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Examining Consumer Attitudes Toward Digital Finance and Its Role in Enhancing Financial Inclusion: Insights from India.

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Abstract:

In today's rapidly advancing world, finance must keep pace or risk falling behind. It needs to evolve into an inclusive, dynamic, and agile sector—essentially, it must embrace digitalization. The emergence and growth of digital financial services represent a significant global phenomenon. It's widely acknowledged that the financial services industry is among the most digitized sectors today. This paper sheds light on how Indian consumers adopt and perceive digitized financial services. The study examines the level of acceptance, usage, beliefs, obstacles, and motivating factors among Indians. It suggests that while the popularity of digital financial services is increasing in India, the rate of growth remains disappointingly slow given the immense potential of the country.

Key words: Digitization, Digital, Financial Services, Financial Inclusion, India.

Introduction:

Digital finance fundamentally involves utilizing various financial services—such as savings, payments, insurance, investment, or credit—through digital platforms. The digitization of financial services allows individuals and institutions to access finance using mobile devices, desktops, cards, and the internet, eliminating the need for physical branch visits. This innovation has been propelled by rapid technological advancements, widespread adoption of digital devices, evolving consumer behavior, and the proliferation of digital financial service providers.

This shift opens up the possibility of serving millions of previously underserved customers. Financial institutions and intermediaries are now offering digital financial products,

facilitating the transition from cash-based to formal financial transactions. This transition promises increased productivity, stability, convenience, and long-term economic growth.

For many individuals, digital finance represents their first opportunity to save and access money in their lives. According to the McKinsey Global Institute, the majority of residents in emerging economies have minimal engagement with formal financial systems. Cash transactions prevail, with limited secure and affordable options for saving, investing, or borrowing money, aside from costly informal sources. Those fortunate enough to have financial accounts often encounter a limited range of services and high transaction fees, which can hinder economic growth and well-being.

In such a context, leveraging digital channels can reduce costs and inefficiencies while significantly expanding access to finance. Emerging economies have substantial potential to leverage mobile and internet technologies to drive growth and development, without having to wait for improvements in their income levels.

The objective of this study is to explore Indian consumers' perceptions of the digitization of financial services. The study aims to examine usage rates, willingness of respondents to adopt new-age digital financial products and impact of perception on usage of digital financial services.

Building Blocks of Digital Financial Services:

The building blocks of digital financial services encompass several key components that enable the delivery of financial products and services through digital channels. These building blocks include:

1. **Digital Infrastructure:** This includes the technological foundation necessary to support digital financial services, such as mobile networks, internet connectivity, and digital payment platforms.
2. **Payment Systems:** Core to digital finance are efficient and secure payment systems that facilitate transactions, including mobile money, digital wallets, electronic funds transfers, and payment gateways.
3. **Identification and Authentication:** Reliable methods of identifying and verifying users are crucial for digital financial services. This may involve biometric identification, digital IDs, or other authentication mechanisms.
4. **Regulatory Framework:** Clear and supportive regulatory policies are essential to foster innovation and ensure consumer protection in digital finance. Regulations govern issues like data privacy, security, and interoperability.
5. **Financial Products and Services:** Digital finance encompasses a range of financial offerings accessible through digital channels, including savings accounts, loans, insurance, investment platforms, and remittance services.

6. **Customer Interfaces:** User-friendly interfaces such as mobile apps, websites, and USSD (Unstructured Supplementary Service Data) codes enable customers to interact with and access digital financial services.
7. **Risk Management:** Robust risk management practices are critical to mitigate fraud, cybersecurity threats, and operational risks associated with digital transactions.
8. **Partnerships and Ecosystems:** Collaboration between financial institutions, fintech companies, telecommunications providers, and other stakeholders is key to expanding access to digital financial services and building a comprehensive ecosystem.
9. **Financial Literacy and Consumer Protection:** Education initiatives and consumer protection measures are essential to ensure that users understand digital financial services and can use them safely and effectively.

These building blocks collectively form the foundation of digital financial services, enabling financial inclusion and empowering individuals and businesses to access and benefit from formal financial systems through digital means.

The Indian Scenario:

According to McKinsey and Company, India incurs a loss of approximately \$2 billion annually due to the time and effort expended by individuals traveling to and from banks to access financial services. This highlights the significant opportunity within the financial industry, not only for cost savings but also for job creation, innovation, and economic growth.

