

# Accelerating Financial Inclusion Through Digitalization: An analysis of Customers' Awareness, Adoption and Attitude

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## ABSTRACT

India has witnessed a tremendous growth in achieving financial inclusion in the last one decade. This rise in financial access is related to the advent of technology and increased usage of smartphones and internet. Various steps have been taken by the Govt. of India and commercial banks have helped in raising financial awareness, thereby further contributing to financial inclusion. This paper is a modest attempt to analyze the status and growth of digital financial access in India and to analyze the customer adoption and satisfaction with regards to digital financial inclusion in Chandigarh, Panchkula and Mohali. Primary and Secondary data has been collected from Chandigarh, Panchkula and Mohali, together known as Tricity, with a sample size of 200 respondents. There are various challenges and issues in the growth trajectory of financial services that must be resolved in order to create a financial environment that is inclusive of digital technology. It is imperative that regulatory methods be adjusted to preserve a balance between promoting financial innovation and addressing risks and barriers to financial stability.

**Keywords:** Financial Inclusion, Digitalization, Digital Finance, Financial Services

## Introduction

One of the fundamental aspect of our nation's economic development is the Indian Financial System. Stronger the financial system, higher will be the growth prospects of the economy. Indian financial system consists of four components: i) financial institutions, ii) financial assets, iii) financial markets and iv) financial services. This paper throws light on the fourth pillar of Indian Financial System i.e., Financial Services. Financial services encompass several services, including insurance services, banking services, investment services and foreign exchange services. The main function of the financial services is to assist a person with selling, borrowing or purchasing securities, allowing payments and settlements and lending and investing. The general idea of digital financial inclusion means to the utilize of cost-effective digital methods to provide a range of formal financial services to those who were earlier excluded from the mainstream financial network. By

virtue of digitalization, access to financial products by people in rural and remote locations is enabled. With the advancement of technology, availing the financial services in electronic mode has become easy as compared to traditional mode which is time consuming, cumbersome and laborious. India is estimated to be at the top with regards to the number of digital banking users in the world in 2022. The number of users in India stood at roughly 295.5 million (Financial Express, 2022). There has been a tremendous growth in the use of electronic financial services and this has helped in promoting financial inclusion.

Financial inclusion is a holistic approach to include every individual of society by providing them basic financial services irrespective of their income or social class.

Access to financial services is a fundamental pillar of economic and social development, but many people remain excluded from these services. However, the advent of digital technologies presents a unique

opportunity to fill this gap and expand financial inclusion on a larger scale.

**Review of Literature:**

Both financial stability and financial inclusion are impacted by digital finance. Researchers have come across several issues related to financial inclusion, including forced participation, data security, issues with voluntary financial exclusion, income inequality, underestimating risk, agency issues, and fintech business model challenges, etc. Financial inclusion has been greatly impacted by the digital revolution, with digital money providing various advantages to people, companies, and governments (Ozili 2018). With a range of formal financial services tailored to their needs and consistently provided at a cost that is both affordable for customers and sustainable for financial service providers, Digital Financial Inclusion involves the distribution of cost-effective digital tools to presently underserved and financially excluded populations (Gangani and Raval 2021).

Digital Financial Inclusion in rural India is proved to be a tool for promoting financial inclusion and improving the income levels. Rural Indian respondents from Central India states agreed that using fintech-based financial inclusion services is simple to understand, and they believe in the techniques of financial inclusion services. However, a few researchers also expressed concern for

privacy being compromised by adopting fintech-based financial inclusion programs (Goswami, et al, 2022). Security, convenience, and adaptability are the crucial factors are in determining how people perceive and adopt digital financial services (Dhungana et al. 2023).

**Growth of digital financial inclusion**

Digitalization can improve financial access by breaking down traditional barriers like distance, high costs, and poor infrastructure. With the growing use of mobile devices, internet access, and new financial technologies, people, especially in underserved areas, now have more access than ever to various financial services, including payments, savings, credit, and insurance. Moreover, digitalization provides efficiency and convenience in addition to accessibility. Financial institutions can lower costs, streamline operations, and limit risks by utilizing blockchain, artificial intelligence, and data analytics. This makes financial services more accessible and inexpensive for a larger range of people. However, policymakers must create an enabling regulatory framework that encourages innovation while safeguarding consumer protection and data privacy. Realizing the full potential of digitalization in accelerating financial access requires coordinated actions from various stakeholders, including governments, regulators, financial institutions, technology providers, and civil society. Table 1 and table 2 shows the initiatives taken by the Government of India and the commercial banks respectively.

