



# Exploring the Dynamics of Digital Banking: A Study on Consumer Behaviours and Perceptions in Specific Areas of Bangalore

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## Abstract

The banking industry has been the backbone of every emerging & developed economy. It organises and carries out the economic changes. Any shift in this area brought about by the use of technology will have a significant effect on the expansion of an economy. These days, banks are looking for novel approaches to offer and set themselves apart from their wide range of services. Corporate and retail clients both are unwilling to stand in queue at banks or wait on the phone for the fundamental banking facilities. They need and expect to be able to conduct their banking operations anywhere and whenever they choose. Some of the more recent products and services driving the growth of banking include plastic money similar to Smart cards, Credit Cards & Debit Cards, internet banking with the support of online trading accounts, mobile applications, wallets, electronic payment services, branch networking, telephone banking, and online investments.

The purpose of this study is to investigate the current developments in digital banking in India and to pinpoint the obstacles that banks encounter when implementing these developments. The analytical investigation uses primary & secondary data as its foundation. In the Indian banking industry, the idea of digital banking is still developing and is anticipated to bring a surplus of prospects alongside unparalleled risks to the essential essence of banking in India. In light of this, this paper also seeks to outline the benefits and complications of digital transformation for the Indian banking industry, along with some suggestions for resolving the problems. The article concludes that in the future, making transactions using digital banking would not only be predictable and it is extremely required later.

This will create a valuable material to the bankers, academicians, researchers, insurance personnel, professionals, students, & financial advisors.

Keywords: Internet Banking, Digital Banking, Electronic Banking, Technology, Financial Innovation.

## Introduction

The Banking Industry has been the Pillar of any developed or emerging economy. It organises and carries out the economic changes. The use of technology will have a significant effect on the expansion of an economy. Banks are looking for novel ways to offer and set themselves apart from their various services these days.

Customers for fundamental financial services whether they corporate or retail are no longer prepared to wait at banks or over the phone. They have to and expect having access to a Location and a time to complete their banking operations. The banking industry is growing due to a number of innovative products through plastic money (credit, debit, and smart cards), telephone banking, branch networking, online trading accounts, internet banking in electronic payment services, mobile applications, online investments; electronic fund transfer, clearing services and electronic wallets

As the nation has widely accepted digital payment methods, the Reserve Bank's effort to create a society with fewer cash transactions has continued. In a time when the opportunities for system of electronic Payments, Bank concentrated its energies on ensuring the security & protection of online transactions As a result, the Bank sought to establish a strong and durable structure of technology that made sure the nations vital and smooth significant settlement processes.

'Payment & Settlement Systems in India: Vision 2018' outlined that Department of Payment & Settlement Systems (DPSS) sustained to work on papers. The anticipated results outlined the idea reached the result of : (a) steady progress in specific retail Segment of electronic payment system. such as Instant Payment Service (IMPS), card transactions, mobile banking & National Electronic Funds Transfer (NEFT) (b) a decline in the percentage of paper-constructed clearing devices (c) an increase in the number of customers registered for mobile banking and (iv) expanding the setup that admits digital payments. Moreover, the swift digital payments integration throughout the nation, facilitated from Banks concentrated on strengthening infrastructure for the purpose of protection and security of digital transactions in addition to introducing cutting-edge payment arena.

Stability of finance will be impacted by banks' decisions to implement new digital solutions at all working stages. Although partial banks able to seek shift towards complete automation for roughly eight months by making rapid modifications to design the IT infrastructure.

**PAYMENT SYSTEMS DEVELOPMENT TRENDS**

The retail payment systems experienced strong progress in the year 2017–18, by size and worth rising next to 44.6 % and 11.9 %, respectively. This progression rose to increases of 56 % and 24.8 % respectively in the year 2016–17. The proportion of transactions done electronically in total size of retail payments increased from 88.9% to 92.6 % in the year 2017–18. While the proportion of paper-based clearing tools decreased from 11.1 % in the year 2016–17 to 7.4 % in the year 2017–18.

