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## BRIDGING THE DIGITAL DIVIDE: ENHANCING FINANCIAL LITERACY IN DELHI NCR THROUGH DIGITAL ADVANCEMENTS

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### Abstract

This research explores how digital innovations affect financial literacy in various Indian demographic groups by collecting data from 276 respondents. Employing rigorous academic methodologies, it not only clarifies the obstacles to financial education in the digital era but also evaluates the possible benefits of digital platforms for improving financial literacy among Indian communities. In addition, it conducts a thorough analysis of tactics meant to alleviate the digital gap and boost financial literacy programs in India's developing digital environment. Through the application of a scholarly lens, this study offers insightful information about the complex relationship between digital advancement and financial literacy, providing academic discourse to guide policy decisions and educational initiatives aimed at promoting financial empowerment among India's diverse population.

*Keywords: Digital Financial Literacy, Digital Financial Services, Financial Literacy, India, Retail Investor.*

### 1. INTRODUCTION

In the age of digitization, having a working knowledge of technology is essential, particularly for those in the financial industry. Nowadays, being well-versed in finance is not enough; one also must be able to integrate their expertise into the digital realm. Digital literacy is a person's level of familiarity with technology, whereas financial literacy (FL) denotes understanding of financial goods and services and how to use them when creating personal financial goals. They are both expressions of the same idea. When these two phrases are combined, DFL refers to the understanding of digital financial services and products that a person needs to make wise financial decisions. The establishment of DFL was hindered by the fact that even someone who was well-versed in financial concepts was unable to utilise digital

financial services effectively due to a lack of skills[1][2].

Although they are related but not identical, the phrases "financial literacy" and "financial education" have been found to be used interchangeably. FL spreads via the financial education process. People who get it are better equipped to navigate the realm of financial well-being and make wise financial judgements. While its application is much valued, just understanding the theoretical side of DFL does not ensure that investors are not swayed by heuristics and are forced to make actual selections[3]. By educating the target demographic about their financial goods and services, service providers may sustain their efficiency and foster the economic development of their nation. A digital platform may be used to access a variety of electronic services, including lending facilities, savings and investment

services, insurance, and payment services [4][5]. Prepaid payment instruments (PPI), mobile banking, debit and credit cards, and retail electronic clearing services are all widely used by Indians. In the context of financial accessibility, it helps reduce the wealth and poverty gaps in society over time [6]. Nonetheless, customers' lack of confidence prevents them from taking use of DFS's advantages and lessens both its advantages for users and the economy as large. It has also been very difficult to successfully create demand and erect obstacles to its widespread use and adoption due to low knowledge and the considerable risk involved in transactions.

Native Americans were encouraged to open Jan-Dhan accounts by the introduction of digital financial services, which helped solve financial issues. However, since rural areas lack enough infrastructure, the benefits of these accounts are not shared equally with metropolitan areas. Although the government used to play a big part in financial planning, changes in people's demands have increased the need for customised financial planning, which is only achievable with sufficient financial expertise. The gender gap was reduced by digital services since they made distant access possible. Flexibility in work arrangements helps to lessen the gender gap in the job market[7]. To improve the spread of financial literacy, strong cooperation across stakeholders would be much welcomed, based on their respective areas of expertise.

There are currently very few studies available that precisely provide a comprehensive picture of the Indian digital market. The purpose of this research is to provide insight into the current state of financial knowledge in the Indian electronic market. The research gap lies in understanding how digital advancements intersect with financial literacy across diverse demographic groups in India. Existing studies often overlook this, neglecting specific obstacles to financial education access in the digital age. Moreover, there's limited exploration of the potential benefits digital platforms offer in enhancing financial literacy. Additionally, there's a lack of research on concrete strategies to narrow the digital gap and strengthen financial literacy programs in India's evolving digital landscape.

## 2. LITERATURE REVIEW

Financial literacy (FL) refers to people's understanding of financial goods and services and how to use them to manage their own financial goals; digital financial literacy (DFL) is the combination of these concepts (Kumar, 2022). The ability to effectively use digital tools is also represented by digital literacy. Digital literacy (DL) is described as "the ability to define, access, manage, integrate,

communicate, evaluate and create information safely and appropriately through digital technologies and networked devices for participation in economic and social life"[8] [9].

