



IMPACT OF CRYPTOCURRENCY ON TRADITIONAL BANKING IN INDIA

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ABSTRACT

The advent of cryptocurrency has unleashed a tsunami in the global financial system, and the impact on traditional banking systems, particularly in India, has been nothing short of revolutionary. Effect of cryptocurrency on traditional banking in relation to India(04) Cryptocurrency comprises of non-regulated digital or virtual currency systems that use cryptography as a security process to verify and secure transactions along with the creation of additional units of the currency. Cryptocurrencies are based on the blockchain and are decentralized, serving as an alternative to traditional banking systems due to how it allows for faster, cheaper, and borderless transactions. This threatens traditional banking services, such as remittances, payments and lending.

Speculation Points to Continued Growth in the Indian cryptocurrency industry floundered in the face of regulatory uncertainty, but it has still grown exponentially, as tech-savvy people and businesses adopt cryptocurrencies. Within this context, the study analyzes responses of traditional banks, which range from adopting blockchain technology and enhancing digital offerings to address competition from fintech companies. It also examines any regulatory policies implemented by the Reserve Bank of India (RBI) and the repercussions those policies have on the peaceful coexistence of cryptocurrency and traditional banking.

The paper seeks to delve into potential collaboration and integrate between cryptos and conventional banking in India via a combination of qualitative and quantitative research methods while underlining the necessity of balanced regulation that encourages innovation, all while upholding financial stability. And the research ends with policy recommendations that would allow India's banking sector adapt to digital currency as it evolves.

KEY WORDS: Cryptocurrency, Traditional Banking, Financial Innovation

INTRODUCTION

The rise of cryptocurrency in our lifetimes could perfect the finance ecosystem as we know it, providing the world with an alternative to bank accounts, and transparency with accessible practices. While digital currencies like Bitcoin and Ethereum find renewed purchase on the world stage, India now faces an important choice to ride that wave or be left behind in a race for financial innovation. With a large unbanked public and increasing digital infrastructure, cryptocurrency represents a rare opportunity to support both financial inclusivity and digital innovation.

But this opportunity also points to a much larger issue: a deepening chasm and lack of integration between cryptocurrencies and traditional banking institutions in India. This disruptive technology poses unique challenges for banks, ranging from regulatory uncertainty to technological limitations—problems that could lead to instability and a loss of public trust. Moreover, there are fears that cryptocurrencies will bypass traditional banking systems, rendering them irrelevant or less profitable.

With the little number of empirical works explicitly recognizing the dynamic influence of cryptocurrency on India conventional financial power, the gap can be identified in the existing body of literature. But while global literature has attempted to study

this interaction across economies, there is little focused India-specific research that addresses the regulatory challenges, customer behavioral changes, banking innovation and long-term implications ensuing out of this critical interaction. There is no study so far which encompasses how cryptocurrency adoption would change the landscape of traditional banks in India, and this study intends to fill that gap by analyzing the impact of cryptocurrency adoption on the structure, function, and future of traditional banks in India.

OBJECTIVES

1. To understand how the use of cryptocurrency is affecting the way traditional banks in India work and offer their services.

REVIEW OF LITERATURE

1. "Comparative study on cryptocurrency transaction and banking transaction" (2021)

This research paper answers how transactions with traditional currency differ from transactions with all forms of cryptocurrency, and why people are increasingly looking to cryptocurrencies. It describes the advantages of cryptocurrencies, based on blockchain technology, which enable swifter and leaner cross-border transactions while fostering financial inclusion. It also explores the reason why both individuals and companies are patient with crypto using



the benefits, what's causing them to believe in advantages of crypto over traditional financial systems and crypto's place in the financial sector. It ultimately examines the catalysts behind the rapid adoption of cryptocurrencies across the world today.

2. "Cryptocurrency in India: Cross Border Transactions and Comparative Analysis with the Indian Banking System and Money"(2024)

Due to extensive and decentralized data generated everyday will be helpful in getting more integration with first world banks system showed in this research paper. You argue that cryptocurrencies have the potential to reduce reliance on intermediaries, lower transaction costs, and enhance financial inclusion by examining the historical background, technological foundations, and economic implications of cryptocurrencies. It further analyses the potential strain on financial systems brought by the rise of blockchain technology and the emergence of digital banking services as well as the regulatory hurdles posed on establishment of cryptocurrencies. It also covers the use of cryptocurrencies in cross-border transactions, remittances, and financial services for the unbanked, emphasizing their potential to revolutionize the financial system.

