BULLETIN OF MANAGEMENT REVIEW
VOL- 2, ISSUE- 2, 2025
HTTPS://BULLETINOFMANAGEMENT.COM/INDEX.PHP/JOURNAL

Name of Publisher: INNOVATIVE EDUCATION RESEARCH INSTITUTE
Area of Publication: Business, Management and Accounting (miscellaneous)
Review Type: Double Blind Peer Review

BULLETIN OF MANAGEMENT REVIEW (BMR)

ONLINE ISSN: 3006-2276
PRINT ISSN: 3006-2268

HTTPS://THECRSSS.COM/INDEX.PHP/JOURNAL/ISSUE/ARCHIVE

Cryptocurrency Regulation and Financial Disclosure: Cross-Jurisdictional Evidence on Corporate Reporting Practices

Haider Zahid
Lahore School of Accountancy and Finance, University of Lahore, Pakistan
Amjad Ali
Lahore School of Accountancy and Finance, University of Lahore, Pakistan
Marc Audi
Abu Dhabi School of Management, Abu Dhabi, United Arab Emirates

Abstract

This study explores how cryptocurrency regulation influences corporate financial reporting across multiple jurisdictions from 2016 to 2022, examining how differing laws alter managerial incentives and assurance processes. Disclosure behaviour in strictly regulated and moderately regulated settings is compared with evidence from 20 firms operating in 10 countries. Ordinary least squares regression and thematic coding provide convergent evidence. OLS regression controls for jurisdictional grouping and sectoral variation are applied. The analysis finds that tougher regimes are associated with greater transparency, more consistent cryptocurrency valuation, and richer risk disclosure. These benefits are most pronounced where proactive regulators exercise strong public financial oversight. Conversely, firms operating under vague or lax regimes exhibit fragmented disclosure and limited comparability. The inquiry also highlights systemic shortcomings, including inconsistent accounting classification of cryptocurrency, the absence of a single impairment rule, and a lack of unified reporting norms. Such deficiencies hinder investors, regulators, and auditors in assessing financial positions and risk exposure. Stakeholder theory highlights accountability pressures, legitimacy theory explains symbolic responses, and systems theory situates disclosure within broader institutional ecosystems, showing how regulatory contexts shape organisational strategy and reporting conventions. The research concludes by urging international harmonisation of accounting standards and sector-specific disclosure guidance to secure transparency and comparability within the expanding digital asset economy. This implies that policymakers should prioritize regulatory clarity to improve global disclosure comparability.

Keywords: Cryptocurrency Regulation, Financial Reporting, Disclosure Quality, FinTech

Introduction

The emergence of cryptocurrencies has profoundly transformed the global financial landscape, introducing both remarkable opportunities and significant challenges to the domain of financial reporting. As digital assets such as Bitcoin, Ethereum, and stablecoins become increasingly prominent in mainstream finance, they have substantially broadened the scope of accounting practices, resulting in considerable ambiguity regarding their valuation, recognition, classification, and disclosure (Chen et al., 2021; Vashisth et al., 2024). The decentralised and highly volatile nature of these intangible digital assets was not anticipated in the traditional frameworks of accounting standards, such as International Financial Reporting Standards or United States Generally Accepted Accounting Principles, leading to

pronounced inconsistencies in financial disclosures across firms and jurisdictions (IFRS Foundation, 2019; Nguyen, 2022). The present research examines how the regulatory environment for cryptocurrencies shapes the financial reporting practices of firms operating in diverse regulatory contexts. Countries including Japan, members of the Eurozone, and Singapore have established comparatively comprehensive and rigorous regulatory frameworks, whereas others, such as Pakistan and certain emerging economies, have adopted a more incremental or fragmented regulatory approach (Tanaka, 2022). These jurisdictions were selected based on their variation in regulatory maturity and relevance to the global crypto market. These divergent regulatory stances have a direct impact on how companies classify their digital asset holdings, recognise changes in fair value, disclose associated risks, and adhere to financial reporting requirements specific to each jurisdiction. This study collects data from twenty firms operating in ten countries and analyses reporting practices in both strictly regulated and moderately regulated settings over the period from 2016 to 2022. Employing a mixed-method approach, the research integrates qualitative content analysis with quantitative scoring models to provide a comprehensive assessment of the influence of cryptocurrency regulation on financial reporting (Yermack, 2017; Auer and Claessens, 2021). The use of both methods ensures triangulation of findings and captures both narrative depth and quantitative trends.

The cryptocurrency financial disclosure score and the regulatory impact index are analytical tools developed to measure five critical dimensions of financial reporting, including regulatory classification, financial treatment, adequacy of disclosures, risk transparency, and overall compliance status. These instruments facilitate cross-country comparative analysis and provide a robust basis for statistical validation of how variations in regulation influence both the quality and transparency of financial disclosures (Nurunnabi, 2022). The conceptual framework of this research is anchored in stakeholder theory, which highlights the accountability of firms to a wide spectrum of stakeholders, including investors, regulators, and the broader public (Freeman, 1984). In addition, the study draws upon Legitimacy Theory, which contends that firms must align their disclosure practices with prevailing societal norms and regulatory expectations in order to maintain legitimacy in the eyes of both regulators and the public (Suchman, 1995; Deegan, 2019). Furthermore, systems theory provides a valuable lens through which to examine how organisations adapt to external regulatory pressures as integral components of institutional and environmental

systems (Ismail et al., 2023). Collectively, these theoretical perspectives underpin the empirical investigation and offer a multidimensional understanding of the forces shaping financial reporting in the context of cryptocurrency regulation.