India's burgeoning FinTech sector, comprising over five hundred startups attracting substantial investment across various domains such as business and personal lending, credit scoring, and wealth management, underscores the immense potential of the country's financial landscape. The influx of funds into these innovative ventures underscores the confidence in India's capacity to drive meaningful change and advancement within the financial sector.

Despite being unbanked, over 90% of Indian consumers now own smartphones, providing a significant opportunity for broader financial outreach. A notable shift in consumer behavior towards embracing online services—ranging from books and transportation to food—is paving the way for a similar adoption of online financial services. Moreover, startups and firms are emphasizing critical concerns like cost-effectiveness and service efficiency.

However, challenges persist along India's digital finance journey. Traditional financial institutions with physical branches retain considerable trust and are unlikely to fade soon. New digital platforms must earn credibility over time to gain substantial market traction. Additionally, data availability and quality pose hurdles to services such as credit scoring and peer lending.

The regulatory landscape is another factor influencing consumer adoption, which is still in its infancy in India. The rapid growth of e-commerce post-2010 catalyzed digital financial services, prompting regulatory interventions. The Reserve Bank of India led the charge with

guidelines on mobile banking and a master circular on online wallets in 2014. Subsequent regulations in 2017 categorized peer-to-peer lending platforms as non-banking financial companies (NBFCs) and established minimum capital requirements.

The fundamental question facing India is whether the market is prepared for this transformation and how to ensure that approximately 344 million Indians gain access to financial services for the first time. Addressing these challenges requires a multifaceted approach involving technology innovation, regulatory clarity, consumer education, and building trust in digital financial platforms.

Review of literature:

In 2007, Srivastava conducted qualitative exploratory research on Indian consumers' perceptions and drivers of internet banking. The study revealed that demographic factors such as gender, income, and education significantly influenced the adoption of online banking. The research also highlighted key factors—such as awareness campaigns, user-friendly interfaces, lower charges, and enhanced security—that were essential for positively altering customer perceptions.

A study by McKinsey & Company in 2014 indicated that Asian financial institution managers are increasingly recognizing the potential of digitization to either create or diminish a firm's value. While both service providers and consumers tend to be conservative in their approach, the impetus for adoption will strengthen as the digital generation becomes wealthier, more knowledgeable, and older. Firms are expected to align with customer expectations by innovating their offerings accordingly.

Weihuan, Arner, and Buckley (2015) examined digital financial services in China, focusing on Alibaba Group, the world's largest e-commerce company, which pioneered various financial products including Alipay (a payment platform and wallet), AliFinance, Yué Bao (an online money market fund), and MYbank (providing loans to SMEs). Despite entering the industry later, China has emerged as one of the most active and advanced digital financial services markets globally. Regulation significantly influences the growth and acceptance of digitization within a country.

Cuesta, Ruesta, Tuesta, and Urbiola (2015) noted that as consumers increasingly engage in digital interactions in their daily lives, there is a rising demand for digitally accessible financial services anytime, anywhere. This has led to the rise and expansion of FinTech firms, introducing innovative business models such as crowd funding, peer-to-peer lending, virtual currencies, and financial advisory services. These online firms often benefit from regulatory flexibility, providing them with a competitive edge over traditional financial institutions

Ansari and Khan (2017) studied the impact of technological advancements and the IT revolution on Indian banks by comparing the growth rates of credit cards, debit cards, NEFT, RTGS transactions, and ATMs in terms of both value and volume. Their analysis sheds light on how technology has transformed the operational landscape of Indian banks, driving the adoption and expansion of digital financial services.

Agrawal (2017) highlights that India still has a considerable journey ahead to fully realize the potential of digital finance. The first step involves substantial investments in both financial and digital infrastructure, coupled with literacy programs and electronic training initiatives aimed at promoting digital financial inclusion. Additionally, ensuring robust security measures is imperative to build trust in digital financial services.

Yan Shen and Yiping Huang (2016) introduce the concept of "Internet finance" in China, synonymous with terms like "digital finance" and "Fintech." Internet finance encompasses a new business model that leverages internet and information communication technologies to facilitate a wide array of financial activities, including third-party payment, online lending, fund sales, crowdfunding, online insurance, and banking. The internet significantly reduces transaction costs, mitigates information asymmetry, enhances risk-based pricing efficiency, and broadens the scope of feasible transactions.

Agufa Midika Michelle (2016) conducted a study on the impact of digital finance on financial inclusion in the banking industry in Kenya. The study concluded that while banking institutions adopt digital financial services to lower operational costs associated with physical branches and enhance profitability, there was no direct correlation between digital finance adoption and fostering financial inclusion.