Financial competence, digital literacy, and financial literacy make up DFL, a multi-dimensional paradigm[10]. Financial literacy refers to people's in-depth understanding of financial products and services, as well as their conceptual clarity, allowing them to manage their finances in accordance with their social and economic circumstances, whereas financial capability denotes the application of financial knowledge in solving economic problems with great care. Digital literacy refers to the capacity of a person to read and comprehend the digitally accessible material by utilising electronic devices such as mobile phones, tablets, and computers to access financial services online. By combining these criteria, DFL implies gaining the knowledge, artistry, confidence, and competence for accessing digitally accessible financial goods and services carefully to make sound financial judgements by acting in the best financial interest as per one's economic and social circumstances.

The degree of financial literacy, financial competence, and digital literacy among Indian people by different statistical methods and approaches has explored by using a multi-dimensional scale questionnaire, 384 participants provided their data[11]. The researcher saw the DFS quality as a crucial part of the study. The physical and digital modes are equally affected by the DFS quality. Components such as rational financial behaviour, awareness of risk in DFS and controlling measures, understanding of DFS and its application, and the influence of gender on financial knowledge among Indian adults were used in the DFL model's construction using confirmatory factor analysis (CFA). Across the board, female people are more realistic with their money choices than male individuals. Adults (age greater than 56 years as per this survey) have strong financial understanding and well-execution to choose the best out of all. The quality of digital financial services, digital savvy, and knowledge of digital financial risk were more important to the high-income group (income greater than 6,00,000). It was determined that personal qualities do not impact DFL but the educational level of people may influence their DFL.

The influential factors that affect digital technology in the most significant and sensitive sector by combining Porter's five forces (internal factors) with PEST analysis (external factors) following the idea that the financial sector is not only influenced by

micro-level factors but also by macro factors[12]. Technological Innovations and digital transformation have a significant impact on it. It necessitates well-structured law and order with government intervention. It was revealed that promises of technological up-gradation greatly influenced the banking industry than the insurance business. Banks may simply standardize their goods by retaining the essential demands of the client and greater self-service features boost consumers' satisfaction levels. It was decided that bank managers should be prepared in advance for the need for customer-centricity policies in the financial industry soon.

To analysis the impact of FL on the use of digital services among Cypriot adults specifically online banking (i-banking)[13]. Data was acquired using a well-designed questionnaire for investigating their conduct aged from 25-65. It was observed a significant association between a high literacy level promotes people to the use of digital services. It was proposed that persons with high financial literacy and a low likelihood of default may foster more equilibrium conduct in terms of wealth and budget management.

The link between financial literacy and Financial Inclusion. Aadhar cards connected with bank accounts and the termination of outdated high-denomination currency notes shrink down the distance between banking service providers and their consumers[14].

The debt literacy level and capacity to handle their debts of household Americans which exposed them to financial experience by applying a survey approach[10] [11][17]. It was revealed that debt illiteracy is one of the components of financial literacy that assesses the capacity to manage debt and self-accessed financial competence. Furthermore, those aged less than 30 have adequate information of student loans but are not so acquainted with the computation of instalment payments, ergo, unparticipative. Almost 70% of consumers still favoured conventional sources of money such as house loans, student loans, auto loans, loans against mortgages etc. owing to fear of attempting a new regime completely.

A complete knowledge of the relationship between digital improvements and financial literacy across India's varied demographic groupings is lacking, which represents a research vacuum. Studies that already exist often ignore the combined influence of digital improvements and financial literacy by concentrating on either one of them alone. Furthermore, little study has been done on the barriers to accessing financial education in the digital

age as well as the advantages that digital platforms may have for improving financial literacy in Indian communities. Furthermore, research on practical ways to close the digital divide and support financial literacy initiatives in the context of India's changing digital environment is scarce. Through the provision of empirical insights into these linked features, this research seeks to close these gaps.

### 3. RESEARCH OBJECTIVES

- Investigate the impact of digital advancements on financial literacy levels among different demographic segments in Delhi NCR.
- Determine the obstacles that the digital age presents to financial education access
- Assess the possible benefits that digital platforms might provide in terms of improving financial literacy among Indian communities.
- In light of India's changing digital environment, investigate ways to reduce the digital gap and strengthen financial literacy programmes.

### 4. RESEARCH METHODOLOGY

This study employs a comprehensive mixed-methods approach to effectively handle the diverse research goals. To acquire quantitative data, a structured survey must be given to a representative sample of different demographic groups in India. This allows for the collecting of information on demographics, financial literacy, and digital innovations. Furthermore, focus groups with members of various demographic groups and in-depth interviews with significant stakeholders will be used to collect qualitative data. The study will use thematic analysis to identify prevalent obstacles impeding the availability of financial education in the digital age and to assess the possible benefits that digital platforms may provide in terms of improving financial literacy. To provide a comprehensive picture of how digital innovations affect financial literacy levels and access to financial education in India, quantitative and qualitative data are integrated. Throughout the study process, ethical considerations will be crucial to guarantee participant anonymity and adherence to ethical principles.

