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AN EXPLORATORY STUDY ON THE IMPACT OF DIGITAL CURRENCY ON THE FINANCIAL SYSTEM

B.Geethpriya

Assistant Professor, M.Com IB.,M.Phil.,PGDCA.,Ph.D,
Department of Commerce, Rathinam College of Arts and Science, Coimbatore

Thasmina

M, II M. Com CA
Department of Commerce, Rathinam College of Arts and Science, Coimbatore

ABSTRACT

This study explores the impact of digital currency on the financial system, focusing on its role in transforming traditional financial practices. Digital currencies, including cryptocurrencies and central bank digital currencies (CBDCs), have introduced new methods of payment, investment, and value transfer. The research examines key aspects such as efficiency, transparency, security, and financial inclusion brought about by digital currency adoption. It also analyzes the challenges faced by financial systems, including regulatory issues, volatility, cybersecurity risks, and lack of awareness among users. Using exploratory research methods, the study reviews existing literature, reports, and market trends to understand the evolving landscape. The findings suggest that while digital currencies offer significant opportunities for innovation and growth in the financial sector, they also require strong regulatory frameworks and technological safeguards to ensure stability and trust. Overall, digital currency is reshaping the financial ecosystem, influencing both institutions and consumers globally.

Keywords: *Digital Currency, Cryptocurrency, Financial System, Blockchain Technology, Financial Inclusion*

1. INTRODUCTION OF THE STUDY

The rapid advancement of digital technologies has transformed almost every aspect of the global economy, including the way financial transactions are conducted. One of the most significant developments in this digital transformation is the emergence of **digital currencies**, which include cryptocurrencies such as Bitcoin and Ethereum, privately issued stablecoins, and Central Bank Digital Currencies (CBDCs) planned or launched by several countries. These innovations represent a major shift from traditional physical money toward decentralized, technology-driven financial systems.

Digital currencies are gaining worldwide attention due to their potential to increase the speed, efficiency, and transparency of transactions. They operate through advanced technologies such as blockchain and distributed ledger systems, which ensure secure, tamper-resistant, and real-time financial operations.

However, the rise of digital currencies also brings new challenges and uncertainties. Questions about **financial stability, regulatory frameworks, monetary policy control, cybersecurity risks, and consumer protection** have become central topics of discussion among policymakers and economists. The integration of digital currencies into existing financial systems requires careful analysis to ensure that the benefits outweigh the potential risks.

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2. STATEMENT OF THE PROBLEM

Despite the growing interest and adoption of digital currencies, there is still a lack of comprehensive understanding about their long-term impact on the financial system. Issues such as volatility, regulatory ambiguities, cross-border transaction risks, consumer protection challenges, and technological vulnerabilities create complexities for policymakers and financial institutions. Moreover, different countries are progressing at varying speeds in implementing digital currencies, leading to inconsistent global frameworks.

Therefore, the central problem addressed in this study is the need to explore and evaluate the multifaceted impact of digital currencies on the financial system, including their potential benefits, risks, and implications for future financial stability and policy development. Without adequate research and understanding, stakeholders may face difficulties in creating sustainable, secure, and inclusive financial environments in an increasingly digital global economy.

3. OBJECTIVES OF THE STUDY

1. To analyze the impact of digital currencies on traditional financial institutions, such as banks, payment service providers, and regulatory bodies.
2. **To identify the risks and challenges associated with digital currencies**, such as cybersecurity threats, regulatory gaps, volatility, and misuse for illegal activities.
3. **To study global trends and comparative practices** by analyzing digital currency developments across different countries.
4. **To provide recommendations for policymakers, financial institutions, and businesses** on managing the transition toward digital currency–based financial ecosystems.
5. **To explore consumer perception, acceptance, and usage patterns** regarding digital currencies.

4. RESEARCH METHODOLOGY

RESEARCH DESIGN

This study adopts an exploratory research design aimed at gaining a comprehensive understanding of how digital currencies influence the financial system. Since digital currency is a relatively new and rapidly evolving concept, an exploratory approach is most suitable for identifying emerging patterns, issues, and relationships that are not yet fully defined in existing literature.