Peterson K Ozili (2018) discusses the implications of digital finance on financial inclusion and stability. The article suggests that digital finance, particularly through Fintech providers, has positive effects on financial inclusion in both emerging and advanced economies. The convenience offered by digital finance, especially to individuals with irregular incomes, often outweighs the higher costs associated with traditional banking services.

Huma Haider (2018) explores innovative financial technologies that support livelihoods and economic outcomes. The study emphasizes that access to digital technologies, including mobile phones, internet connectivity, and biometric authentication, expands the range of financial services available to the unbanked. Digital financial services are often more convenient and affordable than traditional banking, enabling low-income individuals in developing countries to access formal financial systems, save, borrow, earn returns, and manage consumption effectively.

Objectives:

In this research paper, our objective is to assess the impact of digital finance on promoting financial inclusion among individuals. The scope of digital finance considered in this study encompasses various services, including Internet banking, Mobile banking, Mobile Wallets (apps), Credit cards, and debit cards. The measures taken for digital financial inclusion are Access, Usage, Quality.

Research methodology:

The present study employs descriptive research methodology based on primary data collected through a structured, non-disguised questionnaire.

The participants in this study come from diverse backgrounds and demographics of Kalamkari workers. Efforts have been made to ensure representation from various parts of India, encompassing different age groups and occupations. The final sample included approximately 58% females and 42% males, with 40% of respondents below the age of 30 and the remaining 60% aged 30 or above.

Analysis & results:

Users of Financial Services- digitally or Electronically

Among all the study participants, approximately 88% reported using digital financial services as part of their overall consumption of financial services.

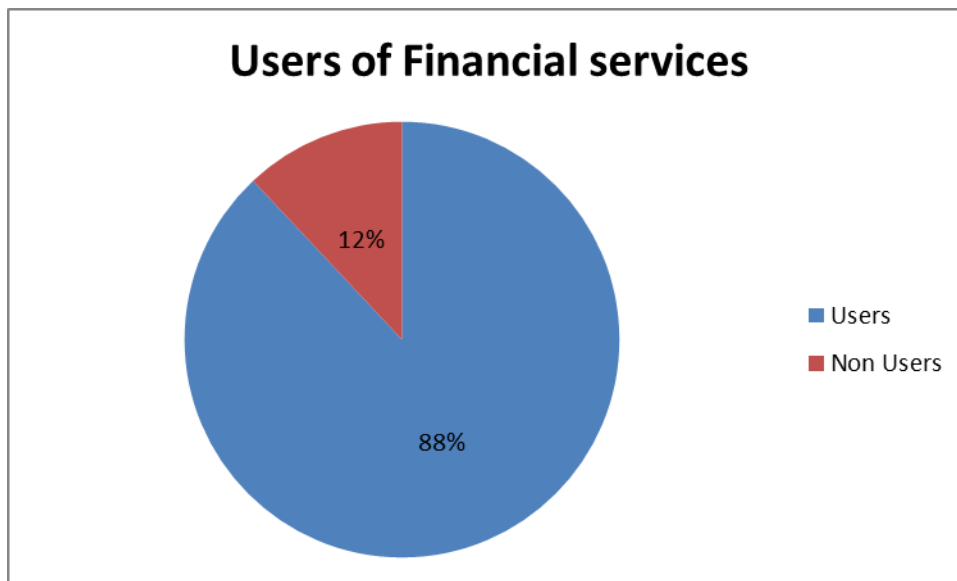


Figure 1 shows a pie chart , the distribution of digital financial services usage among respondents. The chart indicates that 88% are users and 12% are non-users.