Some of the major observations from the year 2020 to year 2023 based on the percentage trend analysis for volume (lakh) data:

**Total Digital Payments:** The volume of digital payments has shown significant growth, with a 64.6% increase from FY 2020-21 to FY 2021-22 and a further 58.3% increase from FY 2021-22 to FY 2022-23.

**Total Payments:** Similar to total digital payments, total payments have also demonstrated strong growth, with a 64.0% increase from FY 2020-21 to FY 2021-22 and a 57.9% increase from FY 2021-22 to FY 2022-23.

**Total Retail Payments:** Retail payments have followed a similar trend to total payments, showing a 64.0% increase from FY 2020-21 to FY 2021-22 and a 57.8% increase from FY 2021-22 to FY 2022-23.

**Financial Market Infrastructures (FMIs):** CCIL operated systems and forex clearing have shown substantial volume growth, while government securities clearing has seen more moderate growth.

**Payment Systems:** Credit transfers (RTGS and retail) have exhibited strong volume growth, especially retail credit transfers with an 81.7% increase from FY 2020-21 to FY 2021-22. Debit transfers and direct debits also showed significant growth.

**Card Payments:** The volume of card payments has increased steadily, with a 6.9% increase from FY 2020-21 to FY 2021-22 and a 2.6% increase from FY 2021-22 to FY 2022-23.

**Prepaid Payment Instruments:** Prepaid payment instruments have shown consistent growth, with a 32.3% increase from FY 2020-21 to FY 2021-22 and a 13.4% increase from FY 2021-22 to FY 2022-23.

**Paper-based Instruments:** The volume of paper-based instruments has increased modestly, with a 4.6% increase from FY 2020-21 to FY 2021-22 and a 1.7% increase from FY 2021-22 to FY 2022-23.

Overall, the data indicates a strong upward trend in the volume as well as in value of digital and retail payments, reflecting a shift towards digital transactions in India's payment ecosystem.