### 5. DATA ANALYSIS

#### 5.1. Respondents' Profile

**Table 1: Portrait of Respondents' Demographics**

	Basis	Frequency	Percentage (%)
Gender	Male	174	63.04
	Female	102	36.96
Age	18-39	105	38.04
	40-59	89	32.25
	Above 60	82	29.71
Marital status	Married	145	52.54
	Unmarried	101	36.59
	Widow	30	10.87
Educational Qualifications	Illiterate	15	5.43
	8th	23	8.33
	10th	34	12.32
	12th	68	24.64
	Under-Graduate	79	28.62
	Above Under-Graduate	57	20.65
Occupation	No job	10	3.62
	Agriculture	48	17.39
	Casual	84	30.43
	salaried	105	38.04
	Self employed	29	10.51
Level of income	less than 10,000	37	13.41
	10,001-20,000	58	21.01
	20,001-30,000	76	27.54
	More than 30,000	105	38.04

Source: Author compilation.

The table offers a thorough analysis of the demographic features of the population under study, illuminating several significant factors including the distribution of genders, age demographics, marital status, educational attainment, job profiles, and income levels. The data reveals a minor bias in favour of men, who make up 63.04% of the sample, in comparison to females, who make up 36.96%. When it comes to age, the majority of people are between the ages of 18 and 39 (38.04%), 40 to 59 (32.25%), and 60 and over (29.51%), in that order. The percentage of people who are married (52.54%), single people (36.59%), and widowed (10.87%) show a wide variety in terms of marital status. The educational background of the population is broad, ranging from illiterate (5.43%) to having completed more than an undergraduate degree (20.65%).

The sample's occupational makeup is diverse, with large percentages working in paid employment (38.04%), casual labour (30.43%), and agricultural work (17.39%), among other occupations. Finally, differences in the distribution of income levels are evident; the group earning more than 30,000 makes up the greatest portion (38.04%), followed by those earning between 20,001 and 30,000 (27.54%), 10,001 and 20,000 (21.01%), and less than 10,000 (13.41%). All things considered, the table offers insightful information on the socioeconomic background and demographic composition of the population under study, giving a detailed grasp of its composition along several parameters.

**5.2. Disparity Of Digital Advancements Based on Demographic Parameters**

Male respondents predominantly rate their performance as "Poor" (83.00%), with no responses falling under "Good" or "Excellent." A smaller proportion (17.00%) fell into the "Satisfactory" category, indicating a less favorable view overall. Conversely, female responders exhibit more diversity in their ratings. While a majority (67.30%) fall into the "Poor" category, a larger portion (26.00%) report being "Satisfactory." Only a small percentage (6.70%) rate themselves as "Good," indicating relatively higher satisfaction levels compared to men. However, none of the female responses are classified as "Excellent."

The significance levels for gender are all "0.00," indicating statistical significance for the observed differences in the measurable variable between male and female respondents. These differences are unlikely to have occurred by chance. These findings underscore the importance of considering gender when interpreting data related to the variable being assessed. Gender significantly influences how people perceive and behave in the context of the research.

The extract highlights how respondents' digital financial literacy (DFL) is significantly impacted by their level of education. It suggests that people who have completed more schooling often have higher DFL, which makes it easier for them to obtain and use financial goods and services. Notably, there is a strong positive link between DFL and educational success, with greater DFL levels being correlated with higher educational attainment. Based on the data analysis, those who are illiterate have a low DFL index (DFLI) of 0.14, but people who have completed less elementary school have a little higher DFLI of 0.17. The DFLI increases with education levels, peaking at the upper secondary level (DFLI = 0.30) and showing excellent levels among graduates and above (DFLI = 0.56). Even with this increasing tendency, most people at all educational levels are still classified as poor DFL.

According to the poll, digital financial literacy and marital status are significantly correlated. With an acceptable rating of 0.34, unmarried people have much greater levels of digital financial literacy than married people, who only score 0.24, placing them in the bad literacy category. It's interesting to see that a significant percentage of respondents who are single (42.1%) and married (71.2%) have inadequate digital financial literacy, underscoring pervasive difficulties.

Literature analysis shows a strong correlation between age and financial literacy, especially in

digital contexts. Digital financial literacy tends to increase with age, but younger respondents outperformed older ones. Statistical analysis confirmed a significant association between age and digital financial literacy ( $p < 0.05$ ). Rejecting the null hypothesis emphasizes the importance of age groups in understanding digital financial literacy.

