording of transactions and problems of valuation and to introduce further difficulties in auditing. The changing nature of money and payment systems presents new regulatory problems (Boskov, 2018). As with any technological innovation, the diffusion of digital currencies will encounter barriers at different levels, including societal acceptance and technological infrastructure. Societal acceptance of any new digital surface payment tool is crucial, but the superiority of a new system in terms of efficiency does not guarantee its rapid adoption. Technological challenges concern the security of digital transactions and information protection, with a growing threat of hackers and viruses targeting cloud-computing infrastructures.

Conclusion

Digital currency is a form of money in electronic form, and its importance in accounting and finance has grown significantly (Ally et al., 2016). Digital currency changes the way financial transactions are conducted, impacting accounting and finance practices. This paper aims to autonomously craft the end section of "The Impact of Digital Currency on Accounting and Finance." Digital currencies require a regulatory framework that provides consumer protection and ensures the integrity of the financial system. Such a framework should also support innovation and encourage investment. To minimise the risks associated with digital currencies, mandatory identification and verification of both issuers/entrepreneurs and consumers should be required—ideally, a full Know Your Customer Principle.

Acknowledgment

I express my deep sense of gratitude to my research guide, mentors, and colleagues for their valuable suggestions, continuous encouragement, and constructive feedback that greatly enriched this research. I am thankful to the Department of Accountancy & Auditing, MES Garware College of Commerce, Pune, for providing academic resources and institutional support. I also acknowledge the contributions of fellow scholars and authors whose work has been referred to in this study. Finally, I extend my heartfelt thanks to my family and friends for their constant motivation, patience, and moral support throughout the preparation of this research paper.

Financial support and sponsorship:

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper

References:

1. Ally, M., Gardiner, M., & Lane, M. (2016). The Potential Impact of Digital Currencies on the Australian Economy.
2. Carlos Laguna de Paz, J. (2022). Some implications of the new global digital economy for financial regulation and supervision. ncbi.nlm.nih.gov
3. Hartley, A. (2019). Financial reporting of cryptocurrency.
4. W. Peters, G., Panayi, E., & Chapelle, A. (2015). Trends in crypto-currencies and blockchain technologies: A monetary theory and regulation perspective.
5. Yang, J. & Zhou, G. (2022). A study on the influence mechanism of CBDC on monetary policy: An analysis based on e-CNY. ncbi.nlm.nih.gov
6. R. Grasselli, M. & Lipton, A. (2021). Cryptocurrencies and the Future of Money.
7. Kahya, A., Krishnamachari, B., & Yun, S. (2021). Reducing the Volatility of Cryptocurrencies - A Survey of Stablecoins.
8. Boskov, T. (2018). Blockchain and Digital Currency in the World of Finance.
9. P Dwyer, G. (2014). The Economics of Private Digital Currency.
10. Molloy, B. (2019). Taxing the Blockchain: How Cryptocurrencies Thwart International Tax Policy.

11. Brender, N., Gauthier, M., Morin, J. H., & Salihi, A. (2018). The Potential Impact of Blockchain Technology on Audit Practice.
12. Foy, J. (2019). Financial Accounting Classification of Cryptocurrency.
13. Elliott, A. (2017). Collection of Cryptocurrency Customer-Information: Tax Enforcement Mechanism or Invasion of Privacy?.
14. Özdemir, O. (2022). Cue the volatility spillover in the cryptocurrency markets during the COVID-19 pandemic: evidence from DCC-GARCH and wavelet analysis. ncbi.nlm.nih.gov
15. West, J., Bhattacharya, M., & Islam, R. (2015). Intelligent Financial Fraud Detection Practices: An Investigation.
16. Swamy, V. & S, V. (2012). Fair Value Accounting in Banking – Issues in Convergence to IFRS.
17. Farcane, N., Deliu, D., & Gheorghian, M. (1970). AUDITING FAIR VALUES IN A SENSITIVE SOCIO-ECONOMICAL CONTEXT.
18. Jegatheesan, S., Ahmed, S., Chamney, A., & El-kadri, N. (2015). Is a global virtual currency with universal acceptance feasible ?.
19. Stavroyiannis, S. (2017). Value-at-Risk and Expected Shortfall for the major digital currencies.
20. Riska Dwi, A. & Nadia, F. (2018). The Effect of Cryptocurrency on Exchange Rate of China: Case Study of Bitcoin.
21. Arias-Oliva, M., Pelegrín-Borondo, J., & Matías-Clavero, G. (2019). Variables Influencing Cryptocurrency Use: A Technology Acceptance Model in Spain.
22. Ojo, M. (2012). The need for the adoption of International Financial Reporting Standards (IFRS): some explanations for the pace of implementation.
23. Jiang, L. (2024). The use of blockchain technology in enterprise financial accounting information sharing. ncbi.nlm.nih.gov
24. Wu, G., Yang, J., & Hu, Q. (2022). Research on factors affecting people's intention to use digital currency: Empirical evidence from China. ncbi.nlm.nih.gov
25. Camera, G. (2016). A Perspective on Electronic Alternatives to Traditional Currencies.
26. Yashodhan Mithare