

## Crypto Currency Based Financial Transaction Management System

**Ngoc Lien Le Tieu**

Faculty of Finance and Banking, University of Economics and Law (UEL), Vietnam National University Ho Chi Minh City, Vietnam

Email ID: [lienltn19604@sdh.uel.edu.vn](mailto:lienltn19604@sdh.uel.edu.vn)

**Dr. Kishore Kunal**

Associate Professor, Loyola Institute of Business Administration, Chennai, Tamil Nadu

Email ID: [kishore.sone@gmail.com](mailto:kishore.sone@gmail.com)

**Dr. Richa Mishra**

Assistant Professor, STEP-HBTI, Kanpur, Uttar Pradesh

Email ID: [richa.stephbt@gmail.com](mailto:richa.stephbt@gmail.com)

**Heena Vig**

B.Sc (hons) in Physics, PDM University, Bahadurgarh, Haryana, India

Email ID: [heenavig5@gmail.com](mailto:heenavig5@gmail.com)

**Dr. Sunil M. Adhav**

Associate Professor, Faculty of Management (PG), MIT-WPU's School of Management (PG), Dr. Vishwanath Karad MIT-World Peace University, Pune (India)

Email ID: [adhav.sunil2010@gmail.com](mailto:adhav.sunil2010@gmail.com)

**Jasleen Sodhi**

Post Graduate student, Department of Sociology, Indira Gandhi National Institute University, New Delhi, India

Email ID: [csodhi97@gmail.com](mailto:csodhi97@gmail.com)

### Abstract

**Background:** Crypto currencies are digital currencies operating on a decentralized platform and have become increasingly popular recently. This research aims to explore the potential of cryptocurrency-based financial transaction management systems as an alternative to traditional economic methods, evaluating their potential benefits and drawbacks.

**Methodology:** The study employs a quantitative research approach, utilizing a survey of 50 respondents to analyze the attitudes and perceptions of individuals towards crypto currency-based financial transaction management systems. The survey consists of Likert scale questions designed to evaluate the security, transaction speed, cost-efficiency, and potential for disruption of traditional economic systems associated with crypto currency-based financial transaction management systems.

**Conclusion:** The research concludes that cryptocurrency-based financial transaction management systems have the potential to offer faster and more cost-efficient transactions with improved security compared to traditional economic methods. The survey responses indicate that respondents strongly agree with the potential benefits of cryptocurrency-based financial transaction management systems, including their high level of security, transaction speed, and potential to disrupt traditional economic systems. Implications: Policymakers and regulators must address these concerns and create a regulatory framework that balances innovation and risk management.

**Keywords:** Crypto currency, financial transaction management system, Digital currency, Decentralization, Block chain technology, Security

### Introduction

One often utilized phrase in today's economic sector study is "financial technology." FinTech, or financial tech, is the application of advanced contemporary tech to the universe of money. In essence, it is the use of advanced, disruptive technology to deliver financial services. The notion of fintech reached its zenith in the late 2010s (Haddad, 2018). Financial tech reacted to the desire of those who invest in greater security by offering innovative & secure economic services. The desire for financial services at lower costs that enable mobility and a faster speed

is another factor that may have contributed to the creation of fintech (2016, Anikina et al.). The global financial problem of 2008 has been the primary driver of Financial Tech's rise (Haddad, 2018).

Cryptocurrencies, most exemplified and emphasized by Bitcoin, are decentralized money instruments that are not subject to centralized control, do not meet the criteria for classification as traditional fiat currency, and offer some degree of user anonymity (Luther, 2015). The misunderstanding around the accounting treatment of these things may increase as a result of this categorization by the media, consumers, and business groups. Here are some applications and alternatives for how to account for these things. However, it is crucial to understand that crypto-assets do not always correspond to Cryptocurrencies. One may argue that going into such detail at this early stage of the reporting and taxing discourse is unnecessary. However, doing so would simply give a distorted and incomplete picture of the situation (Smith S. S. et al. 2021).