The passage emphasizes the impact of employment on digital financial literacy, illustrated in the provided table. Those who are self-employed or salaried exhibit the highest digital financial literacy levels (DFLI 0.29). Unemployed individuals show higher DFLI than casual and agricultural workers, likely due to higher income and education. Casual workers have the lowest DFLI at 0.14, indicating a lack of digital financial literacy. A significant p-value of 0.000 ( $p < 0.05$ ) confirms a strong correlation between employment type and digital financial literacy, underlining its major influence. Income strongly

influences digital financial literacy. Lower income tends to correlate with poorer literacy, while higher income is associated with better literacy. For example, most respondents earning less than Rs. 20,000 show inadequate knowledge, with no exceptional literacy. Conversely, higher income groups, like those earning Rs. 30,000 and above, demonstrate higher literacy indices (e.g., 0.51). This highlights income's significant impact on literacy levels in the digital financial landscape.

### 5.3 Miscellaneous Results

Some of the additional results used for explaining the usage of gadgets for different purposes and the preference of cash payments over online money transfer. In Figure 1, smartphone usage patterns reveal that most users, exceeding 90%, utilize their devices primarily for making calls or messaging,

**Table 2: Distribution of Digital Financial literacy among respondents**

<i>Basis</i>		<i>Poor</i>	<i>Satisfactory</i>	<i>Good</i>	<i>Excellent</i>	<i>DFLI</i>	<i>t (DFLI)</i>	<i>Sig</i>
<i>Gender</i>	Male	83.00	17.00	0.00	0.00	0.17	4.34	0.00
	Female	67.30	26.00	6.70	0.00	0.25		
<i>Age</i>	18-39	53.90	37.70	8.40	0.00	0.27	24.19	0.00
	40-59	90.90	6.60	2.50	0.00	0.20		
	Above 60	100.00	0.00	0.00	0.00	0.18		
<i>Marital status</i>	Married	71.20	23.80	5.00	0.00	0.24	-5.01	0.00
	Unmarried	42.10	39.50	18.40	0.00	0.34		
	Widow	0.00	0.00	0.00	0.00	0.00		
<i>Educational Qualifications</i>	Illiterate	100.00	0.00	0.00	0.00	0.14	341.19	0.00
	8th	97.70	2.30	0.00	0.00	0.17		
	10th	89.90	10.10	0.00	0.00	0.20		
	12th	31.50	67.80	0.70	0.00	0.30		
	under graduate	0.00	31.00	69.00	0.00	0.56		
Above under graduate	0.00	18.20	81.80	0.00	0.56			
<i>Occupation</i>	No job	81.30	18.80	0.00	0.00	0.24	65.08	0.00
	Agriculture	73.60	24.90	1.60	0.00	0.23		
	Casual	96.00	4.00	0.00	0.00	0.14		
	salaried	70.00	0.00	30.00	0.00	0.29		
	Self employed	53.90	34.50	11.70	0.00	0.29		
<i>Level of income</i>	less than 10,000	89.09	10.91	0.00	0.00	0.16	65.08	0.00
	10,001-20,000	77.14	20.00	2.86	0.00	0.22		
	20,001-30,000	43.48	46.96	9.57	0.00	0.31		
	More than 30,000	20.00	13.33	66.67	0.00	0.51		

Source: Author compilation.

taking photos, and accessing news. Social media engagement is also significant, with around 80% of users active on various platforms. Additionally, approximately half of smartphone users engage in online shopping, often through social platforms like Facebook. Surprisingly, only a small fraction, 9.5%, use smartphones for financial management. These findings highlight the pervasive role of smartphones in daily life, particularly for communication and social interaction, while suggesting untapped

potential for leveraging them in financial management.

Based on the Figure 2, it appears that cash remains the predominant method of payment and money transfer among respondents, with nearly all respondents (99.4%) still using cash for payments. Additionally, cash is also the primary means of money transfer, with 95.57% of respondents utilizing cash for this purpose. This indicates that cash continues to be the dominant mode of conducting transactions among the surveyed population. In

contrast, a smaller percentage of respondents use digital payment methods. Approximately 13% of respondents utilize credit/debit cards for payments, while a similar proportion (10%) use them for transfers. Mobile phones are used for transfers and payments by around 10% of respondents, while computers are utilized by only 5% of respondents for these purposes.

