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THE IMPACT OF BITCOIN ON TRADITIONAL FINANCIAL SYSTEMS: DISRUPTIONS AND OPPORTUNITIES

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Chapter 1: Introduction

1.1 Background

The rise of Bitcoin and Ethereum has changed global finance. 'Blockchain-based decentralised digital currencies' jeopardise cross-border trade, banking, and investing. This fast acceptance has raised questions about financial inclusion, legal frameworks, and their capacity to replace traditional currencies.

1.2 Research Rationale

Figure 1: Cryptocurrencies Market cap
(Source: CoinGecko, 2025)

'Cryptocurrencies' have grown exponentially, with the global crypto market surpassing $2.79 trillion in 2025 (CoinGecko, 2025). 'Bitcoin' alone accounts for over 60.81% ($1.7 Trillion) of this market, demonstrating its significant influence on global finance (CoinGecko, 2025). 'Decentralised finance (DeFi)', powered by 'blockchain', now handles services like lending and borrowing without intermediaries, reshaping traditional banking systems,

currently with a market cap of $2.7 trillion (Mirror Review, 2025; CoinGecko, 2025). For instance, 'blockchain-based cross-border transactions' are projected to handle $290 trillion by 2025, offering faster and cheaper alternatives to traditional methods (Nakamura, 2024). However, regulatory challenges persist, as fragmented global policies create uncertainty and risks such as fraud and volatility (KPMG, 2022). This research explores these disruptions and opportunities to understand how 'cryptocurrencies' redefine financial systems.

Figure 2: DeFi Market Cap Chart
(Source: CoinGecko, 2025)

1.3 Aims and Objectives

The aim of this research is to understand how the emergence and growth of cryptocurrencies, in particular Bitcoin and Ethereum, are disrupting traditional financial systems.

- To examine the fundamental ways in which cryptocurrencies are challenging established banking systems, payment networks, and financial intermediaries.
- To evaluate the potential opportunities presented by cryptocurrency adoption for financial inclusion and cross-border transactions.
- To identify the key challenges faced by regulatory bodies, financial institutions, and market participants in addressing cryptocurrency integration.

1.4 Questions

1. What are the fundamental ways in which cryptocurrencies are challenging established banking systems, payment networks, and financial intermediaries?
2. What are the potential opportunities presented by cryptocurrency adoption for financial inclusion and cross-border transactions?
3. What are the key challenges faced by regulatory bodies, financial institutions, and market participants in addressing cryptocurrency integration?

Chapter 2: Literature Review

2.1 Cryptocurrencies and established banking systems, payment networks, and financial intermediaries

'Cryptocurrencies' enable decentralised, peer-to-peer transactions, posing a challenge to traditional banking systems, payment networks, and financial institutions. 'Cryptocurrencies' use 'blockchain technology', which ensures transparency and immutability, as opposed to conventional banking infrastructures, which rely on centralised institutions for monetary regulation and security (Titov *et al.* 2021). However, scalability concerns occur as a result of its decentralised design and the higher processing requirements induced by distributed consensus (Makarov and Schoar, 2022).

Traditional banking systems are reliable, readily accessible, and regulated, which reduces financial risks. Robinson *et al.* (2023) stated that internationally recognised payment networks such as Visa and SWIFT provide rapid transactions. However, standard financial structures are unsuitable for 'cryptocurrencies' owing to their tremendous volatility and legal uncertainty (Makarov and Schoar, 2022). Although bitcoin increases anonymity and reduces intermediary costs, its decentralised structure makes it subject to security vulnerabilities such as the Sybil attack.

As per Titov *et al*. (2021), 'cryptocurrencies' may be newer and faster, but they cannot compete with established financial intermediaries in terms of liquidity and risk management. While conventional banking systems maintain a stable money supply, cryptocurrency markets are prone to speculative trading and abrupt price volatility (Makarov and Schoar, 2022). 'Cryptocurrencies' may spread monetary power, but trust-based governance in more traditional institutions is equally important for a healthy economy. So, instead of entirely replacing established financial institutions, 'cryptocurrencies' coexist with them.