**Table 1. Initiatives taken by Government of India to promote digital financial access**

Name of Initiative	Purpose of Initiative
<b>DIGITAL INDIA</b>	The Government of India’s main program, Digital India, aims to turn India into a knowledge economy and a society empowered by technology. “Faceless, Paperless, Cashless” is one of Digital India’s stated goals. It seeks to ensure that everyone can access financial services.
<b>Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA):</b>	By 2020, the goal of the Scheme is to equip every family with a minimum of one member with critical digital literacy skills.
<b>Digital Finance for Rural India: Creating Awareness and Access through Common Service Centres (CSCs)</b>	The Government of India’s main program, Digital India, aims to turn India into a knowledge economy and a society that uses technology effectively. “Faceless, Paperless, Cashless” is one of Digital India’s goals, ensuring that everyone has access to financial services.
<b>PRADHAN MANTRI JAN DHAN YOJNA</b>	Pradhan Mantri Jan-Dhan Yojana (PMJDY) aims to give excluded groups, such as low-income individuals and weaker sections, access to various financial services. These services include basic savings bank accounts, credit based on needs, remittance options, insurance, and pensions.

India has witnessed a sharp rise in the use of smartphones and internet connectivity in recent years, making digital payments more significant there. As a result, the usage of digital payment systems including card payments,

UPI, and mobile wallets has significantly increased. The government is attempting to remedy this by encouraging the usage of digital payments, yet a sizable section of the populace still relies on cash transactions.

**Table 2. Initiatives taken by commercial banks to promote digital financial access**

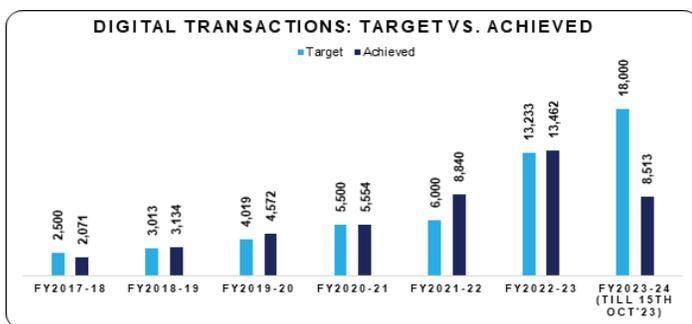
Name of Initiative	Purpose of Initiative
<b>Internet Banking / Online Banking / Net banking</b>	It's a system that enables people to do online banking transactions. Customers can use it to complete all standard transactions, including bill payments, account transfers, stop-payment requests, balance inquiries, etc.
<b>Mobile banking / M-Banking</b>	It's a technology that lets people use their mobile phones to do banking operations.
<b>Automated Teller Machine</b>	ATM is a self-service banking outlet that allows customers of a financial institution to transact money in public without the assistance of a clerk or cashier.
<b>Financial Literacy Camps (FLCs)</b>	Banks have been urged to hold special camps through their FLCs (two camps per month on "Going Digital" using UPI and *99# (USSD)). These camps should be customized for various target groups, such as farmers, schoolchildren, self-help groups, senior citizens, and micro and small entrepreneurs.

Digitalization holds immense promise in expanding financial access and fostering inclusive economic growth. By harnessing the power of technology and fostering collaboration among stakeholders, we can build a more inclusive and resilient financial ecosystem that empowers individuals and communities to thrive in the digital age.

**Table 3: Growth of Electronic Payments in India (2017-2023)**

Year	Volume (in crore)	Growth in Percentage
2017-18	2,071	-
2018-19	3,134	51.33
2019-20	4,572	45.88
2020-21	5,554	21.48
2021-22	8,839	59.15
2022-23	13,462	52.30

Source: Reserve Bank of India (RBI), National Payments Corporation of India (NPCI) & DIGIDHAN Portal



**Chart 1: Digital transactions: targeted vs achieved**

Source: RBI, Digidhan Portal/Banks (Figures in crores)

Chart 1 above highlights the remarkable surge in digital payment transactions that India has experienced in recent years. In FY 2022–2023 there were 13,462 crore transactions overall, up from 2,071 crore in FY 2017–18. Up till October 15, 2023, 8,513 crore digital payment transactions have been made in the current fiscal year, or FY 2023–2024. (Press Information Bureau, Government of India).