PART I - Payment System Indicators - Payment & Settlement System Statistics						
	Volume (lakh)			Value (₹ crore)		
	FY 2020-21	FY 2021-22	FY 2022-23	FY 2020-21	FY 2021-22	FY 2022-23
	1	2	3	1	2	3
<b>A. Settlement Systems</b>						
<b>Financial Market Infrastructures (FMIs)</b>						
1 CCIL Operated Systems	27.97	33.01	41.44	161943141	206873112	258797336
1.1 Govt. Securities Clearing	11.55	12.22	15.00	110634315	142072939	172251292
1.1.1 Outright	6.28	6.22	7.99	10032187	8793301	10090700
1.1.2 Repo	2.84	3.08	4.07	43751173	51015712	68032487
1.1.3 Tri-party Repo	2.43	2.92	2.94	56850956	82263926	94128105
1.2 Forex Clearing	16.04	19.91	25.16	48903961	59775826	78932050
1.3 Rupee Derivatives @	0.38	0.88	1.27	2404865	5024347	7613994
<b>B. Payment Systems</b>						
<b>I Financial Market Infrastructures (FMIs)</b>						
1 Credit Transfers - RTGS	1591.92	2078.39	2425.62	105599849	128657516	149946286
1.1 Customer Transactions	1573.47	2063.73	2411.19	91008367	113319292	131667176
1.2 Interbank Transactions	18.45	14.66	14.43	14591482	15338225	18279111
<b>II Retail</b>						
2 Credit Transfers - Retail	317867.74	577934.74	983620.84	33504226	42728006	55009620
2.1 AePS (Fund Transfers) @	11.31	9.76	5.90	623	575	356
2.2 APBS \$	14372.99	12573.33	17833.95	111001	133345	247535
2.3 IMPS	32783.47	46625.25	56532.64	2941500	4171037	5585441
2.4 NACH Cr \$	16465.44	18757.82	19257.19	1216535	1281685	1541815
2.5 NEFT	30927.89	40407.29	52847.43	25130910	28725463	33719541
2.6 UPI @	223306.64	459561.30	837143.73	4103658	8415900	13914932
2.6.1 of which USSD @	10.45	11.99	17.21	172	177	197
3 Debit Transfers and Direct Debits	10456.54	12189.49	15343.05	865520	1034444	1289611
3.1 BHIM Aadhaar Pay @	160.84	227.73	214.22	2580	6113	6791
3.2 NACH Dr \$	9645.75	10754.74	13502.52	862027	1026641	1280219
3.3 NETC (linked to bank account) @	649.96	1207.02	1626.31	913	1689	2601
4 Card Payments	57,786.60	61,782.93	63324.72	12,91,799	17,01,851	2152245
4.1 Credit Cards	17,641.06	22,398.82	29145.24	6,30,414	971638	1432255
4.1.1 PoS based \$	8688.81	11124.59	15598.46	280769	380643	541932
4.1.2 Others \$	8952.25	11274.23	13546.79	349645	590994	890323
4.2 Debit Cards	40,145.54	39,384.11	34179.48	661385	730213	719989
4.2.1 PoS based \$	20773.50	22967.10	22904.86	377630	451550	476520
4.2.2 Others \$	19372.04	16417.00	11274.61	283755	278663	243470
5 Prepaid Payment Instruments	49,742.55	65,782.75	74667.44	197696	279416	287111
5.1 Wallets	39987.01	53013.86	59112.76	152065	220183	221896
5.2 Cards	9,755.54	12,768.89	15554.69	45631	59233	65215
5.2.1 PoS based \$	607.15	1116.16	1013.09	10591	19546	14777
5.2.2 Others \$	9148.39	11652.73	14541.60	35040	39687	50438
6 Paper-based Instruments	6,703.70	6,999.12	7109.28	5627189	6650333	7172904
6.1 CTS (NPCI Managed)	6702.53	6999.12	7109.28	5625941	6650333	7172904
6.2 Others	1.17	0.00	0.00	1249	0	0.00
<b>Total Retail Payments (2+3+4+5+6)</b>	<b>4,42,557.14</b>	<b>7,24,689.03</b>	<b>1144065.34</b>	<b>41486430</b>	<b>52394049</b>	<b>65911490</b>
<b>Total Payments (1+2+3+4+5+6)</b>	<b>4,44,149.06</b>	<b>7,26,767.42</b>	<b>1146490.96</b>	<b>147086278</b>	<b>181051565</b>	<b>215857776</b>
<b>Total Digital Payments (1+2+3+4+5)</b>	<b>4,37,445.36</b>	<b>7,19,768.30</b>	<b>1139381.68</b>	<b>141459089</b>	<b>174401233</b>	<b>208684872</b>

Source: RBI Website

### Statement of the problem

In the face of the speedy growth of digital payments globally, there remains a gap in understanding the factors influencing adoption and usage patterns, particularly in specific region or demographic group. This study seeks to address this gap by investigating the key elements of digital payment adoption, the impact of digital payments on financial inclusion, and the regulatory challenges and opportunities in the digital

payments ecosystem. By finding these factors, the study goals to provide insights that can inform policymakers, financial institutions, and technology providers in enhancing digital payment systems and promoting financial inclusion.

## Review of literature

Ondrus & Lyytinen, 2015 : Research has explored factors influencing the adoption and usage of digital payment methods, including perceived usefulness, ease of use, security, and trust

Mas & Kumar, 2008; Sarma & Pais, 2011: Examined the role of digital payments in promoting financial inclusion, particularly in developing countries, by providing access to financial services for underserved populations

Li et al., 2020; Xu et al., 2019: Discussed future trends in digital payments, including the adoption of blockchain technology, artificial intelligence, and biometric authentication, and their impact on payment systems

Pham & Tran, 2020: Addressed security and trust issues in digital payments, including the importance of security measures, privacy concerns, and trust-building mechanisms

Hesse et al., 2021: Discussed the regulatory environment for digital payments, highlighting the need for regulatory frameworks that balance innovation and consumer protection.