3." Cryptocurrency: An Opportunity for Traditional Banking?"(2024)

This research paper explores the question of whether cryptocurrency represents a risk to traditional banking or an opportunity for financial institutions to innovate. Cryptocurrencies have thus attracted considerable attention, and have been recognized by both governments and large financial institutions as new and powerful forces, which do carry systemic risks of course.the study delves into the possibilities of banks harnessing cryptocurrency and blockchain technology to improve their offerings and adjust to the changing financial environment. It also discusses the fact that financial institutions may be able to influence cryptocurrency prevalence and reliability, and therefore, the form cryptocurrencies will take in the financial system.

4. "A Comparative Study Of India's Central Bank's Digital Currency And Cryptocurrency"(2022)

Central Bank Digital Currencies and Cryptocurrency: A Comparative Analysis of Digital Payment | Research Paper Summary[10.10.23] It mentions the start of digital rupee pilot program by the Reserve Bank of India (RBI) in 2022, intended to improve the efficiency of the payment system and to mitigate the use of digital assets for illegal activity such as money laundering. Introduction: This section highlights the differences between CBDCs and cryptocurrencies, noting that CBDCs are regulated by the government and provide stability and security, while cryptocurrencies are decentralized digital currencies that operate on a blockchain network without central authority control. It also explores the function of cryptocurrency wallets and how each kind of digital currency affects financial systems and monetary policy.

5. "Cryptocurrency and Traditional Banking: An Integrative Analysis of Coexistence and Competition"(2024)

In this study, the researcher discovers the complex dynamic between cryptocurrencies and classical banking which assists to provide analyse coexistence and level of competition among them in financial market. If so, heightened security risks and cyber attacks affects negatively the economics growth segment. Sixty-nine financial experts provided their And it is due to the dynamic nature of the study where primary data analysis would lead to an apt outcome for the study.

6. "Impact of Crypto Currency on Banking Sector In India"(2008)

This research paper investigates the inception of phrases Bitcoin comes around in 2008, post financial catastrophe for numerous reasons government will not get monetary establishment cryptocurrency resistance. It raises issues like volatility, black money, and economic dollarization but also asks if governments have ulterior motives for combating for crypto. The report examines the effect of cryptocurrency on the Indian banking sector, reasons banks prevent crypto investments, user expectations on how digital assets will be in the future and recent regulations in India, especially taxation on earnings of crypto and how it could affect the way forward.

7. "The Concept of the Cryptocurrency and the Downfall of the Banking Sector in Reflecting on the Financial Market"(2021)

In this research the review of digital currencies similar to Bitcoins and Litecoins, their advantages, disadvantages, and impact on the global financial market and Fiat. It shall explore the potential impact of mass adoption of cryptocurrency, as well as those who stand to gain, and those who will become obsolete. Moreover, the paper analyzes what the banking sector would react to this change whether they would get disrupted by cryptocurrencies or would change into a complement financial system but highlights that this change is irreversible.

8. "Cryptocurrencies And Banking System In India-A Conceptual Analysis"(2024)

In this research paper we take a look at the way information and communication technologies have given birth to an alternative to traditional financial medium in the form of cryptocurrencies. It looks into how the currency is being used in different transactions, both virtual and real, and research its implementation, control, how currency is being issued, and other in-depth mechanisms. The study aims to answer crucial questions about the future of cryptocurrencies as a mainstream financial platform and their security. It further explores the challenges, legal issues, and potential effects on monetary systems, businesses, and crime rates and provides a systematic categorization and assessment of existing cryptocurrency platforms.