**6. STAKEHOLDERS’ INITIATIVES TO ENHANCING THE AVAILABILITY OF DIGITAL PLATFORMS IN INDIA**

**6.1 Government Initiatives**

With the introduction of extensive government initiatives, India has made impressive strides in recent years toward providing its citizens with access to an organised financial system. By initiating multiple programs such as Atal Pension Yojana (APY), PM Kisaan MaanDhan Yojana (PM-KMY), PM Jan Dhan Yojana (PMJDY)etc. a greater range of

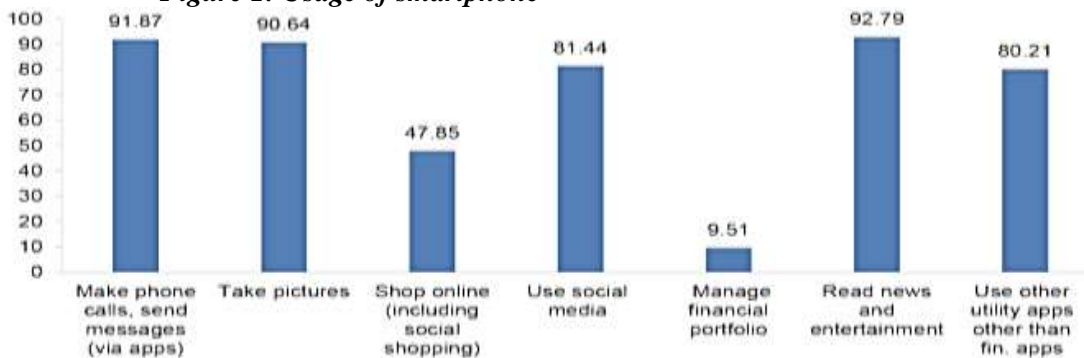
financial services, including Basic Saving Bank Deposit Accounts (BSBDA), credit, remittance, insurance, and pension options, are made available to the less fortunate members of society.

As per the World Bank Findex Report (2017), there has been a remarkable surge in the number of adult account holders, rising from 35 percent in 2011 to 80 percent in 2017. Additionally, the gender gap related to bank account ownership has decreased by almost 14 percent in the short time since the initiative's inception[18].

**6.2 Reserve Bank of India (RBI)**

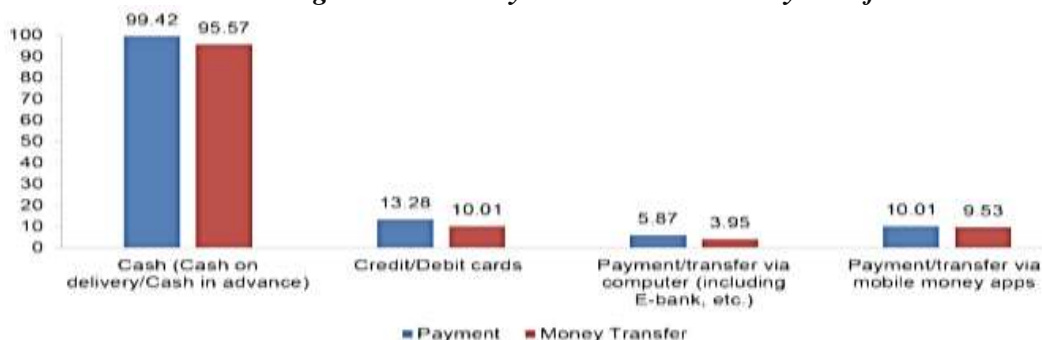
In order to improve the conceptual understanding of financial terms and procedures, such as savings, bank debt, compounding effect, time value, inflation, the relationship between risk and expected return, mutual fund mechanism etc. RBI has launched FL guides, budgetary diaries, posters, and special booklets for those who have recently entered the banking system.

*Figure 1: Usage of smartphone*



Sources: Author Compilation

*Figure 2: Cash Payments vs online money transfer*



Source: Author compilation

Since 2016, the RBI has organized Financial Literacy Week annually to promote financial education. In 2022, FLW'22 focused on the theme "Go Digital, Go Secure" from February 14–18. It aimed to raise awareness about digital transactions, ensure their safe usage, and protect consumers from online fraud. FLW'22 aligns with the National Strategy for Financial Education (2020-25). Notable experts participated in webinars discussing digitalization's impact, while college students took

part in a national-level quiz. The latest FAME Booklet was released to provide essential financial information to the public.

**6.3 National Payment Corporation Of India (NPCI)**

By means of these organisations, NPCI has begun collaborating with various private and public sector banks to spread digital payment literacy among corporate employees and beneficiaries by means of series of lectures on (Immediate Payment System)

IMPS, RuPay, (Unified Payment Interface) UPI, AePS, and USSD. To promote safe digital payments, collaboration is being sought not just with banks but also with India Railways, NABARD, educational institutions, companies, AMFI, NGOs, Fin-techs, etc.