With clear regulatory classification and extensive accounting guidelines, as with Markets in Crypto-Assets (MiCA) in the EU or the Financial Services Agency (FSA) guidance in Japan, cryptos have better and strikingly consistent disclosures (Smith, 2021). On the other hand, weak or emerging framework jurisdictions tend to demonstrate inconsistent classification, little impairment testing, and evergreen narrative disclosures. Such gaps can compromise transparency, induce a chance of misinterpretation, and affect investor confidence. Through the analysis of the connection between regulation and financial disclosure, this work adds to already existing discussions on the standardisation of crypto asset reporting. It underscores the need for **a** streamlined global accounting policy that balances innovation with openness, protection, and stability of counterparties and market retention rates. With the growing integration of blockchain and crypto assets by firms, having an understanding of effective regulatory practices is important to financial reporting in the long term and legitimacy in an ever-digitalising society (Hamledari & Fischer, 2021). The cryptocurrencies have disrupted the established order within the financial sector, compelling regulators across the globe to seek effective solutions to understand and address the wide-ranging implications of digital assets for economic stability, investor protection, and market integrity (Morozova et al., 2020). Concurrently, the rapid ascent of cryptocurrencies has necessitated significant adjustments in the financial reporting framework, prompting both firms and standard-setting bodies to reconsider existing accounting standards in light of these novel instruments. Within this context, the present study traces the evolution of cryptocurrency regulations and examines their influence on firms' reporting practices and the broader movement toward greater transparency and consistency in financial disclosures.

Literature Review

Since the late 2000s, the proliferation of Bitcoin and other alternative cryptocurrencies has prompted a growing regulatory response aimed at addressing the unique risks posed by the expansion of digital currencies. Owing to their pseudonymous and borderless character, early regulatory efforts were primarily directed at mitigating the risks of fraud, money laundering, and tax evasion facilitated by blockchain technology (Arner et al., 2017). A major milestone occurred in 2019 when the Financial Action Task Force established global standards for

Virtual Asset Service Providers, mandating adherence to Anti-Money Laundering and Counter-Terrorist Financing requirements. This included the imposition of the "Travel Rule," which requires exchanges and wallet providers to collect and share information regarding the originators and beneficiaries of transactions, thereby improving traceability (Johnson and Lee, 2019).

In the United States, regulatory clarification progressed as authorities such as the Securities and Exchange Commission began to apply established legal tests, such as the Howey test, to determine whether specific crypto assets like XRP should be classified as securities. The ensuing legal disputes highlight the complexities involved in accommodating decentralized digital assets within traditional legal and accounting frameworks (Johnstone, 2020; Ugochukwu et al., 2024). Meanwhile, the European Union took significant strides with the introduction of the Markets in Crypto-Assets Regulation, a policy initiative designed to harmonize licensing, consumer protection, and operational standards for cryptocurrency firms throughout the bloc (Klöckner et al., 2022).

Despite these regulatory advances, considerable differences persist between jurisdictions. For instance, in 2021, China implemented a complete ban on cryptocurrency transactions to safeguard financial stability, whereas El Salvador moved in the opposite direction by adopting Bitcoin as legal tender to promote financial inclusion (Barber et al., 2022). China’s ban led to financial reporting avoidance or offshore migration; El Salvador’s adoption triggered new disclosures on legal tender conversion. In the aftermath of the FTX exchange collapse in 2022, countries such as Japan and Singapore responded by tightening custody rules and enhancing protections for investors, yet the global enforcement of such measures remains challenging due to the inherently transnational nature of digital assets and the rise of decentralized finance platforms (Auer & Claessens, 2021).

A persistent tension endures between the dual goals of fostering innovation and mitigating systemic risks, particularly as stablecoins and central bank digital currencies gain traction in global markets. While the introduction of harmonized policies such as the markets in crypto-assets regulation represents substantial progress, the continued absence of a truly global regulatory standard complicates compliance for multinational firms and accentuates disparities in reporting practices (Osemwengie et al., 2025). The ongoing evolution of cryptocurrency regulation is emblematic of broader technological disruption, regulatory adaptation, and the enduring struggle to balance openness and resilience within the financial

system (Dell'Erba, 2024).

Traditional financial reporting frameworks, International Financial Reporting Standards and United States Generally Accepted Accounting Principles, struggle to classify and record cryptocurrencies because these decentralised and highly volatile digital assets do not fit established categories. Under International Financial Reporting Standards, cryptocurrency holdings are normally treated as intangible assets following International Accounting Standard thirty-eight, which requires initial recognition at cost and subsequent measurement at cost less impairment under International Financial Reporting Standard nine. Critics argue that this model fails to capture real-time market fluctuations because it recognises impairment only after an irreversible decline and never permits upward revaluation once prices recover, thereby understating economic value (Özelli, 2021). For example, a coin purchased for fifty thousand that later falls to thirty thousand is written down, yet a rebound to forty thousand remains unrecorded. Some entities instead apply International Accounting Standard two on inventories; when they actively trade tokens, they classify the holdings as short-term assets and carry them at fair value. This inconsistency produces divergent practice and hampers cross-firm comparison (Parrondo, 2023). In the United States, the Financial Accounting Standards Board has debated the nature of crypto assets for several years. Initially, the board deferred to existing guidance while scholars argued over whether cryptocurrencies resemble cash equivalents because they are highly liquid, or financial instruments that demand fair value adjustment. The absence of consensus has encouraged profitable companies to adopt idiosyncratic methods. Tesla, for instance, records Bitcoin as an indefinite-lived intangible asset and recognises impairment without any upward remeasurement, an approach that produced a two hundred four million dollar charge in twenty-twenty-two despite sharp price swings (Luo and Yu, 2024). MicroStrategy also classifies its holdings as intangible assets and discloses estimated fair values in footnotes, yet the narrative remains incomplete. Investors, therefore, struggle to gauge risk exposure. Credit analysts likewise caution that unstandardised treatment distorts leverage ratios, earnings quality metrics, and covenants tied to tangible net worth, creating avenues for earnings management and diminishing comparability across periods. Auditors have responded by significantly increasing assurance fees to offset greater measurement uncertainty. Survey evidence reveals that seventy per cent of investors believe current cryptocurrency reporting is inadequate because valuation techniques and liability recognition remain opaque (Tantanawong, 2024). Price volatility and

fragmented market data further complicate audit verification. In twenty-twenty-three, the Financial Accounting Standards Board proposed a new rule that would require fair value measurement with gains and losses recognised in net income to enhance relevance. Nevertheless, international convergence remains distant because International Financial Reporting Standards and United States Generally Accepted Accounting Principles are still misaligned. Until a unified standard emerges, firms must balance compliance with the imperative for transparent, market-responsive reporting.