2.2 Opportunities presented by cryptocurrency adoption for financial inclusion and cross-border transactions

The use of 'cryptocurrencies' has significant implications for cross-border commerce and financial inclusion, particularly for disadvantaged communities in developing economies. The high transaction costs and prolonged settlement times of conventional correspondent banking systems have a disproportionate impact on economies with less liquid currencies (Eyo-Udo *et al.* 2024). Nonetheless, 'Blockchain-based systems' provide an alternative by permitting faster, less costly, and more transparent financial transactions while removing barriers such as restricted banking infrastructure and onerous laws (Owolabi *et al.* 2024).

According to Zhuo *et al.* (2023), stablecoins minimise volatility and increase accessibility, letting users securely keep and transfer money across borders, particularly in places where conventional financial institutions are unavailable (Eyo-Udo *et al.* 2024). The Stellar network demonstrates the practical use of decentralised financial solutions by providing a case study of entrepreneurs utilising 'blockchain' to address regional financial difficulties in African markets (Zhuo *et al*. 2023).

Furthermore, by assuring transactional security via immutability and decentralisation, 'blockchain technology' reduces the danger of fraud and allows for peer-to-peer transactions without the need for intermediaries (Eyo-Udo *et al.* 2024). The adoption of 'cryptocurrencies' has the potential to overcome economic inequities and promote global financial inclusion by increasing financial accessibility and transparency.

2.3 Challenges faced by regulatory bodies, financial institutions for cryptocurrency integration

Integrating cryptocurrency presents complicated challenges for financial institutions and regulatory authorities, requiring risk management, technological adaptation, and strategic policy alignment (Islam *et al*. 2021). Cryptos' multi-functionality as money, products, and payment systems makes them difficult to define, complicating international regulation efforts. Some countries have outlawed Bitcoin, while others have warned of its hazards as this is due to the fact that 'cryptocurrencies' are still decentralised worldwide, as opposed to conventional financial systems, which are classified uniformly (Carvalho *et al.* 2021).

Due to anonymity has the ability to promote illicit activities such as money laundering and terrorist financing, security concerns heighten integration issues (Carvalho *et al.* 2021). However, 'blockchain technology' provides a secure record, as 'virtual currencies' may still be abused due to a lack of robust investigative mechanisms (Islam *et al.* 2021). Some regulatory bodies urge banks to limit their interactions with cryptocurrency players and advocate for institutional supervision, while others are looking into methods to effectively oversee digital transactions via cooperative enforcement (Carvalho *et al*. 2021). As 'cryptocurrencies' promote financial access and innovation, their legislative integration is hampered by security flaws, enforcement concerns, and jurisdictional conflicts (Islam *et al.* 2021). The key issue of debate is whether the decentralised ethos of digital banking can be kept by more institutional regulation in order to mitigate these risks.

2.4 Theoretical Implications - Disruptive Innovation Theory

'Disruptive innovation theory' posits that new technologies initially underperform on traditional metrics but eventually displace established incumbents by addressing overlooked market segments (Manzoor *et al.* 2022). 'Cryptocurrencies' exemplify such disruption. Titov *et al*. (2021) and Makarov and Schoar (2022) argue that 'blockchain-based systems' challenge traditional banking by enabling decentralised, transparent, and efficient peer-to-peer transactions. However, from a disruptive innovation perspective, 'cryptocurrencies' scalability issues and security vulnerabilities (e.g., Sybil attacks) indicate their current inability to fully outperform established financial institutions in reliability and regulation (Makarov and Schoar, 2022).

Zhuo *et al*. (2023) and Eyo-Udo *et al.* (2024) highlight that 'cryptocurrencies' foster financial inclusion and streamline cross-border payments, especially in underserved regions. This aligns with the disruptive innovation pattern of entering low-end or untapped markets where traditional systems underdeliver. Nevertheless, this disruption is incomplete without resolving core issues like volatility, lack of liquidity, and legal uncertainties (Makarov & Schoar, 2022).

Regulatory challenges, as noted by Carvalho *et al.* (2021) and Islam *et al*. (2021), further complicate integration as disruption requires eventual mainstream adoption, yet inconsistent global frameworks hinder institutional

acceptance. Thus, while cryptocurrencies embody disruptive potential, their transformative capacity depends on addressing foundational limitations without undermining the decentralised principles that define their innovation.