This review highlights the importance of digital payments in transforming the payment landscape and the need for further research to address emerging challenges and opportunities in this area

## HYPOTHESIS DEVELOPMENT

**1. Research Question 1 (RQ1):** Do the reasons people cite for using digital banking services influence how often they actually use them?

**Null Hypothesis (H0):** there's no significant relationship between the reasons people give for using digital banking and their actual usage patterns.

**Alternative Hypothesis (H1):** there is a significant relationship between the reasons or benefits and the usage.

**2. Research Question 2 (RQ2):** Do the issues users encounter with digital banking services impact their overall satisfaction?

**Null Hypothesis (H0):** there's **no significant relationship** between the issues users experience and their satisfaction level.

**Alternative Hypothesis (H1):** there **is a significant relationship** between reported issues and satisfaction.

**3. Research Question 3 (RQ3):** Does the use of digital banking services influence how people perceive the overall impact on the Indian banking sector?

**Null Hypothesis (H0):** there's **no significant relationship** between how often people use digital banking and their perception of the impact on the sector.

**Alternative Hypothesis (H1):** there **is a significant relationship** between usage and perceived impact.

**4. Research Question 4 (RQ 4):** Is there any relationship between usage and satisfaction of digital banking?

**Null Hypothesis (H0):** There's **no significant relationship** between usage of digital banking and satisfaction

**Alternative Hypothesis (H1):** There **is a significant relationship** between usage of digital banking and satisfaction

## **RESEARCH GAP**

While previous research has explored various aspects of digital banking adoption and user experience, there's still a gap in understanding the nuanced relationships between user motivations, encountered issues, usage patterns, and overall satisfaction. Additionally, the specific impact of user experience on perception of the sector's impact requires further investigation.

## **RESEARCH OBJECTIVES**

1. To investigate if the reasons for using digital banking influence the usage patterns.
2. To examine the impact of encountered issues on overall satisfaction with digital banking services.
3. To explore the association between usage frequency and satisfaction levels in digital banking.
4. To analyse the relationship between digital banking usage and perceptions of its impact on the Indian banking sector.

## **DATA COLLECTION**

The data collection instrument was disseminated to a sample of respondents residing in Bangalore, Karnataka, India. Dissemination was achieved through social media platforms including WhatsApp, Instagram, Facebook, LinkedIn, and other relevant platforms.

A total of 190 responses were deemed usable for further analysis, indicating a participant sample with a high level of awareness regarding digital banking services.

To ensure a sample with a high level of awareness regarding digital banking services, a screening question was implemented before the study. Participants were asked, "Are you aware of digital banking services?" and "Do you frequently use digital banking services?" Only responses deemed usable for further analysis were included, resulting in a final sample size of 190.

Category	Percentage	Number of Respondents (out of 190)
<b>Gender</b>		
Female	38.90%	74
Male	59.70%	113
Prefer not to say	1.30%	2
<b>Age</b>		
Below 25	57.70%	110
25-35	22.80%	43
Above 35	19.50%	37

**ANALYSIS**

**Reliability Test**

**Reliability Statistics**

Cronbach's	
Alpha	N of Items
.805	9

Cronbach's Alpha coefficient, which is a measure of internal consistency or reliability of a scale or set of items. The Cronbach's Alpha value of 0.805 indicates a good level of internal consistency.

**Usage and Satisfaction level**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.054	.183		11.219	.000
	Usage of digital banking	.212	.059	.253	3.584	.000

a. Dependent Variable: Satisfaction level of digital Banking

The p-value of 0.000 associated with usage of digital banking suggests that the relationship is statistically significant. The t-value of 3.584 assesses the significance of the relationship between usage of digital banking and satisfaction level. The coefficients table shows that as people use digital banking services more, their satisfaction with those services tends to increase.