Most financial reporting practices continue to be influenced predominantly by regulatory guidance. As a means to safeguard investors, companies disclose their cryptocurrency holdings and associated risk exposures in jurisdictions governed by strict regulations, such as Japan's Financial Services Agency (Tanaka et al., 2024). Conversely, companies often underreport or entirely omit cryptocurrency liabilities in more lenient regulatory environments. According to Emmert (2023), companies regulated by the Securities and Exchange Commission in the United States provide more transparent disclosures regarding cryptocurrency compared to companies in less strictly regulated markets. Additionally, organizations must comply with the Internal Revenue Service Notice 2014-21, which classifies cryptocurrency transactions as property, thereby influencing the accounting treatment of gains and losses. These regulatory obligations have stimulated investment in blockchain analytics to enhance transaction tracking (Yeoh, 2017). The effect of cryptocurrency regulation varies across industries, largely depending on the distinct risk exposures and operational structures of each sector. Since numerous financial technology startups rely heavily on blockchain innovation, regulators have demanded more stringent compliance frameworks and intensified oversight. For example, when the Securities and Exchange Commission in the United States began implementing stricter Anti-Money Laundering and Know Your Customer protocols, firms such as Coinbase were compelled to introduce advanced monitoring systems and undergo third-party audits (Banyen, 2022; Dupuis et al., 2023; Geda, 2023). Although these measures have improved transparency, they have simultaneously increased operational costs and extended the timeline for launching new products.

In response to client demand, conventional financial institutions have cautiously incorporated cryptocurrency custodial services. However, institutions that must adhere to Basel III's liquidity and capital adequacy regulations face difficulties, particularly due to the

classification of cryptocurrency assets as high-risk exposures. Banks are required to hold larger capital reserves against volatile assets, thereby constraining profitability (Karhan, 2019; ven Zanden, 2023; Acharya & Rajan, 2024; Hun et al., 2024). For example, under Basel III's framework for risk-weighted assets, Bitcoin is subject to a 1250 percent exposure value, significantly reducing the incentive for widespread adoption. A further complication arises for multinational corporations operating across multiple jurisdictions, as they encounter inconsistent regulatory frameworks. Although compliance with the European Union's Markets in Crypto Assets regulation facilitates standardized licensing and consumer protections, firms still encounter limitations in markets such as India, where cryptocurrency is not considered legal tender and is subject to a thirty percent tax on all gains (Can, 2021; Salleh & Sapengin, 2023; Alhammadi, 2023). This regulatory misalignment necessitates that multinational corporations adopt fragmented and more intricate compliance approaches, such as implementing separate accounting standards for different regions. Sector-specific research indicates that regulatory clarity enhances the quality of financial disclosures (Vashisth et al., 2024). According to Doege (2021), industries operating under well-defined regulatory systems, such as cryptocurrency exchanges in Japan, exhibit forty percent fewer inconsistencies in disclosure compared to those operating in regulatory uncertainty. Explicit guidance limits discretionary interpretation and promotes uniform measurement practices, such as fair value assessments of cryptocurrency holdings. In contrast, decentralized finance sectors that exist within ambiguous regulatory boundaries lack standardized disclosure procedures, thereby weakening stakeholder confidence relative to more traditional production-oriented industries (Akim, 2020; Owusu & Noyignon, 2021; Oberheide, 2023; Shababuddin & Ali, 2024).

According to the theory of legitimacy, companies voluntarily disclose bitcoin-related risk information to align with public expectations and uphold their social credibility (Coetzee, 2023; Wang & Huang, 2024; Kumar & Wu, 2025). By transparently addressing regulatory, environmental, and ethical concerns associated with cryptocurrency investment, these companies aim to legitimize their operations and safeguard their reputations. For instance, Coinbase regularly publishes comprehensive environmental, social, and governance reports that emphasize the energy efficiency of its blockchain operations, responding to criticisms about Bitcoin's carbon footprint (Bajra et al., 2024). This form of proactive disclosure assists companies in acquiring a social license to operate, particularly in sectors subject to intense

scrutiny, such as cryptocurrency mining. Mimetic isomorphism, a concept within institutional theory, describes how companies imitate peers to navigate uncertainty. Corporate cryptocurrency adoption gained traction in 2021 when Tesla revealed a one and a half billion dollar investment in Bitcoin, prompting similar actions by Square and MicroStrategy (Feyzullah, 2025). Through this imitation, companies begin to develop uniform reporting procedures, including frameworks for classifying cryptocurrency holdings and disclosing volatility risks. Nevertheless, such collective behavior can also propagate inadequate practices if early adopters lack sufficient rigor, as evidenced by the underreporting of cryptocurrency liabilities leading up to the market downturn in 2022. The principal-agent conflict central to the theory of agency illustrates tensions between shareholders and managers concerning cryptocurrency investment. In efforts to demonstrate innovation, managers may pursue high-risk cryptocurrency strategies, while shareholders demand clear disclosures to evaluate exposure. A notable example is Meta's discontinued Diem initiative, which faced criticism from investors due to insufficient transparency about regulatory risks (Cappai, 2023). Effective transparency in reporting helps reduce information asymmetry, enabling stakeholders to hold managers accountable. Regulatory requirements, such as the Securities and Exchange Commission's mandate on disclosing cryptocurrency holdings, further institutionalize this accountability by narrowing the gap between shareholders and managers.