**Objectives of the study**

- i) To overview the status and growth of digital financial inclusion in India
- ii) To delve into customer adoption and satisfaction level with regards to digital financial inclusion in Chandigarh, Panchkula and Mohali.
- iii) To provide recommendation on policy measures aimed at enhancing access to digital financial services

**Data Sources and Research Methodology**

Secondary Sources through various banks websites, RBI and Ministry of Finance. Primary Data sources from the undermentioned villages belonging to Tricity of Chandigarh, Panchkula and Mohali with a sample size of 200 respondents. These are reportedly considered as the backward areas. The period under study for primary is 2023-24 and for literature review the period is 2018-23.

Table 4. Sample Profile

City/villages	City/Village wise number of respondents			Total number of Respondents
City	Chandigarh	Panchkula	Mohali	200
Village	Dhanas (14) Mani Mazra (13) Kaimbwala (12) Burail (14) Behlana (15)	Haripur (12) Chandimandir (13) Ramgarh (14) Saketri (11) Fatehpur (12)	Majri (13) DeraBassi (12) Kurali(12) Zirakpur (15) Kharar (18)	
Total	68	62	70	200

For data collection 3 cities known as Tricity were selected, viz., Chandigarh, Mohali and Panchkula. Out of each city 5 villages per city were selected on the basis of convenience sampling. Nearly 31% (n = 62) respondents were taken from the villages in Chandigarh, 30% (n = 68) respondents were from Mohali and 35% (n = 70) from Panchkula. The respondents were selected on the basis of Randomised convenient sampling engaged in low economics activities and having low level of income such as Street vendors, tailors, barbers, labours, rickshaw pullers etc. The choice of respondents was also based on the information gathered from the bankers in a pilot survey regarding the type of their microfinance beneficiaries.

**Customers Adoption of Digital banking services:** In order to study about the perception of the customers in the sample area with regards to Digital financial services in general and its awareness, usage and level of satisfaction in particular, a pre-structured questionnaire was administered to the selected 200 respondents from the rural area of the tricity (refer table no. 1). Their responses on different aspects related to digital financial inclusion have been further analyzed as follows:

**Demographic Profile of Customers:** Following table shows the demographic profile of the respondents under study:

Table 5: Demographic profile of the respondents

Sr. no.	Particulars	No. of Respondents	Percentage
1.	Gender:		
	Male	116	58%
	Female	84	42%
	Total	200	
2.	Age:		
	Between 18-30	93	46.5%
	31-45	67	33.5%
	46-60	13	6.5%
	Above 60	27	13.5%

	Total	200	
3.	Marital Status:		
	Married	106	53%
	Single	56	28%
	Divorcee	23	11.5%
	Widow	15	7.5%
	Total	200	
4.	Educational Qualification:		
	Below Matric	86	43%
	Matric	60	30%
	12 <sup>th</sup>	26	13%
	Graduate	12	40%
	Post graduate	4	2%
	Others	12	6%
	Total	200	
5.	Occupation:		
	Self employed	74	37%
	Daily Wage	46	23%
	Privately employed	57	28.5%
	Unemployed	23	11.5%
	Total	200	
6.	Family Income/month (Rs.):		
	Less than 10,000	92	46%
	10,000-15,000	58	29%
	15,000-20,000	27	13.5%
	More than 20,000	23	11.5%
	Total	200	

The above Table 5 shows that 58% of the respondents were male and 42% were female. Age wise, the largest group belonged to 18 to 30 years age group. Between 31-45 years have percentage is 33.5 %, Between 46 to 60 years have percentage is 6.5% and above 60 have

percentage 13.5%. Married Respondents are 53%, single status respondents are 28%, while divorcee are 11.5%, and widow respondents have a percentage of 7.5%.