**Usage and Reasons**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.202	.137		23.327	.000
	Reasons/benefits for using digital banking	.131	.058	.162	2.255	.025

a. Dependent Variable: Usage of digital banking

The p-value of 0.025 associated with reasons or benefits for using digital banking suggests that the relationship is statistically significant at the 0.05 level. The t-value of 2.255 assesses the significance of the relationship between the reasons or benefits for using digital banking and usage of digital banking. these coefficients suggest that the reasons or benefits cited for using digital banking have a modest but statistically significant impact on the usage of digital banking services.

Issues and satisfaction level**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	1.207	.108		11.171	.000
	Issues of digital Banking	-.25	.045	-.30	-3.20	.002

a. Dependent Variable: Satisfaction level of digital Banking

The p-value of 0.002 associated with reported issues with digital banking suggests that the relationship between these issues and satisfaction levels is statistically significant. The t-value of -3.20 assesses the significance of the relationship between reported issues with digital banking and satisfaction level. Encountering more reported issues with digital banking is associated with a significant decrease in satisfaction level with digital banking services. This indicates that addressing these issues is crucial for maintaining or improving overall satisfaction with digital banking.

Usage and impact**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	3.443	.278		12.376	.000
	Usage of digital banking	.221	.090	.276	2.458	.015

a. Dependent Variable: In your opinion, how has digital banking impacted the Indian banking sect

With a coefficient of 0.221 for "Usage of digital banking" and a significance level of 0.015, the results suggest a **positive and statistically significant relationship** between the usage of digital banking and the overall impact on the Indian banking sector. It suggests that people who utilize digital banking services more frequently tend to perceive a positive impact on the Indian banking sector.

**Findings**

This study investigated the user experience of digital banking in India, focusing on usage patterns, satisfaction, and user perception. The analysis yielded several key findings:

1. **Positive Correlation Between Usage and Satisfaction:** A statistically significant positive relationship was found between usage frequency and satisfaction level. Users who utilize digital banking services more often tend to be more satisfied with them.
2. **Moderate Influence of Reasons on Usage:** While a positive connection exists between the reasons/benefits people cite for using digital banking and their actual usage patterns, the impact is moderate. Highlighting the advantages of digital banking can encourage use, but other factors might play a more significant role.



3. **Negative Impact of Encountered Issues:** Reported issues with digital banking services have a statistically significant negative impact on user satisfaction. Addressing these problems is crucial for maintaining and improving user experience.
4. **Frequent Usage and Positive Impact Perception:** People who use digital banking services more frequently are more likely to perceive a positive impact on the overall Indian banking sector.

### Limitations

The study has limitations to consider:

1. **Sample Bias:** The data collection through social media platforms in Bangalore might have attracted a younger, tech-savvy demographic, potentially limiting generalizability to the entire Indian population.
2. **Self-Reported Data:** The study relies on self-reported data on usage, reasons, and satisfaction, which might be susceptible to bias or inaccuracies.
3. **Limited Scope:** The research focused on a specific geographical location and may not capture the nuances of digital banking experiences across all regions in India.

### Suggestions

Based on the findings and limitations, here are some suggestions for future research and practice:

1. **Replicate with Broader Sampling:** Repeating the study with a more diverse sample encompassing different demographics and regions within India could provide a more generalizable view.
2. **Investigate Specific Issues:** Further research could delve deeper into the types of issues users encounter and their specific impact on satisfaction. This information can guide targeted solutions for improving user experience.
3. **Explore Reasons in Detail:** A qualitative approach could be used to gain a deeper understanding of the reasons and motivations that drive individuals to use digital banking services.
4. **Longitudinal Studies:** Longitudinal studies could track user experiences over time, providing insights into how usage patterns, satisfaction, and perception of impact evolve.

By addressing these limitations and incorporating the suggested approaches, future research can refine our understanding of the digital banking user experience in the Indian context and inform strategies for promoting wider adoption and improved user satisfaction.

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