

A Study of Rural Customers' Satisfaction with Digital Banking in India

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Abstract—Digital banking has become an important part of India's financial system, supported by initiatives such as Digital India, Unified Payments Interface (UPI), and the growing use of smartphones. Although digital banking has expanded rapidly across the country, its adoption in rural areas continues to be slower than in urban regions. Many rural customers still face challenges such as limited awareness of digital banking services, inadequate digital infrastructure, concerns about security, and limited confidence in using online financial platforms. Understanding these factors is important to improve financial inclusion and encourage wider use of digital banking in rural communities. This study examines the factors that influence rural customers' satisfaction with digital banking in India by focusing on the behavioral factors that encourage digital banking adoption. The study is based on the Unified Theory of Acceptance and Use of Technology (UTAUT) and incorporates perceived risk to better explain digital banking behavior in rural settings. Primary data were collected from 150 rural respondents using a structured questionnaire. The collected data were analyzed using SPSS through descriptive statistics, reliability analysis, Pearson correlation, and multiple regression analysis. The findings show that social influence has a significant positive effect on digital banking adoption, while perceived risk has a significant negative effect. Performance expectancy, effort expectancy, and facilitating conditions were found to have positive but statistically insignificant relationships with adoption behavior. The results suggest that recommendations from family members, friends, and the local community play an important role in encouraging rural customers to use digital banking services, whereas security concerns continue to discourage adoption. The study provides useful insights for banks, policymakers, and financial institutions to improve rural digital banking adoption through awareness programs, stronger security measures, and customer-oriented digital banking services.

Index Terms—Digital Banking, Rural Customers, Customer Satisfaction, Digital Banking Adoption, UTAUT, Perceived Risk, Financial Inclusion.

I. INTRODUCTION

Digital banking has changed the way people access and manage financial services in India. Over the last decade, initiatives such as Digital India, Jan Dhan Yojana, Aadhaar integration, and the rapid growth of the Unified Payments Interface (UPI) have encouraged millions of people to use digital banking services for their everyday financial transactions. The increasing use of smartphones, affordable internet services, and digital payment applications has further accelerated this transformation, making banking services more convenient and accessible than ever before.

Despite this progress, the adoption of digital banking has not been the same across all parts of the country. While urban customers have readily accepted digital banking, many rural customers continue to rely on traditional banking methods. Challenges such as limited awareness, poor internet connectivity, lack of digital skills, security concerns, and limited access to technological infrastructure continue to slow down digital banking adoption in rural areas. Since rural India represents a significant share of the country's population, improving digital banking usage among rural customers remains an important step toward achieving financial inclusion.

Previous studies have identified several factors that influence digital banking adoption, including performance expectancy, effort expectancy, social influence, facilitating conditions, and perceived risk. Among these, trust and security concerns have become increasingly important as cases of online fraud and cyber threats continue to affect customer confidence.

At the same time, recommendations from family members, friends, and local communities often play a major role in encouraging rural customers to try new technologies. These behavioral and environmental factors make digital banking adoption in rural areas different from that of urban populations.

Although many studies have examined digital banking adoption in India, a large proportion of them focus on urban users or general banking customers. Research specifically examining rural customers remains limited, even though they face unique challenges related to infrastructure, digital literacy, and access to financial services. Understanding these factors is important for banks and policymakers to develop practical strategies that encourage rural customers to use digital banking confidently and safely.

Against this background, the present study examines rural customers' satisfaction with digital banking in India by analyzing the factors that influence digital banking adoption. The study applies the Unified Theory of Acceptance and Use of Technology (UTAUT) framework and extends it by incorporating perceived risk to better understand digital banking behavior in rural communities. The findings are expected to provide useful insights for banks, financial institutions, and policymakers in designing customer-focused digital banking services and promoting greater financial inclusion across rural India.

