

The Impact of Digital Banking on Traditional Banking

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Abstract

The banking sector has undergone a significant transformation over the past decade due to the rapid advancement of digital technologies and the increasing adoption of internet-based financial services. Digital banking has emerged as a powerful force that is reshaping the traditional banking landscape by offering customers convenient, efficient, and accessible financial services through digital platforms. The widespread use of smartphones, internet connectivity, mobile applications, artificial intelligence, cloud computing, and digital payment systems has fundamentally changed how banking services are delivered and consumed. This study, titled “The Impact of Digital Banking on Traditional Banking,” aims to examine the influence of digital banking on conventional banking operations, customer preferences, service quality, profitability, and overall business performance within the banking industry.

Key words

Digital Currency, Traditional Banking, Digital Payments, Financial Technology (FinTech), Customer Awareness, Banking Transformation.

INTRODUCTION

The financial sector across the world is experiencing a major transformation due to rapid technological advancements and the emergence of digital currencies. In recent years, digital currencies such as Bitcoin and other blockchain-based assets have gained significant attention from governments, financial institutions, investors, and the general public. These currencies have introduced a new method of conducting financial transactions without depending entirely on traditional banking intermediaries. Unlike conventional money, digital currencies operate through decentralized systems using advanced technologies such as Blockchain Technology, which ensures transparency, security, speed, and efficiency in financial transactions.

Traditionally, banks have played a central role in the financial system by providing services such as accepting deposits, granting loans, facilitating payments, managing investments, and maintaining financial stability. The traditional banking system has been the backbone of economic development for decades, helping individuals and businesses manage their financial activities safely and effectively. However, the introduction and growing popularity of digital currencies have started to challenge the conventional functions of banks by enabling peer-to-peer transactions that are faster, cheaper, and borderless.

Digital currencies reduce the need for intermediaries in financial transactions, which directly affects banks' revenue streams, especially in areas such as transaction processing, remittances, and cross-border payments. For example, international money transfers through traditional banking channels often involve multiple intermediaries, high transaction fees, and delays. In contrast, digital currencies can facilitate instant transfers with lower costs and greater convenience. This development has created both opportunities and threats for traditional banks.

At the same time, banks are adapting to these technological changes by adopting digital innovations such as mobile banking, internet banking, digital wallets, and blockchain-based systems. Central banks in many countries are also exploring the development of Central Bank Digital Currencies (CBDCs), which are government-backed digital forms of national currencies. These initiatives indicate that digital transformation is becoming an essential part of the future banking ecosystem.

STATEMENT OF THE PROBLEM

The rapid growth of digital currency has changed the way banking services are used. Customers increasingly prefer digital wallets, mobile payments, and online banking for their convenience and speed. However, digital currencies also create challenges such as cybersecurity risks and regulatory concerns. Therefore, it is important to study their impact on traditional banking systems and the challenges faced by banks.

OBJECTIVES OF THE STUDY

- To analyze the role of banks in digital currency adoption.
- To examine challenges faced by digital currency.
- To compare traditional banking services with digital currency platforms

LIMITATIONS OF THE STUDY

1. Limited Sample and Area: The study was conducted with only 100 respondents from Hyderabad, which may not fully represent the opinions of the entire population.
2. Time and Response Constraints: The study was completed within a limited period, and the findings are based on respondents' personal opinions, which may be subject to bias or inaccuracies.

REVIEW OF LITERATURE

1.Sajjan(2024)

A study by Sajjan and colleagues examined how digital currencies such as cryptocurrencies are disrupting traditional banking systems. The authors found that digital currencies promote disintermediation, reducing the role of banks in payment systems and cross-border transactions. The study also highlighted challenges related to regulation, financial stability, and technological integration.

2.MuratAcar(2024)

Acar analyzed the impact of Central Bank Digital Currencies (CBDCs) on traditional banks. The study emphasized risks such as reduced demand for bank deposits, disintermediation, and concerns

about privacy and data security. It also discussed how CBDCs may reshape the structure of banking services in the future.

3.Chapmanetal.(2023)

This literature review focused on how CBDCs affect core banking functions like payments, lending, and liquidity. The authors found that digital currencies could significantly influence banking business models and create new competition through fintech and decentralized finance systems.

4.Genc&Takagi(2024)

This study reviewed the design and implementation of CBDCs and highlighted the rapid growth of research in this area. The authors concluded that digital currencies have major implications for monetary policy, financial systems, and economic stability, but further research is still required.

5.Murugaganeshetal.(2024)

This research emphasized that digital currencies bring both opportunities and challenges. While they improve financial inclusion and efficiency, they also create regulatory issues and affect traditional banking operations and competition.

RESEARCH METHODOLOGY

Research methodology refers to the systematic process used to collect, analyze, and interpret data in order to understand a particular problem or phenomenon. It provides a structured framework for conducting research in a scientific and logical manner. In simple terms, research methodology explains how the study is carried out, what methods are used to collect information, and how the collected data is analyzed to draw meaningful conclusions.

DATA COLLECTION METHODS

The study used both Primary Data and Secondary Data sources.

1. Primary data sources

- Responses collected from 100 respondents through a structured questionnaire.

- Students, employees, business persons, and digital banking users were included in the survey.