Cryptocurrencies like Bitcoin are decentralized in nature. It relies on cryptography for its construction and maintenance rather than on central authority for its operation (Vachher, P. 2018). It uses a peer-to-peer model for transaction processing. Many network nodes do the transaction verification between two peers rather than a single dedicated server, and transactions are stored in a blockchain, a publicly accessible distributed ledger. Using real currency can lower the costs and risks of traditional electronic financial transactions. However, for payments across a communication channel, one still needs a reliable third party to function as an intermediary. Another significant drawback is that the payee and recipient are unable to do business, which wastes time and reduces computing efficiency when financial institutions mistakenly are unable to deliver services. An electronic payment system based on cryptographic evidence was proposed to overcome the drawbacks of the traditional technique of conducting electronic financial transactions. With this strategy, a trade among 2 partakers might be achieved without the involvement of a third-party (Goundar, S. et al. 2021).

The advancement of block chain tech has fueled the growth of cryptocurrency-based financial transaction management solutions. A de-centralized virtual ledger employing block chain tech keeps a trail of all transactions in a safe, transparent, & tamper-proof method (Antonopoulos & Wood, 2014). As a result, blockchain technology enables cryptocurrency-based financial transaction management systems to offer safe, open, and hacker- and fraud-resistant transactions.

Cross-border payments are one possible use case for cryptocurrency-based financial transaction management systems. With hefty fees and protracted processing periods, using traditional banking institutions to make cross-border payments may be expensive and time-consuming. Contrarily, cryptocurrency-based financial transaction management systems might revolutionize the way cross-border payments are conducted by offering quicker and less expensive cross-border transactions (Rice, M. 2019).

Nevertheless, several obstacles exist to adopting cryptocurrency-based financial transaction management systems. The volatility of cryptocurrency values, which may cause considerable swings in the value of transactions, is one of the biggest problems (Kshetri, 2018). In addition, the absence of legal safeguards and regulatory frameworks for cryptocurrency-based transactions can also make it difficult for them to be used in the banking sector (Kshetri, 2018).

The advantages of cryptocurrency-based financial transaction management systems outweigh these difficulties. Cryptocurrency and blockchain technology have the potential to make financial transactions quicker, less expensive, and more secure while lowering the risks involved with conventional financial systems. In the upcoming years, cryptocurrency-based financial transaction management systems are anticipated to expand as the technology develops and matures (Bondarenko O. et al., 2019).

### **Objectives**

- To evaluate the effectiveness of cryptocurrency-based financial transaction management systems in terms of security, transaction speed, and cost efficiency.
- To explore the impact of cryptocurrency-based financial transaction management systems on traditional banking and financial systems,

### **Literature Review**

(Rejeb, A., et al. 2021) investigate the rising demand for and use of Cryptocurrencies in the financial sector in their study titled "Cryptocurrencies in Modern Finance: A Literature Analysis." The authors offer a thorough analysis of the current cryptocurrency literature and consider how it could affect established financial institutions. Starting with the invention of Bitcoin in 2009 and ending with the introduction of new Cryptocurrencies in recent years, the writers analyze the development and history of Cryptocurrencies. The study looks at some of the fundamental features of Cryptocurrencies, such as their use of blockchain technology, decentralized nature, and capacity for quick and safe transactions. The potential advantages and disadvantages of Cryptocurrencies are also examined by Rejeb et al., including their potential to broaden financial inclusion, lower transaction costs, and improve security and privacy, as well as their potential for volatility, price manipulation, and regulatory difficulties. The writers also go through the possible effects of Cryptocurrencies on conventional financial institutions and systems, including the necessity for regulation and control, as well as the possibility of disruption. From the viewpoint of the customers, the study "Accepting Financial Transactions Utilizing Block chain Tech & Cryptocurrency: A Customer Perspective Approach" by (2020, Albayati, H., et al.) examines the potential of blockchain technology and cryptocurrency to make financial transactions easier. In order to learn more about how consumers feel about utilizing Cryptocurrencies and blockchain technology for financial transactions, the authors conducted a poll. Researchers then examined the results to find possible advantages and difficulties with their adoption. The growth of blockchain technology, Cryptocurrencies, and their potential to transform financial transactions are covered by the writers in the opening paragraphs. The results of their poll, which showed that consumers typically have favourable sentiments regarding the usage of Cryptocurrencies and blockchain technology for financial transactions, are next presented. Consumers view Cryptocurrencies as quick and convenient, while blockchain technology is perceived as safe and transparent. The authors also point out several obstacles to the widespread use of Cryptocurrencies and blockchain technology, such as a lack of knowledge about the technology, worries about security and privacy, and price volatility. Researchers contend that overcoming these difficulties is essential to the financial sector's effective adoption of blockchain technology and Cryptocurrencies.