A UPI safety and vigilance programme has been launched by NPCI and UPI with the goal of educating consumers about new payment options. Its name was added to the Limca Book of Records in 2017 when, on the eve of World Literacy Day, 120 e-payment camps were simultaneously held in India. i.e., on September 8, 2015, 23,930 people benefited from it.

#### **6.4 National Centre for Financial Education (NCFE)**

Under the Companies Act of 2013, financial sector regulators founded the National Centre for Financial Education (NCFE) with the goal of raising financial literacy and creating information that is appropriate for a broad audience. In the past, stakeholders have each given a solo performance to advance FL and DL. The National Strategy for Financial Education (NSFE) was established by taking a well-coordinated approach to the improvement of the common man in order to coordinate their efforts. In order to better meet the needs of the target audience, NCFE has run a number of financial literacy-based programmes, including the Money Smart School Programs (MSSP), Financial Education Programme for Adults (FEPA), Financial Education Training Programme (FETP), and Financial Awareness and Consumer Training (FACT). The transition to digital channels resulted in literacy programmes being channelled through digital platforms, serving over 175 thousand participants through over 5,000 programmes in 2020–21[19].

#### **6.5 Securities And Exchange Board of India (SEBI)**

SEBI has made several efforts to improve people's fundamental financial literacy. Free seminars in local languages are held with the assistance of approved resource persons to educate the target audience—households, self-help groups, retirees, middle-class groups, and executives—about banking, investments, insurance, and investments. To raise awareness and break down obstacles related to illiteracy, special publications on important topics are given.

To improve people's fundamental financial literacy, SEBI has implemented several initiatives. With the assistance of approved resource persons, free seminars are held in the local languages with the

goal of educating the target audience—which includes households, self-help groups, retirees, middle-class groups, and executives—about banking, investments, insurance, and investments. To reduce barriers related to illiteracy and raise awareness, special pamphlets on significant subjects are given.

## **7 CHALLENGES OF DIGITAL FINANCIAL LITERACY**

### **7.1 Gender-Specific De-Aggregation Within Transactions**

Rural areas face obstacles with PMJDY due to inadequate infrastructure. India ranks second among BRICS nations with 1.7 billion unbanked adults, hindering their participation [18]. Only 29% of males and 21% of females meet the minimal financial literacy threshold [20][21]. Just 13% of farm laborers compared to 45% of government employees meet this standard. These figures underscore the need for increased efforts to enhance financial literacy in India [20].

Gender inequality in the accessibility of financial services would be a significant issue in addition to the incredibly low level of financial knowledge. Even if it has been getting smaller recently, it is still important enough to warrant attention. The disparity in their accessibility decreased from 20% in 2014 to 6% in 2017, according to the Global Findex Report. Up to 2017, the financial industry employed 80% of men, while women made up a somewhat smaller percentage[2]. Women continue to be among the uninformed segments of society that require attention.

### **7.2 Massive Risk to Security**

The Ministry of Electronics and Figures Technology (MeiTy) released information indicating that in the three years after 2018, the number of cybercrimes and fraud cases increased fivefold (572 percent). Just in 2021, 14 lakh new lawsuits were filed (table 3). Karnataka led the list of Indian states with the highest rate of cybercrime (16.2%), followed by Telangana (13.4%) and Assam (10.1 percent)

Table 3: *Number of Cybercrime Cases (yearly and monthly wise)*

<i>Year</i>	<i>Number of fraud cases</i>	<i>Average case (monthly)</i>
2018	2,08,456	17,371
2019	3,94,499	32,875
2020	11,58,208	96,517

2021	14,02,809	1,16,900
2022 (2month)	2,12,485	1,06,242

source: Author’s compilation.

An investigation on the degree of danger a user encountered when executing specific tasks on the digital service has been conducted through a poll. Most customers run the economic risk of having their personal information stolen through ATM, mobile money, and internet transactions (figure 3) Users unknowingly leave digital traces because of DFS's explosive expansion. Furthermore, by offering specialised goods and services and evaluating the risk profile of the client, big data enables DFS providers to improve business interactions. However, this revenue model made it more likely that customers' data would be used without their consent, which compromised their ability to safeguard and privacy. As a result, the emphasis moved to enhancing and clarifying information as well as carrying out flawless digital transactions by upholding cyber-security.