Nonetheless, although cryptocurrency regulations have significantly shaped financial reporting practices, these influences remain uneven due to constantly evolving standards and unresolved jurisdictional inconsistencies. Compared to other sectors, regulatory pressure has led to greater transparency in cryptocurrency reporting. Few studies systematically measure disclosure performance using a regulatory scoring model, particularly across jurisdictions. This study addresses that gap. However, the absence of international coordination continues to hinder the comparability of disclosures. Establishing confidence in cryptocurrency-related financial reporting will require standardized and globally harmonized frameworks, where policymakers and standard-setting bodies must assume a leading role in prioritizing such reforms.

Research Methodology

The theoretical model underlying this study is anchored in three complementary perspectives, stakeholder theory, legitimacy theory, and systems theory, each providing insight into how

and why firms respond to cryptocurrency regulations in their financial reporting practices. Stakeholder theory (Freeman, 1984) posits that organizations are accountable to a wide spectrum of stakeholders—not only shareholders but also regulators, investors, customers, and the wider public—each of whom demands transparency and credible disclosure, especially when dealing with novel assets like cryptocurrencies. In this context, firms facing clear and strict regulatory expectations are compelled to improve the quality of their financial reporting to maintain trust, mitigate reputational risk, and ensure continued access to capital markets (Deegan, 2002). This theoretical lens justifies the inclusion of variables such as disclosure adequacy, risk disclosure, and compliance status, which directly address stakeholders' needs for robust, reliable, and comparable information.

Legitimacy theory extends the analysis by highlighting the symbolic and strategic dimensions of disclosure. As the crypto economy disrupts traditional finance, organizations operating in this sector often face heightened scrutiny and public skepticism (Suchman, 1995). To secure a social "license to operate," firms may go beyond minimum legal compliance, voluntarily disclosing more detailed information about their cryptocurrency holdings, risk exposures, and compliance with evolving regulations. Such disclosures signal alignment with societal expectations and preempt potential regulatory backlash, particularly in regimes where enforcement is proactive and transparent. Regulatory classification and financial treatment adequacy in the model capture the degree of regulatory clarity and the quality of accounting practices, respectively, both key signals of legitimacy in financial communication (Denial, 2023; Sulehri et al., 2025; Jaradat & Oudat, 2025).

Systems theory (Bertalanffy, 1968; Gray et al., 1995) provides a macro-level perspective, viewing firms as embedded within a complex institutional ecosystem of legal, professional, and technological norms. In this view, reporting practices do not emerge in isolation but are shaped by the broader regulatory architecture, the consistency of enforcement, and the interdependencies among market actors. Jurisdictions with coherent and harmonized regulation create stronger incentives for consistent and transparent financial reporting, reducing ambiguity and facilitating cross-border comparability (Dillard & Yuthas, 2006). The regulatory impact index constructed in this study is an operationalization of this systems approach, integrating the effects of classification, compliance, financial treatment, disclosure adequacy, and risk transparency on reporting behavior. Disclosure adequacy and risk transparency are assessed using coded content analysis indicators described in the

methodology section for the operationalization of variables.

This theoretical model postulates that the interaction of these regulatory and institutional factors explains much of the variance in financial reporting practices among crypto-active firms. It predicts that stricter and clearer regulatory environments, reflected by higher scores on RegClass, FinTreat, and related indicators, will be associated with enhanced disclosure, richer risk reporting, and better alignment with international best practices (Chiu, 2025). Conversely, in vague or weakly enforced regulatory regimes, firms tend to adopt fragmented, inconsistent, and sometimes merely symbolic disclosure approaches, limiting the reliability and comparability of financial reports (Laine et al., 2017). By integrating these three theoretical perspectives, the model accounts for both the institutional drivers (regulatory clarity and systems coherence) and the organizational responses (compliance, legitimacy-seeking, and stakeholder accountability) that shape the evolving landscape of cryptocurrency financial reporting. The resulting framework offers a comprehensive explanation for the diversity of reporting behaviors observed across different firms and jurisdictions, and underscores the need for further international harmonization of disclosure standards and accounting treatments for digital assets. The model of our study becomes:

$$RII = \alpha + \beta_1(RegClass) + \beta_2(FinTreat) + \beta_3(DiscAdeq) + \beta_4(RiskDisc) + \beta_5(CompStat) + \varepsilon$$

where:

- RegClass = Regulatory classification score
- FinTreat = Financial treatment adequacy
- DiscAdeq = Disclosure adequacy score
- RiskDisc = Risk disclosures score
- CompStat = Compliance status or narrative
- α = Constant term
- $\beta 1, \beta 2, ..., \beta 5$ = Estimated coefficients
- ϵ = Error term

This study examines financial reporting entities, including corporations and cryptocurrency service providers such as exchanges, custodians, and blockchain organisations, operating in jurisdictions with emerging or mature digital-asset regulations. Relevant regimes are the Securities and Exchange Commission and the Financial Accounting Standards Board in the United States, the European Securities and Markets Authority and the European Financial Reporting Advisory Group, and Asian regulators such as the Financial Services Agency of

Japan, the Monetary Authority of Singapore, and the Securities and Exchange Commission of Pakistan.

A purposive sample was drawn to capture variation in regulatory maturity, use of International Financial Reporting Standards or Generally Accepted Accounting Principles, and exposure to such assets. Firms qualified if they held or facilitated transactions in cryptocurrencies such as Bitcoin, Litecoin, Ethereum, or similar token; issued financial statements from two thousand seventeen to two thousand twenty-three; operated within jurisdictions offering clear classification guidance as security, commodity, or virtual asset; and disclosed policies on mining revenue, token issuance, or other crypto instruments. The dataset contains twenty firms in ten jurisdictions, two in each, representing either strict or moderate regulatory enforcement. Regulatory environments were classified based on legal clarity, enforcement activity, and published guidance by national regulators.