II. LITERATURE REVIEW

Digital banking has attracted considerable attention from researchers over the last few years because of its growing role in improving financial inclusion and customer convenience. Several technology adoption models have been used to explain why customers accept or reject digital banking services. Among them, the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) are the most widely applied frameworks. These models suggest that customers are more likely to adopt digital banking when they perceive it to be useful, easy to use, and supported by their social environment.

Trust and security remain two of the most important factors influencing digital banking adoption, particularly in rural areas. Rural customers often hesitate to use digital banking because they worry about online fraud, privacy issues, and transaction

failures. Studies by Mohapatra et al. (2020), Gupta (2023), and Miyan and Mishra (2025) found that customers who have greater confidence in the security of digital banking services are more willing to adopt them. On the other hand, higher perceived risk reduces customers' willingness to shift from traditional banking methods to digital platforms. These findings highlight the importance of building trust through secure banking systems and effective customer support.

Awareness and digital knowledge also play a major role in encouraging customers to use digital banking. Many rural customers are familiar with basic digital payment services but have limited knowledge about the full range of digital banking facilities. Previous studies have reported that digital literacy programs, awareness campaigns, and community-based training improve customers' confidence and increase the adoption of digital financial services. Social influence further strengthens this process, as recommendations from family members, friends, and local communities often encourage first-time users to adopt digital banking.

Accessibility and infrastructure are equally important in determining digital banking usage. Although internet connectivity and smartphone availability have improved across India, many rural areas still experience network issues and limited access to digital infrastructure. Studies indicate that inadequate connectivity and limited technological resources continue to restrict digital banking adoption despite government initiatives aimed at improving digital access. Better infrastructure and user-friendly banking applications can help reduce these barriers and encourage wider adoption.

Service quality has also been identified as an important factor affecting customers' digital banking experience. Reliable mobile applications, responsive customer support, simple interfaces, and efficient grievance handling contribute to a positive banking experience and encourage customers to continue using digital services. Previous research suggests that customers are more satisfied when digital banking services are convenient, dependable, and easy to understand.

Although existing studies provide valuable insights into digital banking adoption, most of them focus on urban customers or general banking populations. Comparatively fewer studies have examined the

unique challenges faced by rural customers in India, where issues such as limited awareness, infrastructural constraints, and security concerns remain more prominent. This creates a gap in understanding how these factors influence rural customers' satisfaction and digital banking adoption.

Based on this gap, the present study examines rural customers' satisfaction with digital banking in India by applying the UTAUT framework with perceived risk as an additional factor. The study aims to provide a better understanding of the behavioral factors influencing digital banking adoption among rural customers and to offer practical suggestions for improving digital financial inclusion.

Objectives:

The main objective of this study is to examine the factors influencing rural customers' satisfaction with digital banking in India. To achieve this objective, the study focuses on the following specific objectives:

1. To examine the relationship between performance expectancy and digital banking adoption among rural customers.
2. To analyze the influence of effort expectancy on digital banking adoption.
3. To determine the effect of social influence on digital banking adoption.
4. To assess the impact of facilitating conditions on digital banking adoption.
5. To examine the influence of perceived risk on digital banking adoption among rural customers.

Hypotheses:

Based on the conceptual framework and previous studies, the following hypotheses were formulated for this study:

- H1: Performance Expectancy has a significant positive relationship with Digital Banking Adoption.
 H2: Effort Expectancy has a significant positive relationship with Digital Banking Adoption.
 H3: Social Influence has a significant positive relationship with Digital Banking Adoption.
 H4: Facilitating Conditions have a significant positive relationship with Digital Banking Adoption.
 H5: Perceived Risk has a significant negative relationship with Digital Banking Adoption.
 H6: The overall regression model consisting of Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Perceived Risk

significantly explains Digital Banking Adoption among rural customers.

III. RESEARCH METHODOLOGY

Research Design:

This study adopted a quantitative research approach to examine the factors influencing digital banking adoption among rural customers in India. A descriptive and explanatory research design was used to understand the relationship between the selected variables and digital banking adoption. The study is based on the Unified Theory of Acceptance and Use of Technology (UTAUT), with perceived risk included as an additional variable to better explain digital banking behavior in rural areas.

