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IMPACT OF DIGITAL CURRENCIES ON TRADITIONAL BANKING SYSTEMS AND FINANCIAL STABILITY

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ABSTRACT

The study investigates the profound implications of digital currencies on traditional banking systems and financial stability. Through a comprehensive analysis of the evolving landscape, it examines how the rise of digital currencies, such as Bitcoin and stable coins, challenges the conventional banking model, alters payment systems, and potentially reshapes the regulatory framework. The research delves into the potential risks and benefits associated with the integration of digital currencies into the financial ecosystem, considering factors such as monetary policy transmission, financial inclusion, and systemic stability. By providing insights into the transformative impact of digital currencies, the study aims to inform policymakers, regulators, and market participants about the necessary adaptations required to ensure the resilience and effectiveness of banking systems amidst this paradigm shift in finance.

Keywords: Digital Currency, Inclusion, finance

INTRODUCTION

Background of Research

The emergence of digital currencies has brought about a profound transformation in the landscape of traditional banking systems worldwide, including the banking industry in India. This paradigm shift is characterized by the growing popularity and adoption of cryptocurrencies such as Bitcoin, Ethereum, and others, as well as the development of central bank digital currencies (CBDCs). As these digital currencies gain traction, they pose both opportunities and challenges to the traditional banking sector, influencing financial stability in various ways. One significant impact of digital currencies on traditional banking

systems is the potential disruption of intermediation functions. Traditional banks have long served as intermediaries in financial transactions, facilitating payments, providing loans, and managing deposits. However, the decentralized nature of cryptocurrencies allows users to transact directly without the need for intermediaries, bypassing traditional banking channels. This disintermediation could reduce banks' revenue streams, particularly from payment processing fees, and challenge their role as the primary gatekeepers of financial services.

PROBLEM STATEMENT

The statement of the problem revolves around investigating the specific challenges and opportunities posed by the integration of digital currencies into the traditional banking systems of India, with a primary focus on financial stability. This encompasses analysing how the increasing adoption of digital currencies, such as cryptocurrencies and potential central bank digital currencies (CBDCs), impacts the operational mechanisms of traditional banks, the stability of financial markets, and regulatory frameworks. Key questions include understanding the extent to which digital currencies disrupt traditional banking functions, their implications for financial intermediation, the risks they pose to financial stability, and the regulatory responses required to manage these risks effectively. By addressing these issues, the research aims to provide insights into how stakeholders can navigate the evolving landscape of digital currencies while ensuring the resilience and stability of the banking industry in India.

RESEARCH OBJECTIVES

1. To examining the adoption of digital currencies, including cryptocurrencies and central bank digital currencies (CBDCs), affects traditional banking functions such as payment processing, lending, and deposit-taking.
2. The research aims to quantify changes in revenue streams, market share, and customer preferences within the banking industry due to the emergence of digital currencies.
3. To analyse the potential risks and benefits of digital currencies for overall financial stability.
4. To assess regulatory approaches adopted by different jurisdictions, identify gaps in oversight and consumer protection, and propose recommendations for enhancing regulatory clarity and effectiveness.

5. To identify opportunities for leveraging digital currencies to reach underserved populations, improve cross-border remittances, and promote the development of innovative financial products and services.

REVIEW OF LITERATURE

1. **R Saroy (2022)** The COVID-19 induced lockdown in India was an inflection point for on-boarding of new users into digital payments. Using a large survey dataset, we examine the driving factors of this shift for those who used digital payments for the first time. Apart from demographic drivers of payment choice traditionally explored in the literature, we find that this shift was significantly shaped by the degree of awareness of digital modes, access to smartphones and debit cards, and pandemic-relief welfare transfers. Users who had abandoned digital payments due to prior bad experiences switched back to such modes.
2. This paper assess the potential impact of Fintech on the banking industry. Results suggest that, for commercial banks, development of Fintech leads to increased profitability, financial innovation, and improved control of risk. Overall, by using financial technology, commercial banks can improve their traditional business model by reducing bank operating costs, improving service efficiency, strengthening risk control capabilities, and creating enhanced customer-oriented business models for customers; thereby improving comprehensive
3. **Kumar** used DEA to compute the total factor productivity (TFP) of Indian banks to show electronic transactions leading to enhanced productivity levels. More recent studies show that electronic payments impact cost efficiency and financial performance. Further, the emergence of newer ‘disruptive’ technologies has entailed an overhaul of the traditional banking model owing to the potential of Fintech to augment operational efficiency, increase profitability, improve service delivery and strengthen risk control capabilities
4. **Mor and Gupta** find that the deployment of Artificial Intelligence (AI) in chatbots, virtual assistants and ATMs can reduce technical inefficiency of Indian banks. Advancements in payments technology also have a positive effect on profitability of banks through a reduction in labour and transaction costs