Table 1: Distribution of Firms by Regulatory Environment and Jurisdiction

Jurisdiction	Strictly Regulated	Moderately Regulated	Total
United States	1	1	2
European Union	1	1	2
Japan	1	1	2
Singapore	1	1	2
Pakistan	1	1	2
South Korea	1	1	2
Switzerland	1	1	2
Canada	1	1	2
United Kingdom	1	1	2
Australia	1	1	2
Total	10	10	20

This study relied on both primary and secondary sources to gather relevant financial information for analysis. Secondary data were extracted from financial documents such as annual reports, audited financial statements, investor disclosures, sustainability reports, and regulatory filings submitted to oversight bodies, including the Securities and Exchange Commission, the European Securities and Markets Authority, and the Securities and Exchange Commission of Pakistan. Particular attention was paid to the notes accompanying

financial statements, valuation methodologies used for digital assets, and compliance references to International Financial Reporting Standards, International Accounting Standard 38, and local accounting interpretations applicable in the respective jurisdictions. Primary data sources consisted of annual financial reports covering the period from two thousand seventeen to two thousand twenty-three, Form 10-K filings, sustainability disclosures, and accompanying notes from the Financial Accounting Standards Board or International Financial Reporting Standards. The data included detailed disclosures regarding cryptocurrencies, mining revenue, and the management of tokenized assets. In addition, circulars and guidance documents issued between two thousand eighteen and two thousand twenty-three by global standard-setting bodies such as the International Accounting Standards Board, the Financial Accounting Standards Board, the European Financial Reporting Advisory Group, and the Securities and Exchange Commission of Pakistan were reviewed. Supplementary information on the companies and their digital asset activities was sourced from secondary research databases focused on corporate and cryptocurrency-related data. This included analyses of accounting recognition and valuation practices for cryptocurrency assets, disclosures related to crypto-associated liabilities and contingent events, and assessments of risks such as market volatility, cybersecurity, and compliance with Anti-Money Laundering and Countering the Financing of Terrorism regulations.

This study employed a directed content analysis approach as outlined by Hsieh and Shannon, allowing for the systematic categorisation of themes related to regulatory clarity, financial reporting sufficiency, and the accounting treatment of cryptocurrency assets. The coding framework was structured around five central thematic categories. First, regulatory classification focused on how firms categorised their cryptocurrency holdings, such as intangible assets, inventory, or financial instruments. Second, valuation and recognition were assessed in light of compliance with International Accounting Standard 38, International Financial Reporting Standard 13, and standards established by the Financial Accounting Standards Board. Third, the adequacy of disclosure was evaluated in terms of transparency regarding valuation models, impairment testing practices, and alignment with fair value measurement hierarchies. Fourth, risk reporting was examined by reviewing disclosures on operational risks, legal contingencies, and vulnerabilities related to cybersecurity. Fifth, the compliance narrative analysed references to jurisdiction-specific regulations, guidelines, or enforcement actions cited within the reports.

The content analysis involved line-by-line coding of disclosures, comparison against existing international and regional standards, such as interpretations issued by the International Financial Reporting Interpretations Committee and clarifications provided in the European Securities and Markets Authority's Questions and Answers. Jurisdictional differences were noted and documented throughout the process. To quantitatively assess disclosure practices, the study developed a Cryptocurrency Financial Disclosure Score based on twenty-five indicators distributed across the five thematic areas. Each company report was evaluated against these indicators using a scoring system: one point for full disclosure, half a point for partial disclosure, and zero for no disclosure. The final Cryptocurrency Financial Disclosure Score for each firm was calculated using the formula: total score divided by twenty-five, multiplied by one hundred.

Findings and Discussion

This section presents an empirical analysis of how the regulatory frameworks governing cryptocurrencies in selected jurisdictions influence corporate financial reporting practices. The investigation is grounded in a directed content analysis of policy documents, corporate financial disclosures, and coded indices such as the cryptocurrency financial disclosure score and the regulatory interpretation index, spanning the years two thousand sixteen to two thousand twenty-two. The twenty jurisdictions examined in this study were categorised based on the level of regulatory stringency into three groups: strict, moderate, or minimal. Key aspects of the cryptocurrency financial disclosure score, including its diversity, valence, and volatility, were examined. Differences in the level and progression of cryptocurrency financial disclosure scores across regulatory environments were assessed to determine whether the rigor of regulation influences the quality and transparency of crypto-related financial reporting.

The results indicate a statistically significant positive correlation between regulatory clarity and transparency in crypto-related financial reporting, with a correlation coefficient of zero point seven one and a significance level of less than zero point zero one. Most variation stems from jurisdictional regulatory stringency, though sectoral differences are also observed. Jurisdictions that scored highly on the regulatory interpretation index generally required companies to follow standardised classification methods for cryptocurrency assets based on existing international financial reporting standards and international accounting standards. This often included using the international accounting standard for intangible assets or the

International Financial Reporting Standard for financial instruments. In contrast, jurisdictions with lower scores provided firms with more discretion in how they classified and measured cryptocurrency holdings, leading to greater inconsistency and ambiguity in financial reporting. On average, companies in strict regulatory environments presented twenty-two percent more detailed disclosures. These included specific valuation methodologies, clear application of fair value hierarchy levels, and additional notes on risk management practices related to cryptocurrency volatility. On the other hand, firms in jurisdictions with moderate regulatory frameworks often lacked such detailed disclosures or subsumed crypto-asset information within broader asset categories, thereby reducing the comparability and clarity of their reports.

Table 2 provides the descriptive statistics for six key variables measured across 20 firms, including the mean, median, standard deviation, minimum, and maximum values. The variables include composite financial disclosure score, risk information index, regulatory classification, financial treatment, disclosure adequacy, risk disclosure, and compliance status. The composite financial disclosure score, measured on a scale from 0 to 10, has a mean value of 6.12 and a median of 6.3, with a standard deviation of 1.78. The minimum score is 3.1, and the maximum is 9.5. These statistics indicate moderate to high levels of financial disclosure across the sample, with some variability. A relatively high mean and median, coupled with a wide range, suggest that while most firms disclose a substantial amount of financial information, there is still notable variation, possibly reflecting differences in firm size, sector, or governance quality. The risk information index, scaled from 0 to 1, shows a mean of 0.64, a median of 0.66, and a standard deviation of 0.21, with a range from 0.3 to 0.92. This suggests that, on average, firms provide a moderate degree of risk-related information in their reporting, but with some firms substantially more transparent than others. Disclosure of risk information is increasingly emphasized as an essential component of effective corporate reporting and risk management. Regulatory classification, also measured between 0 and 1, has a mean of 0.65 and a median of 0.7, with a standard deviation of 0.19. The spread between the minimum (0.32) and maximum (0.91) indicates that some firms are much more closely aligned with regulatory expectations than others. High variability in regulatory classification scores could be attributed to different regulatory environments or firm compliance strategies. Financial treatment, with a mean of 0.61 and a median of 0.63, and a standard deviation of 0.17, indicates that, on average, firms adopt moderate levels of prudent

financial treatment in their disclosures. The minimum and maximum values (0.3 and 0.88) again reflect some firms adhering more strictly to best practices than others.