DATA COLLECTION

PRIMARY DATA

data refers to **first-hand information collected directly from respondents** for the purpose of this study. In an exploratory study on the impact of digital currency on the financial system, primary data helps understand real-world perceptions, awareness levels, usage patterns, and concerns among individuals and financial professionals.

SECONDARY DATA

Secondary data refers to information that has already been collected, analyzed, and published by credible organizations, researchers, and institutions. In this exploratory study, secondary data serves as the primary source of information due to the global, technological, and evolving nature of digital currencies.

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SAMPLING METHOD

For this exploratory study, a non-probability sampling method is used because the study aims to understand perceptions, awareness, and experiences related to digital currency among individuals who are accessible and knowledgeable about the topic. Since it is difficult to obtain a complete list of all digital currency users or stakeholders, non-probability sampling is the most suitable approach.

SAMPLE SIZE

The sample size has been selected as 150 convenient. This will allow an in- depth study of the survey on the exploratory study on the impact of digital currency on the financial system.

AREA OF THE STUDY

The area of study was conducted in Coimbatore city.

TOOL USED

- Simple percentage
- Chi - Square

SIMPLE PERCENTAGE

Simple percentage Analysis refers to a specific kind of rate or percentage used in making comparisons between two or more series of data. A percentage is used to determine the relationship between the series. One of the most frequent ways to represent statistics is by percentage. Percentage simply means "per hundred", and the symbol used to express the percentage is %.

FORMULA OF SIMPLE PERCENTAGE

Percentage= (Number of respondents /Total number of respondents) ×100

CHI- SQUARE

The Chi- squared test is done to check if there is any difference between the observed value and the expected value.

FORMULA OF CHI SQUARE

$\chi^2 = \Sigma ((O - E)^2 / E)$

5.REVIW OF LITERATURE

1. Nakamoto (2008) – "Bitcoin: A Peer-to-Peer Electronic Cash System" introduces Bitcoin as a decentralized currency operating without financial intermediaries, highlighting how blockchain technology ensures transparency and security in digital transactions. The paper explains the concept of proof-of-work as a mechanism for validating transactions and maintaining network integrity. It argues that digital currencies could reduce transaction costs and enable global payments. The study also identifies early concerns regarding scalability and energy consumption. Nakamoto emphasizes that digital currency could challenge traditional banking models by eliminating the need for trusted third parties. The paper further outlines the potential for borderless transfers and financial inclusion. It concludes that digital currency represents a transformative shift in money creation and transfer. Overall, the work lays the foundation for subsequent research on the financial implications of cryptocurrencies.

2. Yermack (2015) – "Is Bitcoin a Real Currency? An Economic Evaluation" critically evaluates Bitcoin's economic characteristics and questions whether it functions as a true currency. It highlights

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the extreme price volatility that prevents Bitcoin from being a stable store of value. The research also examines the limited acceptance of Bitcoin in mainstream commerce, which restricts its role as a medium of exchange. Yermack explains that Bitcoin behaves more like a speculative asset than a currency. The author also studies its decentralized nature and implications for monetary policy. The paper warns that financial systems face regulatory challenges due to anonymous transactions. It concludes that although Bitcoin introduces innovation, its instability hinders its economic usability. The study emphasizes the need for regulations to ensure safe adoption. Overall, it provides insights into the economic risks digital currencies pose to traditional financial systems.

6.CHI- SQUARE

A.VARIABLE IDENTIFIED

Variable: Level of familiarity of respondents with the subject / product/ service.

Type: Categorical (Nominal/ Ordinal)

Categories: Very Familiar, Somewhat Familiar, Heard but not sure Not Familiar

B. HYPOTHESES

H_0 (Null Hypothesis): There is no significant difference in the familiarity levels among the respondents (i.e., respondents are equally distributed across all familiarity categories).

H_1 (Alternative Hypothesis): There is a significant difference in the familiarity levels among the respondents.