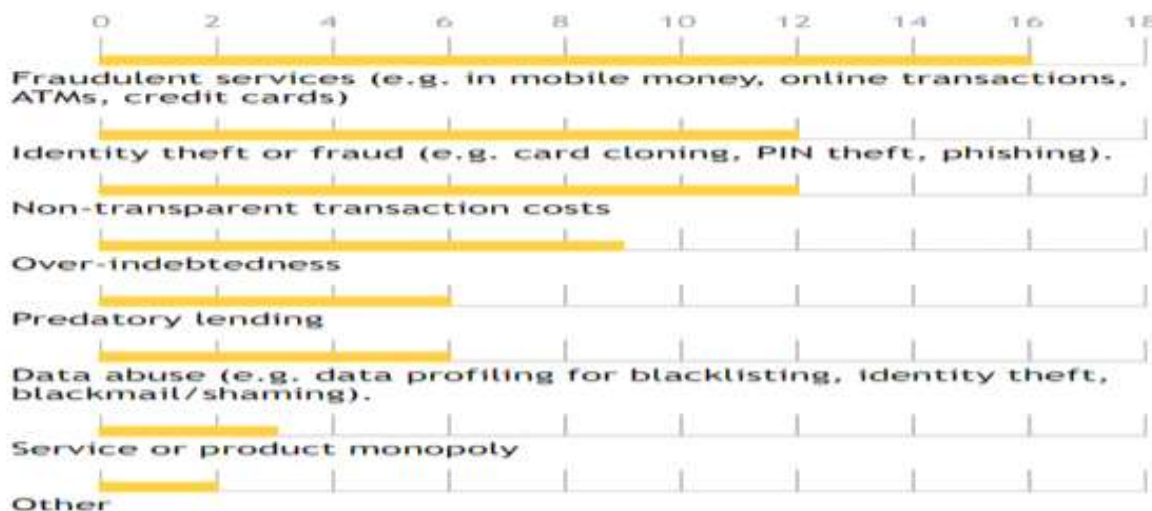
### 7.3 Shiftless Behavior

It is true that changing folks' behaviour is a far more challenging endeavour. Cash payments are favoured over digital ones since aegis. However, there was some pressure on customers to pay their bills in cash due to the ease and lack of cost associated with cash withdrawals. This discouraged the concerned parties from adopting digital platforms, which significantly increased their business value and prevented retailers from having to accept digital payments. When conducting a cash transaction, the time and travel costs associated with the user's visit to the bank are typically disregarded, contributing to the true cost of operating and withdrawing cash.

### 7.4 Difficulty Of Transferring Cash to Digital

In addition to its many benefits, the digital pricing structure has drawbacks. The retailer

**Figure 4: Key consumer protection risks in DFS over the last three years, as noted by a significant number of respondents.)**



Source: AFI, digital financial literacy, May 2021

first covered the cost of the payment equipment used to receive digital payments, but eventually shifted that cost on to the customer. Its inability to completely replace cash payments was hindered by the possibility of funds being transmitted to the incorrect merchant, the need to memorise PINs, erratic internet access, and a high prevalence of frauds. The lives of the impoverished can be significantly improved by a strong system for digitising those transactions.

### 7.5 Minimum Coverage

Less than 40 ATMs are accessible to 1,00,000 persons, the lowest number among the BRICS nations as per the report of IMF named Financial Access study [22]. In contrast, over 400 ATMs in Russia serve having similar number of adults. In addition, there are around 15 commercial bank branches for every 100,000 adults. India is in second position among the BRICS countries with 1.7 billion



unbanked adults, 191.3 million of whom are not in the financial sector [23].

## 8 MEASURES TO REDUCE DIGITAL GAP AMONG INDIVIDUALS

This section summarized the key takeaways from research that has been done in this area till now and suggests some probable actions of government, private sector, and development sector to tackle the problem over the next few years for driving financial inclusion successfully through enhancement of financial literacy in rural and urban areas in India.

### 8.1 Enable Women’s Financial Inclusion Through DFL

Digital financial literacy (DFL) is increasingly crucial for closing the gender gap in DFS usage among Indian women. Challenges such as low numeracy skills and limited access to quality mobile phones persist. To overcome these barriers, the Government of India (GoI) should develop women-centric, community-based initiatives like Self-Help Groups (SHGs) to integrate digital services into their daily lives. Demonstrating the value and accessibility of digital solutions can empower women financially. A future strategy with a strong gender focus is essential for promoting greater financial inclusion among women.

### 8.2 Mitigate Risk in The Digital Landscape

An increase in cybercrime frauds in India restricted individuals from entering the new world of financial services altogether. The number of cases has been hiked by four times. According to the National Crime Record Bureau (NCRB), 37,718 new cases were registered in just 4 years surprisingly, 136 new cases were registered daily. Table 4 showcased the frequency of cases in the financial sector.