The 2019 publication by (Moradi et al., 2019) titled "A Sustainable Cybersecurity Solution: Blockchain Utilizing Cryptocurrency in Smart Grids for Financial Transactions" examines how Cryptocurrencies and blockchain technology may be used to strengthen the security of innovative grid systems. The authors contend that bitcoin and blockchain technology can offer a more secure and long-lasting solution and that conventional methods of cybersecurity in intelligent grids are insufficient. The authors start by going through the possible weaknesses of innovative grid systems and the difficulties in assuring their security. The researcher then reviewed their suggested solution, which calls for securing data transfers using blockchain technology and streamlining financial transactions inside the intelligent grid by employing Crypto currencies. The new strategy by Moradi et al. may help overcome some of the security issues that intelligent grid systems encounter. While using Crypto currencies can lower the risk of financial fraud and provide secure and efficient financial transactions, block chain tech can enhance the security and transparency of data sharing.

### **Method**

To inquire about the two objectives of the research study on crypto currency-based financial transaction management systems, a descriptive quantitative survey was conducted among 50 respondents. The survey was designed to gather data on the perceived security, transaction speed, cost-efficiency, disruptive potential, and regulatory implications of cryptocurrency-based financial transaction management systems. The survey consisted of Likert scale questions based on the two objectives of the study. It was distributed to a sample of 50 individuals through online platforms at the convenience of the respondents.

The survey responses were analyzed using descriptive statistics, such as frequency distributions, to provide an overview of the attitudes and perceptions of the respondents towards cryptocurrency-based financial transaction management systems.

**Data Analysis**

Utilizing MS Excel software, the collected data was analysed by the researcher. Statistical analysis was performed by calculating the mean and standard deviation to evaluate the results of the study.

**Table No. 1 The frequency distribution of obtained responses from the questionnaire**

| Sr. No. | Questions   | Responses      |           |           |           |                   | Statistical Analysis |           |
|---------|---|----------------|-----------|-----------|-----------|-------------------|----------------------|-----------|
|         |   | Strongly Agree | Agree     | Neutral   | Disagree  | Strongly Disagree | Mean                 | Std. Dev. |
|         |   | Frequency      | Frequency | Frequency | Frequency | Frequency         |                      |           |
| 1       | The mechanism now in use for managing financial transactions with crypto currencies is quite safe.  | 25             | 12        | 3         | 7         | 3                 | 2.02                 | 1.92      |
| 2       | Systems for managing financial transactions based on crypto currencies are less expensive than conventional banking systems.                | 22             | 15        | 4         | 6         | 3                 | 2.06                 | 1.92      |
| 3       | Financial transaction management systems based on crypto currencies process transactions more quickly than conventional banking systems do. | 14             | 21        | 5         | 8         | 2                 | 2.26                 | 2.03      |
| 4       | Systems for managing financial  | 19             | 11        | 5         | 7         | 8                 | 2.48                 | 2.43      |

|   |   |    |    |   |   |   |      |      |
|---|---|----|----|---|---|---|------|------|
|   | transactions based on crypto currencies have the potential to revamp established banking and financial institutions.  |    |    |   |   |   |      |      |
| 5 | The possible legal and regulatory ramifications of financial transaction management systems based on crypto currencies must be addressed by regulators and lawmakers. | 15 | 18 | 7 | 5 | 5 | 2.34 | 2.18 |

### Results

The respondents believe that the crypto currency-based financial transaction management system they use is highly secure. The respondents agree that the transaction speed of crypto-currency-based financial transaction management systems is faster than traditional banking systems.: The respondents agree that cryptocurrency-based financial transaction management systems are more cost-efficient than traditional banking systems. The respondents agree that crypto currency-based financial transaction management systems have the potential to disrupt traditional banking and financial systems. The respondents agree that it is essential that regulators and policymakers address the potential legal and regulatory implications of cryptocurrency-based financial transaction management systems.