As far as education is concerned out of 200 respondents the 'below matric' percentage is 43%, respondents having studied till 10th standard have percentage 30%, till 12th standard having percentage is 13%, respondents who are graduate their percentage is 40% and postgraduate percentage is 2% (n = 4), while others category have a percentage of 6%.

The largest group of respondents comprising 37% were Self employed, 23% were Daily wagers, 28.5% respondents were Privately Employed and 23% were unemployed.

The respondents having income below Rs. 10000 hold a percentage of 46%, respondents having an income range between Rs. 10000 to 15000 are 29%, respondents belonging to income group Rs. 15000 to 20000 are 13.5%, and 11.5% have income above 20,000. In an income range between Rs. 10000 to 15000 are 29%, respondents belonging to income group Rs. 15000 to 20000 are 13.5%, and 11.5% have income above 20,000.

**Digital Finance Awareness:** The term "digital financial awareness" describes people's comprehension and familiarity with different digital financial services and technologies. This entails being aware of the advantages, dangers, and are necessary for safe and efficient usage of these services.

Researchers and policymakers have been interested in India's digital financial literacy, especially in the backdrop of the government's vision for digital financial inclusion. There have been several studies undertaken in India examining various aspects of digital financial literacy. Sarma, M., & Pais (2018) in their research found that while rural India's population is gaining awareness of digital financial services, there remains a considerable gap in digital financial literacy, particularly between women and older people.

The current paper made an effort to first realize the level of awareness in terms of various digital channels of financial services made available to them. The following table shows the no. of respondents' awareness of these digital platforms:

**Table 6: Awareness of respondents**

Services	Frequency	Percentage
Banks's Mobile App	42	21%
Digital Wallet	26	13%
UPI	65	32.5%

ATM cards	39	19.5%
Net Banking	28	14%
Total	200	

### Usage of Digital Finance

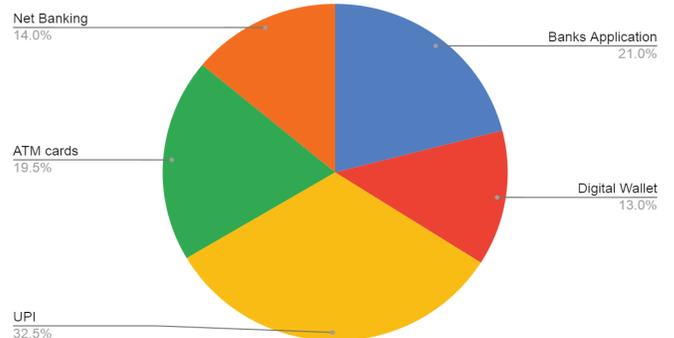
**Table 7: Utilization of Digital Financial Services**

Usage	Frequency	Percentage
Yes	42	21%
No	96	48%
Somewhat	62	31%
Total	200	100

Table no. 7 shows that 21% (n = 42) of the respondents use digital finance whereas 48% (n = 96) do not use digital finance, while 31% (n = 62) were somewhat unsure or indecisive about their usage of digital finance. This data shows that people in rural areas feel hesitant in using the digital financial services. The reasons for this aversion as discussed later in the paper could be lack of awareness, server connectivity issues,

### Type of digital platform used

Kinds of digital platforms used



**Fig 1. Type of digital platforms used by respondents**

The above Fig 1 shows that out of 200 respondents, 21% use their respective banks' application, 14% use net banking while 32.5% use UPI, 13% use Digital wallets whereas 19.5% use ATM cards.

The reasons behind low level of digital financial awareness and usage among rural poor are:

**Limited Technology Access:** The understanding of digital financial services may be hampered in rural or isolated locations by limited access to computers, smartphones, and the internet.

**Lack of Education:** A lesser knowledge about digital financial services and how to use them effectively might be caused by low educational levels.

**Language and Literacy Barriers:** People with poor literacy levels or those who use local languages not supported by digital platforms may find it difficult to use digital financial services because they frequently demand literacy in the language of instruction or operation.

**Lack of Trust:** People who are not comfortable with technology or who have worries about security and privacy may be reluctant to use digital financial services.