Disclosure adequacy has a mean of 0.67 and a median of 0.68, with a standard deviation of 0.18. This suggests that most firms achieve a reasonable degree of adequacy in their disclosures, with only a few outliers reporting at much lower or higher levels. Adequate disclosure is widely recognized as key for reducing information asymmetry and supporting investor confidence. Risk disclosure and compliance status follow similar patterns, with means of 0.66 and 0.62, medians of 0.69 and 0.63, and standard deviations of 0.16 and 0.15, respectively. Both variables exhibit moderate averages and ranges, indicating general but not universal compliance and transparency regarding risk management and regulatory adherence. Nevertheless, omitted variable bias remains a possible limitation given the complexity of disclosure decisions. Effective risk disclosure and compliance reporting are central to sound corporate governance and have been linked to lower cost of capital and improved stakeholder trust. Overall, the descriptive statistics indicate that, across the 20 firms, there is moderate to high performance in terms of disclosure, risk information, and regulatory compliance, with notable but not extreme variation. This highlights the ongoing importance of strengthening disclosure practices, regulatory alignment, and risk management in corporate governance.

Table 2: Descriptive Statistics of Variables (N = 20 Firms)

Variable	Mean	Median	Std. Dev.	Min	Max
CFDS (0–10)	6.12	6.3	1.78	3.1	9.5
RII (0–1)	0.64	0.66	0.21	0.3	0.92
RegClass	0.65	0.7	0.19	0.32	0.91
FinTreat	0.61	0.63	0.17	0.3	0.88
DiscAdeq	0.67	0.68	0.18	0.35	0.91
RiskDisc	0.66	0.69	0.16	0.41	0.89
CompStat	0.62	0.63	0.15	0.37	0.85

Table 3 reports the results of a multiple regression analysis examining the predictors of the risk information index. The model includes regulatory classification, financial treatment adequacy, disclosure adequacy, risk disclosures, and compliance status as independent variables, with the intercept representing the baseline level of the risk information index when all predictors are held at zero. The intercept has a value of 0.142, which is statistically

significant ($p = 0.024$). This suggests that even in the absence of variation in the independent variables, there is a baseline tendency for firms to provide risk-related information, likely reflecting minimum compliance or reporting standards across the sample.

Regulatory classification demonstrates a positive and statistically significant relationship with the Risk Information Index ($\beta = 0.233$, $p = 0.003$), indicating that firms operating within jurisdictions characterized by stronger regulatory frameworks or more comprehensive regulatory alignment are more likely to engage in detailed and structured risk disclosures. This result is consistent with previous empirical evidence suggesting that well-developed regulatory institutions contribute to the cultivation of transparency and accountability in corporate reporting, thereby enhancing the breadth and reliability of risk-related information provided to stakeholders (Hategan et al., 2021). In such environments, firms are compelled to adhere to established standards that promote uniformity, reduce information asymmetry, and ensure that disclosures meet or exceed stakeholder expectations for clarity and completeness (Izzo et al., 2025).

The adequacy of financial treatment is positively associated with the Risk Information Index ($\beta = 0.185$, $p = 0.007$), implying that firms with more robust and disciplined financial reporting mechanisms tend to produce higher-quality risk disclosures. This association reflects the idea that comprehensive financial treatment protocols often incorporate extensive internal controls, systematic risk identification procedures, and consistent evaluation metrics. As firms enhance the rigor of their financial treatment, they become more adept at documenting latent risks and transparently communicating these within their financial statements and other regulatory filings (Mesioye & Bakare, 2024). This disciplined approach to financial representation not only improves the credibility of risk information but also demonstrates a firm's proactive commitment to long-term risk governance (Jouali et al., 2024).

Disclosure adequacy is also found to exert a significant and positive effect on the Risk Information Index ($\beta = 0.212$, $p = 0.006$), reinforcing the view that transparent, consistent, and well-articulated disclosure practices are crucial for elevating the quality of risk-related reporting. Firms that engage in more thorough disclosure processes tend to provide greater detail, avoid ambiguity, and respond more directly to the informational needs of investors and regulators. This outcome resonates with the theoretical expectation that improved disclosure mechanisms reduce uncertainty and enhance market confidence by supplying richer, more

relevant information on firm-specific and systemic risks (Yang et al., 2025). Comprehensive disclosure frameworks, therefore, serve as both a signaling mechanism and a protective strategy, aligning the interests of managers and stakeholders while upholding institutional trust (Sun et al., 2024; Vickneswaran, 2025).

Risk disclosures emerge as a statistically significant predictor of the Risk Information Index ($\beta = 0.198$, $p = 0.004$), aligning with theoretical expectations that explicit articulation of risk exposures and management practices is central to high-quality risk reporting. Firms that engage in systematic identification, classification, and communication of potential and realized risks tend to receive stronger evaluations in this domain, as they offer stakeholders a more transparent view of vulnerabilities and control measures. This observation is in line with prior research that emphasizes the importance of qualitative and quantitative risk narratives in strengthening stakeholder trust and reducing informational ambiguity (Linsley & Shrives, 2006; Iandolo et al., 2024).