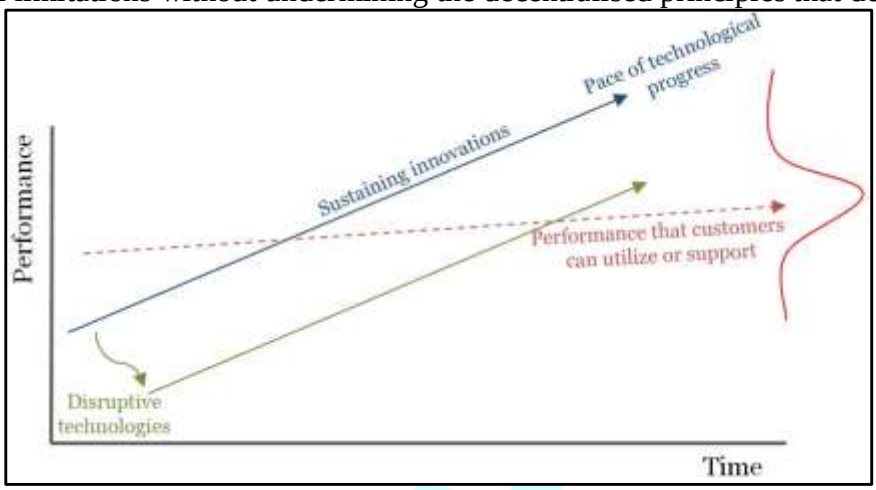

Figure 3: Disruptive Innovation Theory
(Source: Manzoor *et al*. 2022)

2.5 Literature Gap

Despite growing research on 'cryptocurrency's' impact on traditional finance, there is a gap in critically examining its evolution, particularly regarding long-term scalability, regulatory adaptation, and inclusion in mainstream financial systems while preserving decentralisation. This limits understanding of the true disruptive potential of 'blockchain technology' and the integration of 'cryptocurrency' into regular financial processes.

Chapter 3: Research Methodology

3.1 Research Philosophy

This particular adopted a 'pragmatism research philosophy' by recognising that the objective viewpoints of the study contribute to an extensive understanding of the impact of 'cryptocurrency'. In this case, 'pragmatism research philosophy' was suitable for the researcher, as it allowed 'quantitative numeric data' from secondary dataset and qualitative information from case studies. It emphasised practical outcomes and relevance, aligning with the study's aim to explore both the challenges and opportunities arising from cryptocurrency integration into traditional financial systems.

3.2 Research Approach

A 'deductive research approach' was utilised in this research by the integration of the theoretical frameworks that are related to disruptive innovation and understanding the impact of blockchain technology on financial systems. As per Kumar and Ujire (2024), this approach allows for testing the existing theories against real-world data by making sure that the conclusions that were made were logically derived.

3.3 Research Design

An 'exploratory research design' was utilised in this specific research for the investigation of causal relationships between the rises of 'cryptocurrencies' with disruptions in the financial institutions. This design was used with the aim of clarifying how different 'cryptocurrencies' like Bitcoin sway the banking system, along with regulatory frameworks by the understanding of its implications on both macro and microeconomic levels.

3.4 Data Collection Technique

For this research, 'secondary qualitative data' was collected by taking information from case studies, regulatory reports and news articles for market analytics about 'cryptocurrencies'. A 'mixed method strategy' was applied from the case studies by taking quality numeric information for the balanced evaluation of opportunities, along with challenges and disruption in the financial ecosystem.

3.5 Data Analysis Technique

'Thematic data analysis technique' was used for the identification, analysis and interpretation of the patterns within the data that was collected from the case studies. As per Braun and Clarke (2023), 'thematic analysis' allows for a deep exploration of underlying issues and opportunities that are presented in the 'secondary sources'. It facilitated a structured interpretation of findings across various academic and practical perspectives.

3.6 Research Ethics

This research showed adherence to the copyright acts by making sure that all the accessed sources are acknowledged through reference list and citation. For conducting this study, no kind of personal data or sensitive information was collected, and all the case studies were rom authentic sources with no plagiarism and manipulation of data.