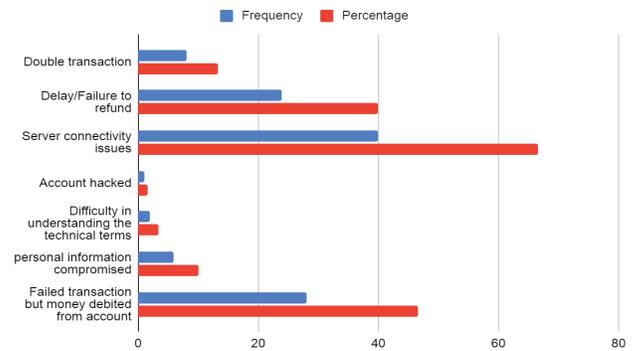
**Limited Awareness Campaigns:** Low level of awareness of digital financial services may be caused by a lack of education and awareness campaigns.

**Cultural factors:** Certain cultures may have attitudes about digital financial services that are influenced by cultural norms and customs, with a preference for traditional banking techniques.

**Infrastructure Challenges:** People may find it challenging to access and use digital financial services due to inadequate infrastructure, such as spotty internet connectivity or unstable power supplies. A multifaceted strategy is needed to overcome these obstacles, including expanding technology access, educating people about finance, fostering trust in digital services, and launching focused awareness campaigns. The respondents were given a list of seven most probable issue individuals could face when utilizing digital financial services platforms on the basis of literature. On the Basis of their response frequency ranking has been done to rate the problems as shown in the following Table 8:

**Table 8. Problems faced by respondents**

Problems faced	Frequency of responses	Percentage	Rank
Double transaction	27	13.33	4
Delay/Failure to refund	80	40.00	3
Server connectivity issues	133	66.67	1
Account hacked	4	1.67	7
Difficulty in understanding the technical terms	7	3.33	6
Personal information compromised	20	10.00	5
Failed transaction but money debited from account	84	46.67	2



**Fig. 2 Problems faced by respondents**

The various problems faced by respondents while using digital finance are server connectivity issues faced by 66.7%, and transaction failed but money debited from account faced by 46.67% of respondents, delay or failure to refund faced by 40%, problem of double transaction faced by 13.33%, personal information compromise faced by 10%. Some other problems faced by the respondents are difficulty in understanding the technical terms faced by 3.33% and account hacking faced by 1.67%.

**Perception of the respondents:** Customers’ perception of digital financial services can vary based on their experiences, knowledge, and cultural context. The respondents’ perception with regards to digital financial services was measured on the following factors statements:

1. Convenience
2. Cost-effectiveness
3. Security
4. Accessibility
5. Awareness and Education
6. Trust
7. User Experience

The respondents were asked to respond to the above statements on Five- point Likert Scale ranging from Strongly Agree to Strongly Disagree) and further mean values of these responses were calculated to analyse the data and draw the meaningful responses as explained below:

**Table 9: Perception of Respondents**

Sr. no.	Factor	Mean Value	St. dev.
1	Convenience	4.2	0.8
2	Cost effectiveness	3.8	0.9
3	Security	3.5	1.0
4	Accessibility	4.0	0.7

5	Awareness and Education	3.6	0.8
6	Trust	3.7	0.9
7	User Experience	4.1	0.7

**Convenience:** With a mean score of 4.2 and a standard deviation of 0.8, respondents largely agree that digital financial services are convenient, and there is little variation in their answers. Thus, convenience is the most important factor determining the use of digital financial services.

**Cost-Effectiveness:** The 3.8 mean and 0.9 standard deviation indicate that, although most respondents think digital financial services are cost-effective, there is some variation in this perception, with some strongly agreeing and others not so much.

**Security:** The respondents' perceptions of security with digital financial services range more considerably with mean value of 3.5 and standard deviation of 1.0. While some might feel safe, others could be more anxious.

**Accessibility:** With a high degree of agreement and little response variability, respondents typically view digital financial services as accessible, with a mean of 4.0 and a standard deviation of 0.7.

**Awareness and Education:** Although respondents appreciate awareness and education regarding digital financial services, there is some variation in the degree to which this perspective is held, according to the mean of 3.6 and standard deviation of 0.8.

**Trust:** Although there is variation in respondents' levels of trust, the mean of 3.7 and standard deviation of 0.9 show that respondents typically have some degree of faith in digital financial services.