9. "A Study on Impact of Cryptocurrency on Banking sector"

The present research paper seeks to investigate how cryptocurrency is breaking these traditional boundaries of banking by achieving similar primary objectives like fund



allocation and mediation while avoiding regulation in the process. It examines how cryptocurrencies and widespread adoption of blockchain could lead banks to focus on what may become their secondary, but essential, functions for long-term survival.) Employing secondary data examination, the study examines existing literature to determine the effects of cryptocurrencies on the banking industry, as well as their function as intermediaries in financial transactions.

10. “Cryptocurrency and Banking: Challenges, Considerations, and Disruptions”

This research develops a narrative literature review on the increasing significance of cryptocurrencies in contemporary financial markets. These benefits include diversification, financial inclusion, increased security, lower transaction costs and increased efficiency. Their ability to disintermediate the banking sector by facilitating faster, cheaper transactions is also explored by the study. It also covers how cryptocurrencies are affecting traditional banking and finance over the long term.

11. “The Impact of Digital Currencies on Traditional Monetary System”(2024)

This research paper purports the effect of digital currencies like bitcoin and ethereum on the conventional monetary system, particularly the case of India. The study analyzes the implications of blockchain technology for global economies, namely its potential to undermine central banks' monopoly of currency control, challenge economic stability, and disrupt traditional financial transactions by enabling peer-to-peer transfers that do not require an intermediary (such as banks). The paper also addresses the need for international cooperation to regulate digital currencies as well as risks related to volatility, integration of digital currencies into the existing financial system, and avenues to protect consumers from fraud and other illicit activity. The paper analysis the opportunities for India by implementing Digital Currency and its challenges.

12. “The Impact of Cryptocurrency on Traditional Financial Markets”(2024)

The paper researches the effect of Bitcoin and Ethereum on traditional financial markets and how cryptocurrencies are changing the banking systems, payment systems, and market behavior. It underscores the difference in the decentralized character of cryptocurrencies and the governed framework of traditional finance, while indicating essential fields of interruption such as blockchain adoption, innovation of transactions, and changes in investor behavior. The research also examines an impact of behavioral economics, how cryptocurrencies have altered our views on money, value and risk. It also addresses the profile of the tech aspect of global finance and the regulatory issues that the crypto market presents and how that may impact the future of global finance. The report highlights the potential the report of cryptocurrencies is innovative, the risks associated with volatility, and lack of oversight.

13. “Cryptocurrency adoption and its influence on traditional financial markets”(2023)

There have been multiple studies that have explored the intricate relationship between cryptocurrency adoption and

traditional financial systems. By considering the nobility works that already exist, in order to demonstrate, how crypto currency affect the various important aspects, like stock market, banks, and regulations as well. Common research methods include both qualitative and quantitative analysis of market trends, investor sentiment, and other factors influencing adoption. The findings all reinforce the disruptive nature of cryptocurrencies, pointing to issues such as extreme volatility, changing investor sentiments toward cryptos, and evolving regulatory approaches. Case studies are also getting out there to illustrate the evolving financial ecosystem and its implications for regulators and financial institutions.

14. “Comprehensive Review of functions of Blockchain and crypto currency in finance and banking”(2021)

Research shows that blockchain has opened up new possibilities for the banking sector and business as a whole, but particularly in the form of cryptocurrencies. Most studies start with blockchain functional mechanisms and progress by analyzing its economic and transactional advantages. Much of the literature overstates blockchain's innovative prospects across financial, governmental, and even agricultural domains. Scenario and trend analyses suggest that widespread industrial changes could come within the next decade. Broadly construed, blockchain is being increasingly regarded as an engine of the Fourth Technological Revolution, with considerable opportunities for innovation across.

15. “Banking Meets Crypto: Integration Strategies in a Post-Demonetization Landscape”(2024)

The growing shift from traditional banking systems to cryptocurrencies, particularly in the context of demonetization, has been considerable. Such transition 272 impacts financial stability, regulatory response, and transaction security, according to research. Through empirical analysis using survey data of 183 participants across India, we examine what the public perception of digital currencies are, in the absence of formal regulation. Although data indicates growing acceptance of cryptocurrencies (for example, Bitcoin) as substitutes for fiat money, and vice versa, limited details restrict the empirical specificity of the validation results. For a cryptocurrency, this study therefore provides important insights into the perceived safety, future perspectives, and operational dynamics of them in an increasingly digitizing economy.