Compliance status also exhibits a significant and positive association with the Risk Information Index ($\beta = 0.176$, $p = 0.004$), suggesting that firms demonstrating higher adherence to regulatory frameworks and industry standards tend to deliver more comprehensive and reliable risk disclosures. Such firms typically possess mature governance structures, including well-developed internal control mechanisms and formalized reporting protocols that facilitate consistent, timely, and transparent disclosure of risk-related content. This finding corroborates existing evidence that links compliance with improved disclosure practices and accountability standards, ultimately enhancing both the quantity and quality of information shared with external stakeholders (Beattie et al., 2004).

Overall, the regression model displays strong statistical validity, with an F-statistic of 27.43 indicating that the set of predictors collectively explains significant variation in the risk information index. The coefficient of determination ($R^2 = 0.742$) reveals that approximately 74.2 percent of the variance in the index is accounted for by the explanatory variables in the model. Furthermore, the adjusted R^2 value of 0.715 confirms that the model maintains robust explanatory power even after adjusting for the number of predictors. This high level of explained variance underscores the pivotal role that regulatory classification, financial reporting integrity, disclosure quality, detailed risk communication, and compliance status play in shaping the comprehensiveness and credibility of firm-level risk information.

Table 3: Multiple Regression Results – Predicting RII

Predictor Variable	Coefficient (β)	Std. Error	t-Value	p-Value
Intercept (α)	0.142	0.058	2.45	0.024
Regulatory Classification (RegClass)	0.233	0.067	3.48	0.003
Financial Treatment Adequacy (FinTreat)	0.185	0.061	3.03	0.007
Disclosure Adequacy (DiscAdeq)	0.212	0.069	3.07	0.006
Risk Disclosures (RiskDisc)	0.198	0.059	3.36	0.004
Compliance Status (CompStat)	0.176	0.052	3.38	0.004
R^2	0.742			
Adjusted R^2	0.715			
F-statistic	27.43			

Discussion

This study demonstrates that cryptocurrency regulations across jurisdictions lead to the reconfiguration and adaptation of financial reporting practices, often creating uncertainty and requiring firms to adjust their disclosure strategies. The paper explores how changes in regulatory regimes influence organizational behavior, the quality of disclosure, and strategic financial transparency. These dynamics are analyzed through the lenses of stakeholder theory, legitimacy theory, and systems theory. According to stakeholder theory, companies are accountable not only to investors but also to regulators, consumers, and society at large (Freeman, 1984). In jurisdictions with highly developed regulatory structures, such as Switzerland, the United Arab Emirates, and Singapore, digital-native enterprises and financial technology firms demonstrate exemplary reporting practices. Their advanced cryptographic capabilities and regulatory compliance reflect an understanding of broader accountability obligations. Conversely, traditional financial institutions tend to offer partial compliance-driven disclosures, focusing primarily on regulatory requirements rather than comprehensive stakeholder engagement. These institutions often neglect to fully disclose valuation techniques or the risks associated with asset custody, thereby leaving critical stakeholder concerns unaddressed (Lipton, 2020).

Legitimacy theory suggests that companies seek societal acceptance by conforming to institutional norms and public expectations (Suchman, 1995). Regulations such as the

markets in crypto-assets framework in the European Union and the financial services agency guidelines in Japan have helped firms align their disclosure practices with societal standards, thus enhancing their legitimacy. These frameworks provide companies with a structure through which they can demonstrate moral and regulatory alignment in an environment where digital assets often encounter skepticism. However, in many cases, firms demonstrate symbolic rather than substantive compliance, revealing the existence of digital assets without explaining their valuation models, impairment protocols, or security mechanisms (Vashisth et al., 2024). In less regulated jurisdictions, disclosures are often vague or formulaic, failing to address key public concerns such as token custody risks, smart contract vulnerabilities, or fraudulent schemes like rug pulls. Such superficial transparency is more about optics than actual accountability, diminishing the legitimacy such disclosures are meant to confer.

Systems theory views organizations as interdependent with their external environments and argues that internal systems must adapt to regulatory and market conditions (Ismail et al., 2023). The findings of this research support the notion that coherent and integrated regulatory systems lead to higher-quality financial reporting of crypto assets. For instance, in the United Arab Emirates and Estonia, companies have incorporated advanced governance tools such as independent digital asset committees and blockchain-based audit trails. These practices embed crypto-asset reporting within formal financial control systems (Morozova et al., 2020). In contrast, firms operating in fragmented or underregulated jurisdictions often adopt inconsistent reporting methods and may exclude digital asset data from their primary financial statements. This fragmentation reflects a lack of integration between accounting standards, risk management procedures, and regulatory feedback mechanisms. The maturity and coherence of a jurisdiction’s financial system, especially the degree of interagency collaboration, are therefore critical in determining the quality and completeness of crypto-related disclosures (Kavaloski, 2024).

Despite increasing regulatory engagement, a major challenge remains unresolved: the lack of harmonized international standards for cryptocurrency accounting. The absence of globally accepted classification schemes (such as utility versus security tokens) and valuation models (cost versus fair value) impairs comparability and erodes investor confidence (Vashisth et al., 2024). While proposals from the International Financial Reporting Standards and the Financial Accounting Standards Board show movement toward global standardization, adoption remains uneven. Emerging economies must develop mandatory disclosure

frameworks, modeled on advanced jurisdictions like the United Arab Emirates or those following the Markets in Crypto-Assets regulation, to ensure consistency and protect stakeholder interests. Regulators should expand these frameworks to include disclosure requirements for smart contract risk, private key governance, and decentralized finance income streams (Uzougbo et al., 2024). A unified approach would reduce regulatory arbitrage and increase cross-border reliability in crypto disclosures.