Research Framework:

The conceptual framework of the study consists of five independent variables: Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Perceived Risk, while Digital Banking Adoption was considered the dependent variable. The framework was developed based on the UTAUT model and previous studies related to digital banking adoption.

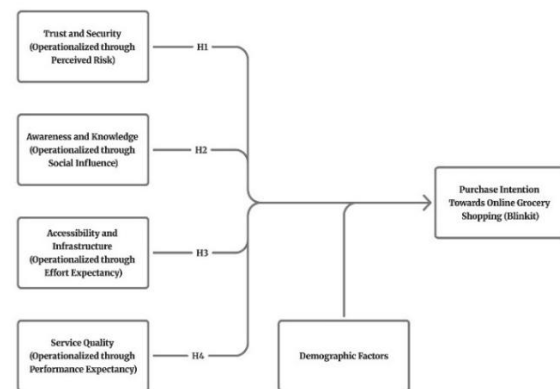


Figure 3.1: Research Framework

Data Collection:

The study used primary data collected through a structured questionnaire administered to rural customers. The questionnaire consisted of statements measuring the selected constructs using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Secondary data were collected from research articles, journals, books, and reports related to digital banking and financial inclusion.

Sample Size and Sampling Technique:

A total of 150 valid responses were collected from rural customers using a convenience sampling technique. Respondents were selected based on their willingness to participate and their familiarity with digital banking services. The selected sample provided sufficient data for statistical analysis and hypothesis testing.

Data Analysis Techniques:

The collected data were analyzed using Statistical Package for the Social Sciences (SPSS Version 25). The analysis included descriptive statistics, reliability analysis, Pearson correlation analysis, and multiple regression analysis to examine the relationship between the independent variables and digital banking adoption. These techniques helped identify the factors that significantly influence rural customers' adoption of digital banking services.

Variables of the Study:

The study examined Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions,

and Perceived Risk as the independent variables, while Digital Banking Adoption served as the dependent variable. These variables were selected based on the UTAUT framework and previous studies related to technology adoption and digital banking.

Ethical Considerations:

Participation in the survey was voluntary, and respondents were informed about the purpose of the study before completing the questionnaire. Confidentiality and anonymity were maintained throughout the research process, and the information collected was used only for academic purposes.

IV. RESULTS AND DISCUSSION

The collected data were analyzed using SPSS Version 25 to examine the factors influencing digital banking adoption among rural customers. The analysis included descriptive statistics, reliability analysis, Pearson correlation, multiple regression analysis, and hypothesis testing.

Table 4.1: Descriptive Statistics

Statistic	Performance Expectancy	Effort Expectancy	Social Influence	Facilitating Conditions	Perceived Risk	Behavioral Intention
N Valid	150	150	150	150	150	150
Missing	0	0	0	0	0	0
Mean	2.4600	2.8800	3.4933	3.7400	3.1000	2.9333
Std. Deviation	.83499	.86734	.80003	1.03256	.87704	.89576
Skewness	.201	-.437	-.977	-.828	-.157	-.314
Std. Error of Skewness	.198	.198	.198	.198	.198	.198
Kurtosis	-.754	-.357	.391	-.204	-1.209	-.690
Std. Error of Kurtosis	.394	.394	.394	.394	.394	.394
Minimum	1.00	1.00	1.50	1.00	1.67	1.00
Maximum	4.25	4.50	4.50	5.00	4.67	4.67

Descriptive Statistics:

The descriptive statistics indicate that respondents showed varying perceptions across the study variables. Facilitating Conditions recorded the highest mean score (Mean = 3.74), indicating that most respondents believed that the necessary resources and support for using digital banking were available. Social Influence also recorded a relatively high mean (Mean = 3.49), suggesting that recommendations from family members, friends, and the local community play an important role in encouraging digital banking usage.