**Table 4: Various Types of Fraud Cases in the financial Sector**

Frauds	Cases
Online banking frauds	4,047
ATM frauds	2,160
Credit/debit card fraud	1,194
OTP fraud	1,093
Cyberstalking of women and child	972
Fake news on smartphones	578

source: NCRB

The ever-increasing complexity of digital products and services calls into question regulators and policymakers with the window of opportunity. High-level policies and guidelines are obliged for the

protection of financial consumers from data abuse, fraudulent services, identity theft etc. Asymmetric trust in DFS hampered its usage despite a compelling financial system with technological support. Vigorous consumer and data protection frameworks enhance the reliability of individuals on the security system and indulge them in adopting the technology-driven financial sector wholeheartedly. Crystal clear Byelaws combined with probable initiatives of financial sector regulators concerning financial education for building strong trust and faith in the usage of financial services continuously, especially for consumers with limited financial literacy.

Further, Additional Factor Authentication (AFA) or multi-factor authentication proved an effective tool for ensuring safety from cyber-attacks such as key loggers replay attacks, disposing of passwords using spyware and safeguarding the customer confidentiality of payment data. Two-step verification mitigates the probability of unlicensed transactions intentionally or unintentionally.

### 8.3 Positive Change in Behavioural Outcomes

It's, indeed, a complex task to make behavioural changes in human beings as they do not welcome some modifications wholeheartedly. More efforts are required to explain the positive outcomes of such changes by inculcating desirable financial behaviour among the target audience. Messages of FL are conveyed by establishing a relationship with real-life experiences such as marriage, child life, good planning, retirement planning and asset acquisition. It connects the target audience directly and more effectively. The desire to flow with the updated technology in both rural and urban structures depend on the citizens’ aspirational characteristics toward the new digital products.

### 8.4 Universalisation of the Digital Financial Ecosystem

Globally, out of 1.7bn unserved and underserved adults in BRICS nations, 191.3mn adults (30%) belong to India [18]. Cultural, social and economic factors could be valid justification behind financial exclusion. Higher divergence in terms of geographical locations, status, limited socio-economic opportunities and income level, education lifestyle of rural-urban people hinders its equal accessibility and availability. Entrance and usage of DFS among young people are self-contradictory with the expectations. Only 30% of young people meet the minimum threshold score [20] whereas the lowest is in people aged 70-80 with 23%. Research stated that young people are less likely to have bank accounts with financial institutions but their participation in

the adoption of new policies is higher than senior citizens [10]. In the new era of digitalization, huge difference in the quality of services provided to their parents as compared to young people in India today. DFS proved as a powerful tool to narrow down the gap between banked and unbanked or unserved segments of the nation.

### 8.5 Development of A Regulatory Framework for Digital Finance

The Indian Digital market is in the preliminary phase relatively. It encountered non-linear changes with recent distinguished models of technology that make the conventional banking system obsolete. Ministry of Finance issues guidelines on regulating financial transactions related to P2P and new technology such as blockchain similarly a powerful and quick regulatory framework is required for promoting demand and quick delivery of DFS to the final user. Government interference is needed of the hour to develop regulatory structures that assist and retort to modifications in the digital market.

## 9. CONCLUSION

The banking industry's technological growth calls for competent, well-versed people with a solid grasp of finance. The ubiquity of digital technology has increased, and the digitalization of banking services has made them more accessible to a wider audience while meeting the demands of a huge population with limited resources. As opposed to manual methods, this change gives more accountability and transparency. Financial authorities are promoting competition among companies providing services by bridging the gap between underserved segments of society as well as the digital world. Widespread user receptiveness is also supported by the existence of dependable infrastructure.

Demographic characteristics like gender, education level, occupation, income level, landholding, and homeownership are significant determinants of digital financial literacy. They exhibit a positive correlation and statistical significance with digital financial literacy. Hence, when designing financial training programs to enhance digital financial literacy, it's crucial to consider and integrate these factors to address the diverse needs of various demographic groups effectively.

The comparatively low use, despite major adoption and accessibility initiatives, suggests a gap between the perceived effect and the actual situation on the ground. It's difficult to get internet users to change their ways since cash payments are convenient for

them to withdraw money from. Furthermore, the acceptability of digital payments is hampered by the high the cost of installation of payment equipment. Concerns about client trust are further exacerbated by high security concerns. Nonetheless, service providers who act in a way that fosters competition improve the quality and legitimacy of their offerings.

The broad use of internet access and smartphones provides a strong basis for the shift to a technology-driven financial system. The digital market may be made larger by resolving financial concerns, expanding access for everyone, and boosting female involvement. To reduce the disparity in accessibility, it is necessary to recognize and respond to the demands of marginalized groups.

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