Chapter 4: Findings and Analysis

4.1 Findings

Authors	Findings
(Oliver, 2025)	'Cryptocurrencies' are disrupting traditional banking with the elimination of intermediaries and reducing costs. With over 22,000 'cryptocurrencies' and a market capitalisation exceeding $1 trillion (as of 2024), they offer faster, cheaper transactions compared to traditional transactional systems. 'Blockchain-based payments' bypass correspondent banks, cutting fees and delays. The $600 billion global remittance market faces competition from stablecoins like USDT and USDC, which enable seamless transfers without currency conversion fees. 'Decentralised finance (DeFi)' platforms like 'Aave' and 'Compound' allow direct lending and borrowing, reducing reliance on banks. As crypto adoption grows with time, financial institutions must adapt to remain relevant in an increasingly decentralised economy.
(Westbrook, 2024)	'Cryptocurrencies' are fundamentally challenging established financial systems, as evidenced by their explosive market growth to $3.2 trillion, exceeding the time of 2021. 'Bitcoin's' surge to a record $93,480 and doubling in value this year shows the aspect of growing investor confidence outside traditional banking channels. There is also the influx of $4.05 billion into spot 'Bitcoin ETFs' since November 6, representing approximately 15% of total inflows since January, showing institutional capital shifting toward crypto assets. This momentum threatens traditional payment networks through faster, borderless transactions while reducing reliance on financial intermediaries as investors bypass conventional banking systems to access these rapidly appreciating digital assets.
(Khetan, 2025)	'Cryptocurrencies' offer significant opportunities for financial inclusion by providing services to India's 190 million unbanked citizens through platforms like 'WazirX' and 'CoinSwitch Kuber'. These digital assets help in the creation of accessible financial tools, particularly in rural areas where traditional banking infrastructure is limited. For cross-border transactions, cryptocurrencies dramatically reduce remittance costs to just 1-2% compared to traditional channels. This potentially increases disposable income for millions of families receiving portions of India's $89 billion annual remittance inflow. Additionally, small and medium enterprises can participate more easily in global trade by bypassing complex foreign exchange regulations and reducing transaction costs, facilitating international market access previously unavailable to many Indian businesses.
(Shewchuck, 2024)	'Cryptocurrencies' are being seen as a means of bringing Southeast Asia's 70% of people who do not have bank accounts or are underbanked into the financial mainstream. 'Cryptocurrency' enables monetary transactions to take place outside of traditional banking institutions, which is particularly attractive, taking into consideration that 78% of the world's population has a mobile phone. 'BitPesa' and other platforms use blockchain technology to improve the efficiency and cost of international money transfers. By eliminating intermediaries and allowing users to securely store, send, and receive money,

	'cryptocurrency' reduces costs and boosts accessibility. If 'decentralised finance (DeFi)' solutions gain popularity in the marketplace, underprivileged communities throughout the world may acquire even more influence.
(Reuters, 2024)	Regulatory bodies face significant challenges in 'cryptocurrency' oversight, as demonstrated by the FTX collapse, which required a $12.7 billion court-ordered repayment to customers. The CFTC's case against FTX highlights the difficulty in preventing fraud when exchanges create "an illusion of safety" while misappropriating customer deposits. Financial institutions struggle with valuation norms, as shown by FTX's bankruptcy proposal to repay based on November 2022's far lower bitcoin pricing. The case also reveals the complexity of asset recovery, as regulators needed to coordinate settlement priorities, as shown by the CFTC's $8.7 billion restitution and $4 billion disgorgement arrangement until customers receive compensation.

Table 1: Data Extraction

(Source: Author)

4.2 Discussion

Oliver (2025) and Westbrook (2024) argue that cryptocurrencies are actively disrupting traditional banking systems by eliminating intermediaries, reducing transaction costs, and attracting institutional capital. Oliver (2025) highlights the efficiency of blockchain-based payments and the rise of stablecoins like USDT and USDC, which are revolutionising remittances by bypassing banks and minimising currency conversion costs. Similarly, Westbrook (2024) emphasises the growing investor confidence, citing 'Bitcoin's' record value and the influx of capital into 'Bitcoin ETFs' as indicators of a shift away from traditional finance.