Performance Expectancy recorded the lowest mean score (Mean = 2.46), indicating that many respondents were still uncertain about the practical benefits of digital banking. Overall, the results suggest that while rural customers recognize the availability of digital banking services, concerns regarding usefulness and adoption still exist.

Reliability Analysis:

Table 4.2: Reliability Statistics

Construct	Cronbach's Alpha	N of Items
Performance Expectancy	.509	4
Effort Expectancy	.573	4
Social Influence	.451	4
Facilitating Conditions	.699	3
Perceived Risk	.657	3
Behavioral Intention	.559	3

Cronbach's Alpha was used to examine the internal consistency of the measurement scales. The results indicate acceptable reliability for most constructs used in the study. Facilitating Conditions recorded the highest reliability value ($\alpha = 0.699$), followed by Perceived Risk ($\alpha = 0.657$). Although some constructs reported relatively lower reliability values, they remained acceptable for exploratory research and were therefore retained for further analysis.

Pearson Correlation Analysis:

Table 4.3: Pearson Correlation Analysis

Variable	Statistic	Performance Expectancy	Effort Expectancy	Social Influence	Facilitating Conditions	Perceived Risk	Behavioral Intention
Performance Expectancy	Pearson Correlation	1	.366**	.389**	-.012	.080	.317**
	Sig. (2-tailed)		.000	.000	.883	.328	.000
	N	150	150	150	150	150	150
Effort Expectancy	Pearson Correlation	.366**	1	.633**	-.086	.550**	.194*
	Sig. (2-tailed)	.000		.000	.294	.000	.017
	N	150	150	150	150	150	150
Social Influence	Pearson Correlation	.389**	.633**	1	.036	.499**	.449**
	Sig. (2-tailed)	.000	.000		.664	.000	.000
	N	150	150	150	150	150	150
Facilitating Conditions	Pearson Correlation	-.012	-.086	.036	1	-.132	.104
	Sig. (2-tailed)	.883	.294	.664		.108	.203
	N	150	150	150	150	150	150
Perceived Risk	Pearson Correlation	.080	.550**	.499**	-.132	1	.021
	Sig. (2-tailed)	.328	.000	.000	.108		.800
	N	150	150	150	150	150	150
Behavioral Intention	Pearson Correlation	.317**	.194*	.449**	.104	.021	1
	Sig. (2-tailed)	.000	.017	.000	.203	.800	
	N	150	150	150	150	150	150

Note: ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation analysis shows that Performance Expectancy, Effort Expectancy, and Social Influence have positive relationships with Digital Banking Adoption. Among these variables, Social Influence recorded the strongest positive relationship with Digital Banking Adoption ($r = 0.449$, $p < 0.01$). Performance Expectancy also showed a positive relationship ($r = 0.317$, $p < 0.01$), while Effort Expectancy demonstrated a weaker but statistically significant relationship ($r = 0.194$, $p < 0.05$).

Facilitating Conditions and Perceived Risk did not show significant direct correlations with Digital Banking Adoption. The results indicate that social factors play a greater role than technological factors in influencing digital banking adoption among rural customers.

Multiple Regression Analysis:

Table 4.4: Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.528	.279	.254	.77388

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	33.314	5	6.663	11.125	.000
Residual	86.241	144	.599		
Total	119.556	149			

Variable	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	1.144	.402		2.847	.005		
Performance Expectancy	.166	.086	.154	1.933	.055	.785	1.275
Effort Expectancy	-.093	.104	-.090	-.899	.370	.495	2.022
Social Influence	.614	.110	.548	5.561	.000	.515	1.942
Facilitating Conditions	.045	.063	.051	.712	.478	.960	1.041
Perceived Risk	-.213	.092	-.209	-2.316	.022	.617	1.622

Multiple regression analysis was carried out to identify the variables that significantly influence Digital Banking Adoption. The overall regression model was statistically significant ($F = 11.125$, $p < 0.001$), indicating that the selected variables collectively explain a significant proportion of the variation in digital banking adoption. The model explained 27.9% of the variance ($R^2 = 0.279$), suggesting that the selected variables provide a moderate explanation of rural customers' adoption behavior.