Overall, the results indicate that the respondents have a favourable view of cryptocurrency-based financial transaction management systems. Respondents agree that such systems are secure, fast, cost-efficient, and have the potential to disrupt traditional banking and financial systems. Respondents also believe that regulators and policymakers should address the legal and regulatory implications of cryptocurrency-based financial transaction management systems.

### Discussion And Conclusion

The survey's findings imply that respondents have a generally favourable opinion on systems for managing financial transactions based on cryptocurrencies. People fervently concur that these solutions are much speedier and safer than conventional banking systems. It has also concurred that crypto currency-based financial transaction management systems have the ability to upend established banking and financial systems and are more cost-effective than those solutions.

These findings are in line with the increasing interest in and uptake of cryptocurrency-based financial transaction management solutions among businesses and consumers globally. The advantages of a cryptocurrency over conventional banking systems include enhanced security, decreased transaction costs, and quicker transaction

rates. The findings also emphasize the need for policymakers and regulators to address the possible legal and regulatory ramifications of financial transaction management systems based on crypto currencies. For regulators and politicians, crypto currencies' decentralized structure and absence of regulation might be problematic. In order to safeguard consumers and stop illegal activities like money laundering and terrorism funding, it is crucial to carefully analyze the effects of crypto currency-based financial transaction management systems on the more extensive financial system.

Overall, the survey's findings offer insightful information about people's attitudes and perceptions of systems for managing financial transactions based on crypto currencies. The findings point to the potential for such systems to revolutionize the financial sector and challenge established banking institutions. However, careful thought is needed to ensure the broader ramifications are appropriately handled.

### References

- [1] Albayati, H., Kim, S. K., & Rho, J. J. (2020). Accepting financial transactions using blockchain technology and crypto currency: A customer perspective approach. *Technology in Society*, 62, 101320.
- [2] Anikina, I. D., Gukova, A. V., Golodova, A. A., & Chekalkina, A. A. (2016). Methodological aspects of prioritization of financial tools for stimulation of innovative activities.
- [3] Antonopoulos, A. M., & Wood, G. (2014). *Mastering Bitcoin: Unlocking Digital Crypto currencies*. O'Reilly Media, Inc.
- [4] Goundar, S., Singh, A., Saini, S., Tafsil, F., Shabnam, S., & Prakash, K. (2021). An overview of crypto currencies for online payments of enterprise systems. *Blockchain Technologies, Applications and Crypto currencies: Current Practice and Future Trends*, 249-266.
- [5] Haddad, C., & Hornuf, L. (2019). The emergence of the global fintech market: Economic and technological determinants. *Small business economics*, 53(1), 81-105.
- [6] Kshetri, N. (2018). Blockchain's roles in meeting key supply chain management objectives. *International Journal of Information Management*, 39, 80-89.
- [7] Luther, W. J. (2016). Bitcoin and the future of digital payments. *The Independent Review*, 20(3), 397-404.
- [8] Moradi, J., Shahinzadeh, H., Nafisi, H., Gharehpetian, G. B., & Shaneh, M. (2019, June). Blockchain, a sustainable solution for cybersecurity using crypto currency for financial transactions in Smart Grids. In *2019 24th Electrical Power Distribution Conference (EPDC)* (pp. 47-53). IEEE.
- [9] Rejeb, A., Rejeb, K., & Keogh, J. G. (2021). Crypto currencies in modern finance: a literature review. *Etikonomi*, 20(1), 93-118.
- [10] Rice, M. (2019). Cryptocurrency: History, Advantages, Disadvantages, and the Future.
- [11] Smith, S. S., Petkov, R., & Lahijani, R. (2019). Blockchain and Crypto currencies-Considerations for Treatment and Reporting for Financial Services Professionals. *International Journal of Digital Accounting Research*, 19.
- [12] Vachher, P. (2018). Bitcoin: The Future of Digital Payments?
- [13] Bondarenko, O., Kichuk, O., & Antonov, A. (2019). The possibilities of using investment tools based on cryptocurrency in the development of the national economy. *Baltic Journal of Economic Studies*, 5(2), 10-17.