HYPOTHESIS

H₀: Awareness and concerns about cryptocurrency do not significantly influence the decision to invest or use cryptocurrency.

Alternative Hypothesis (H₁): At least one of the predictors is significant for whether an individual has invested in or used cryptocurrency or not.

F-value = 0.384, Sig. (p-value) = 0.682

p 0.05: we cannot reject the null hypothesis.

Interpretation: Awareness and have statistically insignificant relationship. On the risks of cryptocurrency and the decision to invest or use cryptocurrency.



METHODOLOGY

The data collection method used to explore the impact of cryptocurrency knowledge, worries, and perceived security on investment behavior. We elaborate further on the research design, methods of data collection and sampling strategy, and analytical tools below.

- Research Design

It's a quantitative, descriptive, and correlational research design. It is intended to measure the level of awareness, apprehension, and attitudes toward cryptocurrency and their impact on individual investment behavior. Such a design allows us to observe trends and relationships between the variables chosen.

- Data Collection Method

The primary data was collected through the online structured questionnaire. The survey included close-ended questions, which encompassed demographic information, awareness levels, trust in traditional banks, perceived crypto security, investment behavior, and preferences for crypto-enabled banking services.

- Sample and Sampling Technique

A non-probability convenience sampling method was adopted. The target population was people with elementary knowledge of finance and internet accessibility, who were assumed to be more inclined to come across and engage in cryptocurrency. Finally, 147 valid responses were available for analysis.