**User Experience:** With a high degree of agreement and little response variability, respondents usually believe that digital financial services offer a favourable user experience (mean of 4.1 and standard deviation of 0.7).

**Level of Respondents' Satisfaction:** These interpretations collectively imply that whereas respondents usually have positive opinions about the ease of use, accessibility, and convenience of digital financial services, opinions about their cost-effectiveness, security, awareness, and trust differ significantly.

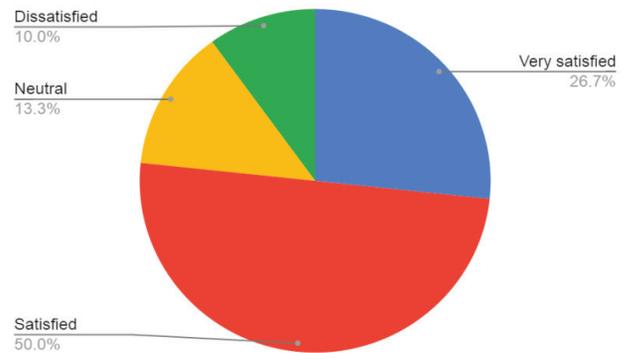


Fig 3. Satisfaction level of digital Finance

The satisfaction has been classified into five levels i.e very satisfied, satisfied neutral, dissatisfied and very dissatisfied. The Table 10 and Fig 6 shows that 26.7% of the respondents were very satisfied from using the digital finance, while 50% of the were satisfied, neutral were 13.3% whereas 10% were dissatisfied. It is noteworthy to mention here that despite facing problems in availing and utilization of digital financial services, no respondent is very dissatisfied from using the financial services on digital platforms. That indicates better scope for financial inclusion through digitalization, if taken care of the issues posing as hurdle in the way of digital financial inclusion.

**Recommendations:**

The main suggestions for policymakers that could help reduce India's remaining gaps in financial inclusion while preserving the country's financial stability are highlighted in this section. Ensuring fair access to digital infrastructure for all sections of population. It is imperative in closing the current digital divide. For instance, the government could offer incentives to telecom companies to establish dependable network connectivity in the backward areas and to commercial mobile phone manufacturers to target the vulnerable and underprivileged with subsidized phones. By removing obstacles like the need for in-person bank visits, this will enhance women's financial inclusion and promote frequent usage of digital financial services as well as build trust amongst them. Safe digital financial inclusion will increase as the regulatory framework for digital finance is developed and strengthened. The need of the hour is to modify regulatory strategies in order to maintain a balance between bolstering financial innovation and tackling obstacles and hazards to financial stability. While it still makes up a small portion of total credit in India and isn't big enough to have an impact on financial stability, 'digital lending' is expanding quickly in the country. Digital lending involves a remote and

automated loan application procedure that uses digital technology seamlessly for customer acquisition, credit evaluation, loan approval, payout, recovery, and related customer support programs.

In order to increase people's confidence in doing digital transactions, there is an urgent need for improved consumer and data protection and cybersecurity. While measures like the 2019 Ombudsman Scheme for Digital Transactions by Reserve Bank of India and the need for two-factor authentication for digital payments are positive steps in the right direction, more needs to be done to safeguard consumer privacy and prevent fraudulent transactions and cyberattacks. To make the public financially informed, they should be taught about safe digital payment and lending procedures. People should be made aware of both new and current government programs that offer low-interest loans, and regulators should make sure that these services are successfully provided.

### **Conclusion:**

The study shows that the growth of digital financial services in India has significantly changed the country's financial sector. This shift impacts financial inclusion, economic growth, and technological progress. Rapid adoption drives this evolution. Key factors include more people using smartphones, government efforts to promote digital solutions, and shifts in consumer behavior. However, there are challenges to creating a digitally inclusive financial system. To tackle issues like cybersecurity threats, complex regulations, low digital literacy, and infrastructure gaps, policy makers and regulators need to collaborate. Moreover, it is quite necessary that the advantages of digital financial

services benefit every sector of society, particularly underprivileged areas. New developments like digital lending, blockchain adoption, mobile payments, and financial inclusion programs are going to further reshape the environment and offer new opportunities for growth.

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