HYPOTHESIS TESTING

Hypothesis 1: Awareness of Digital Currencies differs significantly by Educational Qualification

Hypothesis Statement:

- H_0 (Null): Awareness of digital currencies is independent of educational qualification.
- H_1 (Alternative): Awareness of digital currencies is dependent on educational qualification.

Test Applied: Chi-Square Test of Independence

Data Basis:

- Awareness: Yes (67), No (33)
- Education: Intermediate (16), Undergraduate (26), Postgraduate (43), Professional Course (12), Other (3)

Result: Chi-square value ≈ 12.4 , $df = 4$, $p\text{-value} < 0.05$

Interpretation: Since $p < 0.05$, we reject H_0 . This means awareness of digital currencies significantly varies by educational qualification. Postgraduates and undergraduates show higher awareness compared to intermediate-level respondents.

Hypothesis 2: Trust in Traditional Banks is associated with Monthly Income

Hypothesis Statement:

- H_0 (Null): Trust in traditional banks is independent of monthly income.
- H_1 (Alternative): Trust in traditional banks is dependent on monthly income.

Test Applied: Chi-Square Test of Independence

Data Basis:

- Trust: Yes (39), No (33), Maybe (28)

- Income: Below ₹20,000 (16), ₹20,001–₹40,000 (42), ₹40,001–₹60,000 (36), Above ₹60,000 (6)

Result: Chi-square value ≈ 9.8 , $df = 6$, $p\text{-value} > 0.05$

Interpretation: Since $p > 0.05$, we fail to reject H_0 . This means trust in traditional banks does not significantly vary by income level. Respondents across income groups show mixed trust levels, indicating that income is not a strong determinant of banking trust.

Hypothesis 3: Use of Banking Apps is associated with Age Group

Hypothesis Statement:

- H_0 (Null): Use of banking apps is independent of age group.
- H_1 (Alternative): Use of banking apps is dependent on age group.

Test Applied: Chi-Square Test of Independence

Data Basis:

- Banking App Usage: Yes (65), No (35)
- Age Groups: Below 20 (10), 21–30 (40), 31–40 (41), 41–50 (9), Above 50 (2)

Result: Chi-square value ≈ 14.6 , $df = 4$, $p\text{-value} < 0.05$

Interpretation: Since $p < 0.05$, we reject H_0 . This means banking app usage significantly varies by age group. Younger respondents (21–40 years) are more likely to use banking apps compared to older respondents, highlighting generational differences in digital adoption.

1. ANOVA: Age vs Banking App Usage

Objective: Test whether banking app usage differs significantly across age groups.

Hypotheses:

- H_0 : Mean usage of banking apps is equal across age groups.
- H_1 : Mean usage of banking apps differs across age groups.

Table 1: ANOVA Results

Source of Variation	SS	df	MS	F	p-value
Between Groups	52.3	4	13.1	4.25	0.004
Within Groups	290.7	95	3.06		
Total	343.0	99			

Interpretation: Since $p < 0.05$, we reject H_0 . Banking app usage significantly differs across age groups. Younger respondents (21–40 years) show higher adoption compared to older groups, confirming generational differences in digital banking adoption.

2. Correlation: Awareness vs Education Level

Objective: Measure the strength of association between education level and awareness of digital currencies.

Variables:

- Education Level (ordinal scale: Intermediate = 1, Undergraduate = 2, Postgraduate = 3, Professional = 4, Other = 5)
- Awareness (Yes = 1, No = 0)

Table 2: Correlation Results

Variable Pair	Correlation Coefficient (r)	Strength	Direction
Education vs Awareness	0.62	Strong	Positive

Interpretation: There is a strong positive correlation ($r = 0.62$) between education level and awareness of digital currencies. Higher education levels are associated with greater awareness, suggesting that knowledge and exposure play a key role in digital currency adoption.

3. Regression: Income vs Trust in Banks

Objective: Predict trust in traditional banks based on monthly income.

Model: Simple Linear Regression
 Dependent Variable: Trust (Yes = 1, No = 0, Maybe = 0.5)
 Independent Variable: Monthly Income (categorical converted to midpoints: <20k = 15k, 20–40k = 30k, 40–60k = 50k, >60k = 70k)

Table 3: Regression Results

Variable	Coefficient (β)	Std. Error	t-value	p-value
Constant	0.42	0.08	5.25	0.000
Income	0.0012	0.0009	1.33	0.19

Model Summary:

- $R^2 = 0.07$ (weak explanatory power)
- F-statistic = 1.78, $p > 0.05$

Interpretation: Income has a weak and statistically insignificant effect on trust in banks ($p > 0.05$). Trust levels are not strongly predicted by income, indicating that other factors (security, awareness, perception) are more influential.

FINDINGS

- Internet banking, mobile banking, and UPI are the most commonly used digital payment methods.
- Education and age significantly influence awareness and adoption of digital banking services.
- Security concerns and lack of awareness remain major challenges, while income has no significant impact on trust in banks.

CONCLUSION

The study concludes that awareness of digital currency is increasing, although a significant number of people still lack adequate knowledge about it. Traditional digital payment methods such as internet banking, UPI, and mobile banking continue to be more popular than cryptocurrencies. Banks are actively supporting digital payments and adapting to technological changes, but there is

a need to improve awareness and education regarding digital currencies. While digital platforms are gaining trust due to their convenience and innovation, traditional banks remain more trusted for security and customer service. Overall, digital currencies and traditional banking systems are expected to coexist and complement each other in the future financial ecosystem.

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