5. **Arora and Arora** find evidence of information technology (IT) investments positively impacting operating profits per employee. Research also underscores the importance of innovative payment channels like internet banking, point of sale (PoS) machines, and telephone banking in improving bank's market share. Further, there exists association between customer satisfaction and cost-effective technological innovations in banks

6. **Sawant**, Banking sector plays a significant role in development of Indian economy. So banks need to optionally leverage technology to increase penetration, improve their productivity and efficiency, deliver cost-effective products and services, provide faster, efficient and convenient customer service and thereby, contribute to the overall growth and development of the country. Technology enables increased penetration of the banking system, increases cost effectiveness and makes small value transactions viable. Besides making banking products and services affordable and accessible, its simultaneously ensures viability and profitability of providers. Technology allows transactions to take place faster and offers unparallel convenience through various delivery channels. Technology enhances choices, creates new markets, and improves productivity and efficiency. Effective use of technology has a multiplier effect on growth and development.
7. Without continuous technological innovations in today's highly digital world, it will be extremely difficult for banks to remain relevant within the competitive landscape. Bank customers are also becoming very sophisticated and their demands drive the direction of these technological innovations. Whilst banks derive efficiency from these innovations, customers are however impacted with convenience and transaction costs offered by these innovative services and electronic activities. This study sought to understand the impact of these electronic banking services on customer satisfaction and related transaction cost. Drawing on the customer satisfaction model-SERVQUAL and the conventional economic efficiency theory, this paper employed the chi-square analysis to investigate customer satisfaction and the associated cost of electronic banking services with specific reference to banking customers in Ghana. Whilst the study concluded that there is a significant relationship between customer satisfaction and technological innovations in the Ghanaian banking industry, it was revealed that the costs associated with technological innovations in banking have also increased transactions costs to the disadvantages of customers. This increase could be attributed to the high cost of investment made by the banks, low level of technology adoption and customer education in the technological innovations.
8. **Ameme, B., & Wireko, J** The findings of the study have important policy implications for banks. First, banks need to have closer collaboration with the target segment of customers in developing

new electronic products and services. This is to ensure that these products meet the needs, delight, attract and retain customers. Secondly, to avoid customer attrition as a result of high cost of electronic banking transactions, banks need to employ effective pricing strategies such as offering bundle fees to customers consuming multiple electronic banking services. This means that the banks must focus on innovation, disruptive technology and automation, with the ultimate aim of increasing profitability and at the same time satisfying its customers.

9. **Beccalli, E.** This paper investigates whether investment in information technology (IT)–hardware, software and other IT services–influences the performance of banks. Using a sample of 737European banks over the period 1995–2000 we analyse whether IT investment is reflected in improved performance (measured using both standard accounting ratios and cost and alternative profit efficiency measures). Despite banks being major investors in IT we find little relationship between total IT investment and improved bank profitability or efficiency
10. **Bhattacharyya, A., & Pal, S.** In this study they estimate technical efficiency of Indian commercial banks from 1989 to 2009, using a multiple output generalized stochastic production frontier and analyse the effects of financial reforms on estimated efficiency. The generalized method estimates technical efficiency in the presence of multiple outputs, filling a gap in the existing literature. their results show that Indian commercial banks were operating with 64% efficiency on average during the sample period. The initial phase of reform had a positive impact on while the later phase adversely affected technical efficiency of banks. Public sector banks show higher efficiency levels compared to private and foreign banks.

RESEARCH DESIGN

Descriptive research is a suitable research design for studying the impact of digital currencies on traditional banking systems and financial stability. This approach allows researchers to systematically describe and document the various dimensions and characteristics of the phenomenon under study. Through surveys, interviews, and data analysis, descriptive research can provide insights into how digital currencies are integrated into traditional banking functions, the extent of their adoption by financial institutions, and their implications for overall financial stability.

1. DATA SOURCE

For a study on the impact of digital currencies on traditional banking systems and financial stability, researchers can employ various methods for data collection, including primary and secondary data sources.