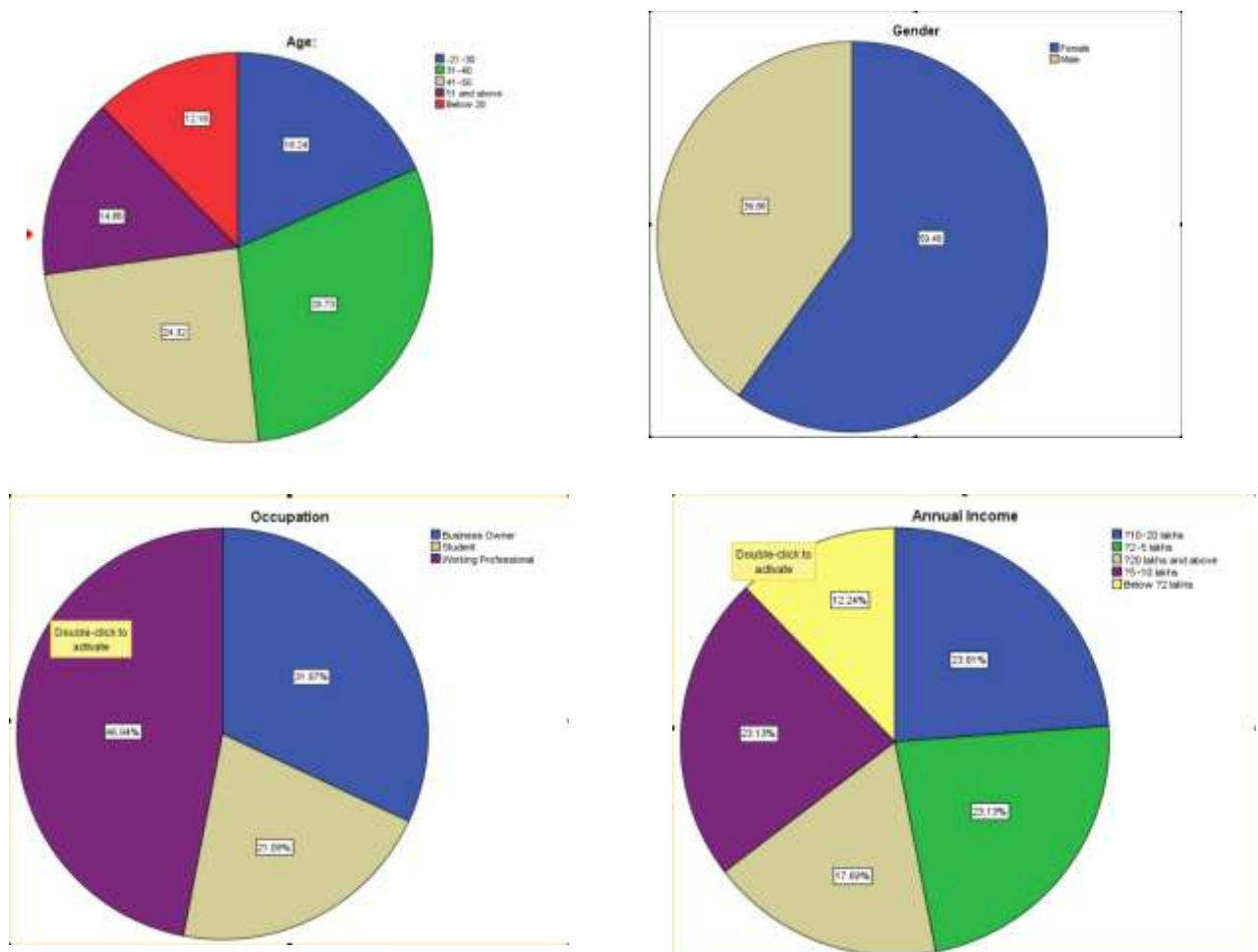
- Tools for Data Analysis

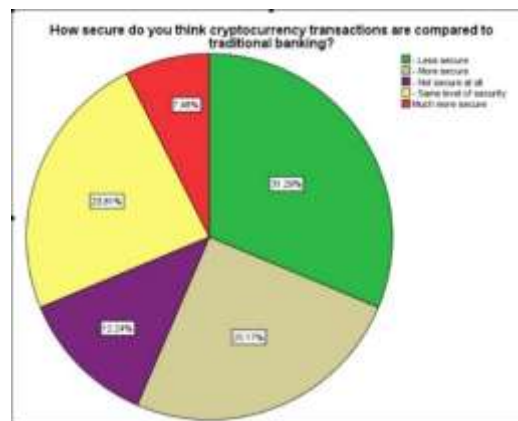
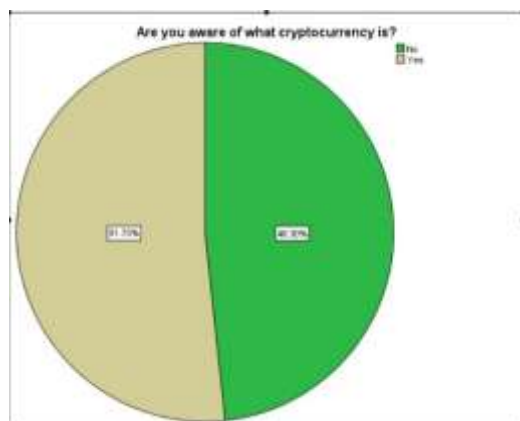
Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Some of the analysis techniques used are:

- Descriptive Statistics to summarize demographic and response data.
- Analysis of Pearson Correlation for assessing relationships among critical variables
- Regression Analysis to ascertain the explaining power of awareness and concerns into investment behavior.
- ANOVA (Analysis of Variance) for testing the overall significance of regression model

ANALYSIS

Descriptive Analysis





1.Age Group

Most of the people who responded to the survey are between 41–50 years old or older than 50. This shows that middle-aged and older adults are more interested or involved in cryptocurrency. This group may be more careful with money but also more financially aware.

2.Gender:

According to research results show that more female are interested in or involved in cryptocurrency compared to men. Which shows the trends where female are usually quicker to try new financial technologies than men .

3.Occupation:

A large number of people interested in cryptocurrency are working professionals. Which indicates people with regular jobs and steady income are more likely to explore and invest in digital currencies.

4.Annual Income:

People with annual income lies between ₹2–5 lakh and ₹5–10 lakh are more interested . This means that people from middle-

income groups are the most curious and actively more explore and invest in crypto. They may see crypto as a new way to invest and other source of income.

5.Cryptocurrencies Known:

Bitcoin is the more familiar cryptocurrency among the participants. Fewer people knew about other cryptocurrencies, rather than Bitcoin.

6.Sources of Awareness:

Most people learned about cryptocurrency with their friends, family, and social media. Where online sources are strong tools for spreading information, especially in the digital world of crypto.