Among all the independent variables, Social Influence emerged as the strongest predictor of Digital Banking Adoption ($\beta = 0.548$, $p < 0.001$). This finding suggests that encouragement from family members, friends, and society plays a major role in influencing rural customers to adopt digital banking services.

Perceived Risk showed a significant negative relationship with Digital Banking Adoption ($\beta = -0.209$, $p = 0.022$), indicating that concerns regarding fraud, privacy, and transaction security reduce customers' willingness to use digital banking.

Although Performance Expectancy showed a positive relationship with Digital Banking Adoption, the relationship was not statistically significant ($p = 0.055$). Similarly, Effort Expectancy ($p = 0.370$) and Facilitating Conditions ($p = 0.478$) did not significantly influence adoption. These findings suggest that behavioral and psychological factors have a stronger impact on digital banking adoption than technological or infrastructural factors in rural areas.

Table 4.5: Summary of Hypothesis Testing

Hypothesis	Description	Sig. value(P-)	Decision
H1	There is a significant positive relationship between Performance Expectancy and Behavioral Intention.	.055	Not Supported
H2	There is a significant positive relationship between Effort Expectancy and Behavioral Intention.	.370	Not Supported
H3	There is a significant positive relationship between Social Influence and Behavioral Intention.	.000	Supported
H4	There is a significant positive relationship between Facilitating Conditions and Behavioral Intention.	.478	Not Supported
H5	There is a significant negative relationship between Perceived Risk and Behavioral Intention.	.022	Supported
H6 (Overall Model)	The overall regression model with predictors (Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Perceived Risk) significantly explains variance in Behavioral Intention.	.000	Supported

The hypothesis testing results indicate that H3, H5, and H6 were supported, while H1, H2, and H4 were not supported. The findings highlight that Social Influence has a significant positive impact on Digital Banking Adoption, whereas Perceived Risk negatively influences adoption. The overall regression model was also found to be statistically significant, confirming that the selected variables collectively explain rural customers' digital banking adoption behavior.

Overall, the findings suggest that creating awareness through community engagement and improving customers' confidence in the security of digital banking services are more effective in increasing adoption than focusing only on technological improvements. Banks and policymakers should therefore prioritize trust-building initiatives, digital literacy programs, and customer education to improve digital banking usage in rural areas

V. CONCLUSION

Digital banking has become an important part of India's financial system, but its adoption in rural areas continues to face several challenges. This study examined the factors influencing digital banking adoption among rural customers by applying the Unified Theory of Acceptance and Use of Technology (UTAUT) with perceived risk as an additional variable. The findings provide a better understanding of the behavioral and technological factors that influence rural customers' willingness to use digital banking services.

The results show that Social Influence is the most significant factor affecting digital banking adoption among rural customers. Support and encouragement from family members, friends, and the local community play a major role in increasing customers' confidence to use digital banking services. In contrast, Perceived Risk has a significant negative influence on adoption, indicating that concerns related to security, fraud, and privacy continue to discourage customers from using digital banking platforms.

Although Performance Expectancy, Effort Expectancy, and Facilitating Conditions showed positive relationships with digital banking adoption, their effects were not statistically significant in this study. This suggests that rural customers are influenced more by trust, confidence, and social

support than by the technical features of digital banking services alone.

The findings of this study offer useful implications for banks, financial institutions, and policymakers. Improving digital awareness, strengthening cybersecurity measures, providing customer education, and organizing community-based digital literacy programs can help increase confidence in digital banking among rural customers. Building trust through responsive customer support and secure digital platforms will also encourage greater adoption and contribute to financial inclusion.

Overall, this study contributes to the existing literature by providing evidence on the factors influencing digital banking adoption in rural India. It also offers practical recommendations that can support the development of customer-focused digital banking strategies and promote wider adoption of digital financial services in rural communities.

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