1. **Primary Data Collection Methods**:
    - **Surveys**: Researchers can design and distribute surveys to individuals, businesses, financial institutions, and regulatory authorities to gather primary data on their experiences, perceptions, and behaviors related to digital currencies and traditional banking systems.
    - **Interviews**: Conducting structured or semi-structured interviews with key stakeholders, such as bankers, policymakers, cryptocurrency experts, and consumers, can provide in-depth insights into their perspectives, challenges, and strategies regarding digital currencies and financial stability.
    - **Observations**: Direct observation of digital currency transactions, market trends, and regulatory developments can offer real-time data on the dynamics and interactions within the financial ecosystem.
2. **Secondary Data Collection Methods**:
    - **Literature Review**: Reviewing existing academic research, industry reports, regulatory publications, and news articles can provide valuable secondary data on the historical context, theoretical frameworks, empirical findings, and regulatory landscape related to digital currencies and banking systems.
    - **Financial Data Analysis**: Analysing publicly available financial data, such as balance sheets, income statements, and market indices, can yield insights into the performance, trends, and correlations between digital currency markets and traditional banking indicators.
    - **Case Studies**: Examining case studies of specific events, market developments, or regulatory interventions related to digital currencies and financial stability can offer rich qualitative data for analysis and interpretation.

By combining primary and secondary data collection methods, researchers can triangulate their findings, validate hypotheses, and provide a comprehensive understanding of the impact of digital currencies on traditional banking systems and financial stability. This multi-method approach enhances the reliability, validity, and generalizability of the study findings, contributing to evidence-based policymaking and strategic decision-making in the financial industry.

2. DATA ANALYSIS

Chi-square test and ANOVA (Analysis of Variance) are statistical techniques used to analyse data and make inferences about populations. They are both widely employed in different contexts and serve distinct purposes.

CHI-SQUARE TEST

The chi-square test is a non-parametric statistical test used to determine whether there is a significant association between two categorical variables. It compares the observed frequencies of the categorical data with the frequencies that would be expected if the variables were independent. Chi-square tests can be used for various applications, such as testing for independence in contingency tables, assessing goodness of fit, and evaluating homogeneity.

ANOVA

ANOVA is a parametric statistical test used to compare means across two or more groups. It assesses whether there are statistically significant differences between the means of the groups based on the variance within and between groups. ANOVA is particularly useful when analysing the impact of categorical independent variables on a continuous dependent variable. There are different types of ANOVA, including one-way ANOVA for comparing means across one categorical independent variable, and factorial ANOVA for analysing the effects of multiple categorical independent variables.

RESULTS

CHI-SQUARE TEST

AGE * SATISFIED WITH THE CURRENT REGULARITY OF JURISDICTION

H0: There is no significant relationship between age and satisfied with the current regularity of jurisdiction

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	62.220[a]	6	.000
Likelihood Ratio	80.975	6	.000
Linear-by-Linear Association	47.062	1	.000
N of Valid Cases	75		
a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is .75.			

INTERPRETATION

From the above table shows the significant value is .000 which is less than 0.05. So null hypothesis is rejected, and alternate hypothesis is accepted at 95% confidence level. Hence it is concluded that there is a significant relationship between age and satisfied with the current regularity of jurisdiction

ANOVA

FREQUENCY OF USING DIGITAL CURRENCY * REASON FOR INCLINED TO USE DIGITAL CURRENCIES

H0: There is no significant relationship between frequency of using digital currency and reason for inclined to use digital currencies

ANOVA					
frequency					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.336	3	2.779	16.244	.000
Within Groups	12.144	71	.171		
Total	20.480	74			

INTERPRETATION

From the table, the significant value is .000 which is less than 0.05. So the null hypothesis is rejected and alternate hypothesis is accepted. Hence it is concluded that there is significant relationship between frequency of using digital currency and reason for inclined to use digital currencies

Statistical Analysis Findings:

- A significant relationship exists between age and satisfaction with current regulatory jurisdiction.
- There's a significant relationship between the frequency of using digital currency and reasons for inclination towards using them.

The research indicates a growing influence of digital currencies on traditional banking practices and consumer preferences. While there is a favourable perception towards digital currencies for their speed and inclusivity, concerns regarding regulatory frameworks, fraud risks, and the need for consumer protection measures are evident. Addressing these concerns while fostering innovation in financial products will be crucial for the sustainable integration of digital currencies into the financial ecosystem.

CONCLUSION

The study sheds light on the complex interplay between digital currencies and traditional banking systems, revealing significant shifts in consumer behavior, market dynamics, and regulatory landscapes. While digital currencies offer promising opportunities for faster transactions and increased financial inclusion, they also pose challenges related to regulatory clarity, risk management, and market competition. The findings underscore the importance of strategic adaptation, regulatory innovation, and collaboration among stakeholders to navigate the evolving financial landscape effectively. By addressing these challenges proactively, financial institutions, regulators, and policymakers can harness the potential of digital currencies to drive innovation, foster financial inclusion, and ensure a more resilient and equitable financial ecosystem for the future.

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