7.Investment Behavior :

Many peoples are willing to invest in cryptocurrency in the future. This shows growing interest and trust. However, there are still some doubts like price changes, government rules, and safety. A lot of people haven't invested yet but they are thinking about doing so in the next 1–2 years.

Correlation

Correlations

[DataSet1]

		Correlations				
		Are you aware of what cryptocurrency is?	Have you ever invested in or used cryptocurrency ?	Do you trust traditional banks more than cryptocurrency platforms?	Would you prefer a bank that offers crypto-related services (e.g., crypto wallets, crypto investment)?	How secure do you think cryptocurrency transactions are compared to traditional banking?
Are you aware of what cryptocurrency is?	Pearson Correlation	1	-.061	-.063	-.140	.094
	Sig. (2-tailed)		.459	.449	.090	.260
	N	147	147	147	147	147
Have you ever invested in or used cryptocurrency?	Pearson Correlation	-.061	1	-.021	-.047	-.038
	Sig. (2-tailed)	.459		.804	.573	.647
	N	147	147	147	147	147
Do you trust traditional banks more than cryptocurrency platforms?	Pearson Correlation	-.063	-.021	1	-.081	.141
	Sig. (2-tailed)	.449	.804		.330	.087
	N	147	147	147	147	147
Would you prefer a bank that offers crypto-related services (e.g., crypto wallets, crypto investment)?	Pearson Correlation	-.140	-.047	-.081	1	-.066
	Sig. (2-tailed)	.090	.573	.330		.425
	N	147	147	147	147	147
How secure do you think cryptocurrency transactions are compared to traditional banking?	Pearson Correlation	.094	-.038	.141	-.066	1
	Sig. (2-tailed)	.260	.647	.087	.425	
	N	147	147	147	147	147

1. Awareness of cryptocurrency vs. Other Factors

- Awareness v. Investment: $r = -0.061$, $p = 0.459$
Bad, not weighty.

Interpretation: There is no correlation between knowing about cryptocurrency, and whether one is more likely to invest in or use it.

- Awareness vs. Prefer Crypto Released Banks: $r = -0.140$, $p = 0.090$



Poorly negative, borderline significance.
Interpretation: There is a slight inclination for more informed people not to want crypto banks, but it is not statistically significant.

- Perception of Security vs Awareness: $r = 0.094$, $p = 0.260$

Though thus a weak positive, not significant.
Interpretation: Does not profoundly influence

2. Investment Experience vs. Other Factors:

- Investment versus Trust in Banks: $r = -0.021$, $p = 0.804$

Negligible, not significant

Interpretation: Just because someone invests in crypto doesn't mean they don't trust banks.

- Investment vs. Preference of Banks for Crypto Services: $r = -0.047$, $p = 0.573$

Absolute negative, not significant.

Interpretation: Heck even those who've bought crypto don't necessarily *want banks to offer crypto services either.

- Investment vs. Security Perception: $r = -0.038$, $p = 0.647$

Negligible, not significant

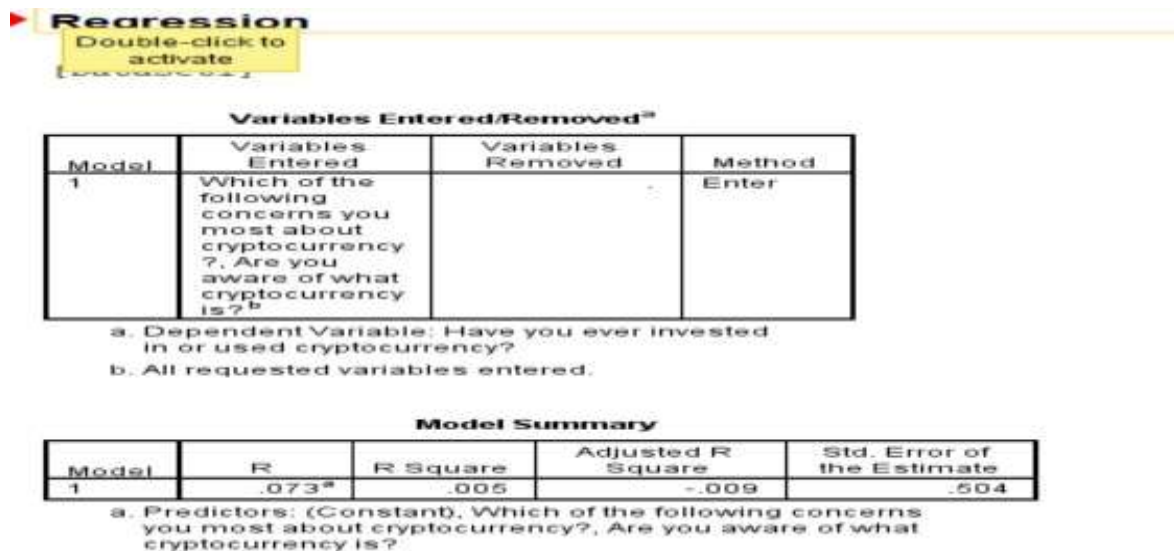
Interpretation: Investment doesn't affect whether a person believes crypto is secure.