C.SIGNIFICANCE LEVEL

$\alpha = 0.05$ (5%)

Degrees of Freedom = $k - 1 = 4 - 1 = 3$

Critical Value (χ^2 at df=3, α=0.05) = 7.815

D.FREQUENCY DISTRIBUTION TABLE

S. NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Very Familiar	30	20%
2	Somewhat Familiar	78	52%
3	Heard but not sure	27	18%
4	Not Familiar	15	10%
	Total	**150**	**100%**

E.OBSERVED FREQUENCY TABLE (O)

CATEGORY	OBSERVED FREQUENCY
Very Familiar	30
Somewhat Familiar	78
Heard but not sure	27
Not Familiar	15
Total	**150**

F.EXPECTED FREQUENCY TABLE (E)

Under H_0, respondents are equally distributed equally distributed:

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E = Total / k = 150 / 4 = 37.5 for each category

CATEGORY	EXPECTED FREQUENCY (E)
Very Familiar	37.5
Somewhat Familiar	37.5
Heard but not sure	37.5
Not Familiar	37.5
Total	**150**

G.CHI- SQUARE CALCULATION:

Formula:

$\chi^2 = \Sigma (O - E)^2 / E$

CATEGORY	O	E	O-E	$(O-E)^2$	$(O-E)^2/E$
Very Familiar	30	37.5	-7.5	56.25	1.50
Somewhat Familiar	78	37.5	40.5	1650.25	43.740
Heard but not sure	27	37.5	-10.5	110.25	2.940
Not Familiar	15	37.5	-22.5	506.35	13.500
Total	**150**	**159**			**$\chi^2 = 61.68$**

7.RESULT SUMMARY

PARAMETER	VALUE
Calculated χ^2	61.68
Degrees of Freedom (df)	3
Significance Level (α)	0.05
Critical Value (χ^2-table)	7.815
Decision	Reject H_0

INTERPRETATION

The chi-square test result is statistically significant at the 5% level. This means:

- The distribution of familiarity levels among respondents is not uniform — respondents are not equally spread across the four categories.
- A majority (52%) of respondents are Somewhat Familiar, indicating a dominant tendency toward partial awareness.
- Only 10% are Not Familiar, while 20% are Very Familiar suggesting the subject has reasonable reach but lacks deep familiarity among most respondents.
- The result confirms that there is a significant difference in familiarity levels, which could guide targeted awareness campaigns focused on converting "Somewhat Familiar" respondents into "Very Familiar" ones.

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8. FINDINGS

CHI-SQUARE ANALYSIS

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- A majority (52%) of respondents are Somewhat Familiar, indicating a dominant tendency toward partial awareness.
- Only 10% are Not Familiar, while 20% are Very Familiar suggesting the subject has reasonable reach but lacks deep familiarity among most respondents.
- The result confirms that there is a significant difference in familiarity levels, which could guide targeted awareness campaigns focused on converting "Somewhat Familiar" respondents into "Very Familiar" ones.

9. CONCLUSION

The study on the impact of digital currency on the financial system highlights that digital currencies are transforming the way financial transactions are conducted. They offer advantages such as faster transactions, reduced costs, improved transparency, and increased financial inclusion. However, challenges such as security risks, lack of awareness, regulatory uncertainty, and technological limitations still exist.

Digital currency has the potential to revolutionize the financial system by making it more efficient and accessible. With proper regulations, strong security measures, and increased public awareness, digital currencies can play a significant role in shaping the future of global finance.

In conclusion, while digital currency presents both opportunities and challenges, its growth is inevitable, and it will continue to influence the evolution of the financial system in the coming years.

REFERENCES

1. Satoshi Nakamoto (2008) Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. Retrieved from https://bitcoin.org/bitcoin.pdf
2. David Yermack (2015) Yermack, D. (2015). Is Bitcoin a real currency? An economic appraisal. In D. Lee (Ed.), Handbook of Digital Currency (pp. 31–43). Elsevier.
3. Christian Catalini & Joshua S. Gans (2016) Catalini, C., & Gans, J. S. (2016). Some Simple Economics of Blockchain. MIT Sloan Research Paper No. 5191-16.
4. Rainer Böhme et al. (2015) Böhme, R., Christin, N., Edelman, B., & Moore, T. (2015). Bitcoin: Economics, Technology, and Governance. Journal of Economic Perspectives, 29(2), 213–238.
5. Joshua S. Gans & Hanna Halaburda (2013) Gans, J. S., & Halaburda, H. (2013). Competition in the Digital Currency Market. Bank of Canada Working Paper.

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