However, from the literature, Titov *et al.* (2021), as well as Makarov and Schoar (2022), caution against overestimating this disruption. They argue that while cryptocurrencies promise innovation, their volatility, along with lack of liquidity and security concerns, such as Sybil attacks, prevent them from fully replacing traditional financial intermediaries (Makarov and Schoar, 2022). Moreover, these technologies face scalability challenges and legal uncertainties, which hinder widespread adoption and integration. However, Robinson *et al.* (2023) note that traditional networks like 'Visa' and 'SWIFT' continue to give reliable as well as rapid transactions with well-established governance structures. This suggests a coexistence model rather than full displacement. While Oliver (2025) and Westbrook (2024) emphasise crypto's rapid growth, the literature argues its limitations must be addressed before it can sustain true disruptive dominance over established financial institutions.

Khetan (2025) and Shewchuck (2024) emphasise the transformative potential of cryptocurrencies in enhancing financial inclusion and cross-border transactions. Khetan (2025) highlights India's unbanked population, noting how platforms like WazirX provide rural users access to financial tools while drastically lowering remittance costs. These views are supported by Zhuo *et al.* (2023) and Eyo-Udo *et al.* (2024) from literature, who argues that stablecoins and blockchain networks like Stellar offer secure, accessible financial solutions where traditional infrastructure is lacking. The literature aligns with the point that 'cryptocurrencies' reduce reliance on intermediaries, decrease transaction fees, and offer a lifeline to disadvantaged communities.

Shewchuck (2024) focuses on Southeast Asia, where 70% of people remain unbanked, and does illustration of how mobile-enabled crypto platforms like 'BitPesa' bypass traditional systems to have efficient, low-cost transfers, potentially empowering underbanked populations globally. However, Owolabi *et al.* (2024) and Eyo-Udo *et al.* (2024) caution that regulatory barriers and limited internet penetration in some regions can still hinder mass adoption despite the benefits. Additionally, the volatility of many cryptocurrencies, though mitigated by stablecoins, remains a risk to financial stability in low-income communities. In this manner, the literature insists that practical limitations must be addressed for this potential to be fully realised, while the findings agree on crypto's promise for inclusion.

Reuters (2024) highlights the FTX collapse as a stark example of regulatory failure, illustrating how poorly regulated exchanges can mask systemic risks and complicate legal asset recovery. This aligns with the literature of Islam *et al.* (2021) and Carvalho *et al.* (2021), who stress the challenges regulators face due to 'cryptocurrency's' decentralised, multi-functional nature. However, Carvalho *et al.* (2021) argue that 'blockchain's' transparency offers potential oversight mechanisms, suggesting that regulatory gaps come more from enforcement inefficiencies than technological limits. While Reuters (2024) focuses on reactive regulation post-failure, the academic literature urges proactive global coordination to balance innovation with risk management in a decentralised financial ecosystem.

Chapter 5: Conclusion and Recommendation

5.1 Conclusion

This study concludes that cryptocurrencies are significantly reshaping financial systems by disrupting traditional institutions, enhancing financial inclusion, and exposing regulatory gaps. While its potential is immense, challenges such as volatility, along with legal ambiguity and legal as well as regulatory limitations must be addressed for sustainable integration into global finance.

5.2 Linking with Objectives

- The first objective is met by addressing how cryptocurrencies disrupt the macroeconomy by shaking the banks and financial intermediaries.
- The second objective is met as the study outlined the inclusion and cross-border potential through the adoption of mobile-enabled crypto platforms.
- The third objective is met as the research highlights the regulatory and institutional challenges.

5.3 Future Scope

Future research should explore how emerging regulatory frameworks, such as central bank digital currencies (CBDCs), influence 'cryptocurrency' adoption. Additionally, investigating the socio-economic impact of 'cryptocurrency' on unbanked populations across varying legal environments would enhance understanding of long-term viability and scalability in mainstream financial ecosystems.

5.4 Recommendations

The policymakers of the countries need to develop a unified strategy with adaptive regulatory frameworks which give protection to consumers as it fosters innovation. This aspect includes the implementation of various oversight mechanisms for the exchange process of 'cryptocurrencies'. This can be done through the promotion of blockchain education among the masses, and these measures will help in building the trust of the public. This will make sure that the integration of the 'cryptocurrencies' does the benefit of both the financial institutions as well as underserved communities.

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