3. Preference for Banks Offering Crypto Vs. Perception of Security:*

- $r = 0.425$, $p = 0.000$ → Highest and Only Statistically Significant Correlation

Interpretation : The percentage of people who find cryptocurrency secure is way higher among people who want banks to offer crypto options" — in terms of wallets, investment options and similar.

Regression



- This outcome is consistent with prior correlation analysis: knowledge doesn't mean that you act.
- The decision to invest in cryptocurrency seems to be moderated by factors not captured in this model like financial literacy, risk tolerance, income level, or peer influence.

Future models could include a wider range of behavioral, demographic, and psychological variables for a stronger explanatory power.



ANOVA

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.195	2	.097	.384	.682 ^b
	Residual	36.553	144	.254		
	Total	36.748	146			

a. Dependent Variable: Have you ever invested in or used cryptocurrency?

b. Predictors: (Constant), Which of the following concerns you most about cryptocurrency?, Are you aware of what cryptocurrency is?

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.493	.108		4.572	.000
	Are you aware of what cryptocurrency is?	-.060	.083	-.060	-.717	.474
	Which of the following concerns you most about cryptocurrency?	.015	.031	.039	.470	.639

a. Dependent Variable: Have you ever invested in or used cryptocurrency?

- This means the combination of the awareness and concerns about cryptocurrency does not significantly predict whether someone has invested in or used cryptocurrency.

FINDINGS

Little Connection Between Awareness and Investment. Whether or not people invest in or use cryptocurrency doesn't seem to be dependent on their awareness of cryptocurrency. Likewise, worries about crypto aren't a strong turnaround for investment behavior.

ANOVA: $F = 0.384$, $p = 0.682 \rightarrow$ No significant effect. It Is Important Not To Feel Secure

The one real and strong correlation found was:

Believed security of crypto Preference for banks with crypto options

$r = 0.425$, $p = 0.000$.

Implication: Support for banks integrating crypto services increases among those who think crypto is secure.

Awareness Doesn't Lead to Action

Awareness of crypto does not equate to use or investment.

Behavior is apparently driven by factors (not examined in the current study) such as risk appetite, income, peer pressure, or deeper financial.

CONCLUSION

The aim of this research was to study the association between cryptocurrency awareness and user concerns with respect to the perceptions for security and actual investment behavior in India's individuals. A descriptive analysis, correlational analysis, regression modeling, and ANOVA testing was conducted, providing key insights into the state of cryptocurrency adoption as it currently exists.

The results show that while awareness of cryptocurrency, in general, is giving positive signals, especially Bitcoin—is relatively elevated, it does not fully lead to investment action.

As both the correlation and regression analyses have shown, awareness and concern alone are not significant predictors of whether people have invested in or used cryptocurrency. Likewise, the ANOVA test demonstrated that the entire regression model was statistically insignificant.

The only statistically significant association found was in how securely participants felt making transactions in crypto and how much preferred banks to offer cryptocurrency services. This indicates that the perception of security is a key factor that has a strong influence over the willingness of people to accept integration with the traditional banking ecosystem

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