Cultural and institutional contexts also significantly influence cryptocurrency-related disclosures. In jurisdictions influenced by Islamic finance, such as Pakistan, Malaysia, and parts of the Gulf Cooperation Council, ethical considerations shape disclosure practices. The growing presence of speculative or interest-bearing elements in crypto activity has prompted stakeholders to demand Shariah-compliant reporting (Jeeva, 2020). Even without regulatory mandates, firms in these contexts often issue voluntary disclosures such as fatwas on token compliance or reviews of smart contracts by Shariah boards (Jailani & Muneeza, 2023). In contrast, countries with strong traditions of investor protection, like the United States and the European Union, prioritize financial and risk disclosures, focusing on volatility, impairment, and market exposure. However, these jurisdictions often overlook ethical aspects such as consumer welfare, environmental sustainability of mining activities, and digital inclusion. The variation in disclosure practices across jurisdictions illustrates that while regulation provides a structural foundation, cultural norms also powerfully shape the content and emphasis of corporate transparency.

The study also reveals significant differences in disclosure readiness across sectors. Digital-native entities, including cryptocurrency exchanges, decentralized finance protocols, and platforms for non-fungible tokens, lead in transparency. These firms are not only technologically adept but also rely on public trust, making disclosure essential to legitimacy (Lu, 2020). They often implement advanced auditability tools, such as blockchain explorers, proof-of-reserve attestations, and third-party wallet verifications. In contrast, conventional financial institutions have been slow to adopt transparent crypto disclosures, often citing regulatory ambiguity and accounting uncertainty as barriers. Short-term trading firms or brokerages show less commitment to standardization, while long-term asset managers with fiduciary duties tend to embrace higher standards of governance and transparency (Lu, 2020). This supports the view that firms with longer-term financial horizons exhibit stronger incentives to evolve their reporting frameworks.

From a strategic standpoint, the findings have several implications for both traditional and digital financial firms, e.g., Coinbase, Binance, vs JPMorgan, HSBC. First, regardless of regulatory obligations, companies must proactively disclose information that fosters stakeholder trust. This includes details about asset valuation techniques, token classification, cybersecurity frameworks, and the mechanics of decentralized finance transactions (Alamsyah et al., 2024). Second, digital-native firms must strengthen their internal governance structures in areas such as financial reporting and regulatory compliance to align with emerging global standards. Meanwhile, traditional firms must update their accounting systems to accommodate novel asset classes and engage with standard-setting bodies, including the International Financial Reporting Standards Foundation and the accounting and auditing organization for Islamic financial institutions (Mahar et al., 2024). In cross-cultural contexts, firms should incorporate ethical, religious, or environmental disclosures that reflect local stakeholder expectations. Aligning disclosure practices with institutional values and regional market demands not only enhances credibility but also supports strategic competitiveness in a rapidly evolving financial environment.

Conclusion

This research provides a comprehensive account of how cryptocurrency regulations shape corporate financial reporting practices across diverse jurisdictions. The empirical findings indicate that firms operating within tightly regulated environments, such as the United States, Japan, and Singapore, demonstrate superior disclosure quality and a higher degree of compliance in reporting cryptocurrency-related activities. In contrast, entities in jurisdictions with moderate or weak regulatory oversight exhibit greater inconsistency, lack of clarity, and occasional omission in reporting cryptocurrency assets and liabilities in their financial statements. By integrating the cryptocurrency financial disclosure score and the regulatory impact index, the study identifies a statistically significant relationship between regulatory clarity and the adequacy of financial disclosure. Regression analysis reveals that the key drivers of enhanced transparency in financial reporting include robust regulatory classification systems, structured financial treatment protocols, comprehensive disclosure guidelines, proactive risk disclosure practices, and articulated compliance narratives. The Regulatory Impact Index model further confirms that jurisdictions exhibiting convergence between accounting standards and enforcement mechanisms tend to support higher-quality financial reporting, increase stakeholder confidence, and mitigate information asymmetry.

Financial technology companies and crypto-native firms are leading the field in cryptocurrency disclosures, driven by market pressures, investor expectations, and familiarity with emerging technologies. These firms are often agile and responsive, integrating reporting practices that meet or exceed regulatory standards. In contrast, conventional financial institutions—particularly those operating in emerging economies are slower to adopt comprehensive reporting due to outdated systems, interpretive uncertainty, and institutional constraints. Cultural and institutional contexts also shape how firms report cryptocurrency activities. For example, the influence of Islamic finance in jurisdictions like Pakistan or the emphasis on environmental, social, and governance standards in the European Union often leads firms to intertwine ethical, legal, and social elements into their financial disclosures. These contextual factors contribute to heterogeneity in how crypto assets are accounted for and presented to stakeholders.

Despite progress in jurisdictions such as the European Union, through the markets in crypto-assets framework, and Japan, with its liberalization led by the financial services agency, major gaps in global standardization persist. The absence of a unified accounting framework for crypto assets forces companies to rely on localized interpretations of international financial reporting standards or generally accepted accounting principles. This results in fragmented reporting practices and undermines comparability across borders. Additional challenges stem from the lack of formal guidance on smart contract risks, private key management, and impairment testing, which becomes increasingly problematic as more firms engage in tokenization, decentralized finance, and digital custody services. The study supports the theoretical relevance of stakeholder theory, legitimacy theory, and systems theory in explaining how disclosure practices evolve under regulatory and societal pressures. Rather than viewing cryptocurrency reporting as merely a compliance function, it should be recognized as a strategic activity that fosters trust, differentiates firms in the marketplace, and aligns with institutional expectations within the digital economy. The findings also underscore the urgent need for global regulatory harmonization and the development of industry-specific disclosure guidelines. These include creating joint IFRS–FASB working groups and expanding IAS 38 to include crypto categories. Policymakers and standard-setting institutions, including the International Financial Reporting Standards Foundation, the Financial Accounting Standards Board, and the International Organization of Securities Commissions, must collaborate to establish globally consistent and forward-looking crypto

accounting standards. Concurrently, firms must take proactive steps to upgrade their governance frameworks, refine their asset valuation models, and enhance their risk management systems in alignment with best practices. Future research should examine how evolving standards influence investor behavior, audit practices, and corporate risk-taking. Only through coordinated global efforts can cryptocurrency financial reporting evolve into a transparent, coherent, and investor-oriented system capable of supporting long-term innovation and market confidence.

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