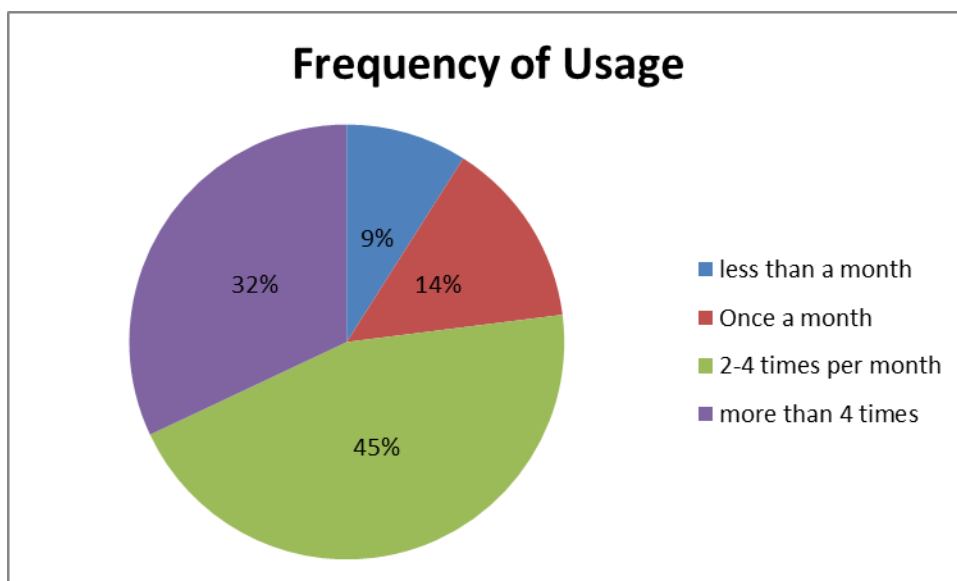


Figure 2 illustrates the frequency with which consumers perform financial transactions using digital methods. It reveals that 32% of respondents use their digital devices for financial transactions more than four times a month on average. Conversely, 9% of respondents either do not feel the need or are uncomfortable using digital platforms, resulting in a usage rate of less than once a month.

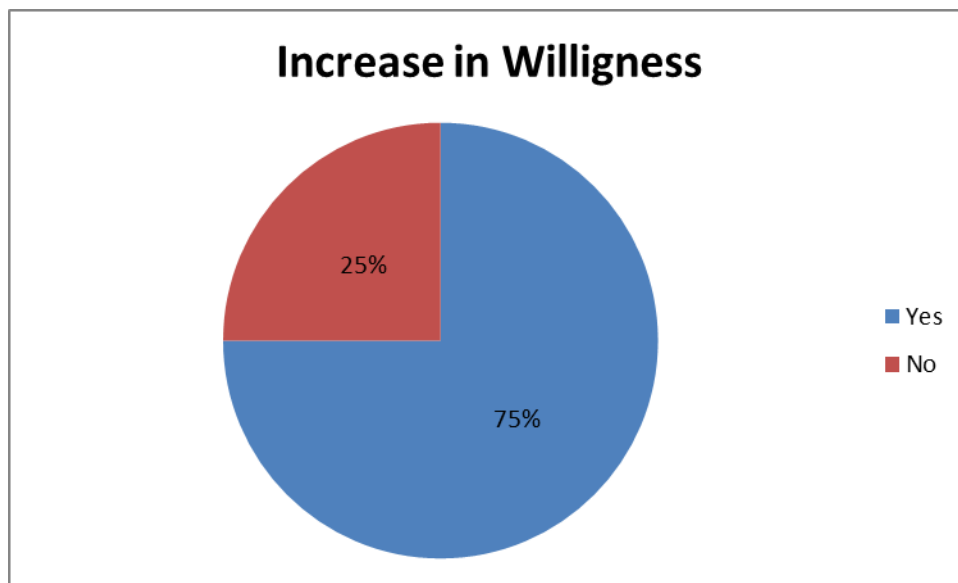


Figure 3 gives a clear indication that 75% of the non-users were willing to try and use digitized methods for conducting their financial transactions, if the obstacles they face are taken care of.

Here are the 20 factors representing digital financial services, categorized by Usage, Access, Quality, and Perception:

Factor	Description
1	The information provided by the bank regarding the DFS is pertinent to me.
2	The bank consistently furnishes me with timely updates regarding the DFS.
3	The bank ensures that I receive comprehensive information about the DFS.
4	The bank has furnished me with a comprehensive guide on how to use the DFS.
5	I frequently utilize my DFS for transactions.
6	I perceive the DFS as a preferable alternative to cash.

7	The DFS offers me the convenience of round-the-clock usage.
8	I am confident in my understanding of the DFS.
9	The process of using the DFS meets my satisfaction.
10	I am thoroughly content with the DFS.
11	I trust that the DFS will guarantee error-free transactions.
12	Utilizing the DFS would expedite the completion of my tasks.
13	The DFS would streamline the execution of my tasks.
14	In my opinion, the DFS is a valuable tool.
15	Overall, I view the DFS as advantageous.
16	Using the DFS is simpler for me.
17	My interactions involving the use of the DFS are clear and comprehensible.
18	I believe that using the DFS can save me time in conducting banking transactions.
19	I believe that using the DFS can provide me with access to a diverse array of banking products, services, and investment opportunities.
20	I anticipate enjoying the round-the-clock service offered by the DFS.

Structural Equation Modelling (SEM):

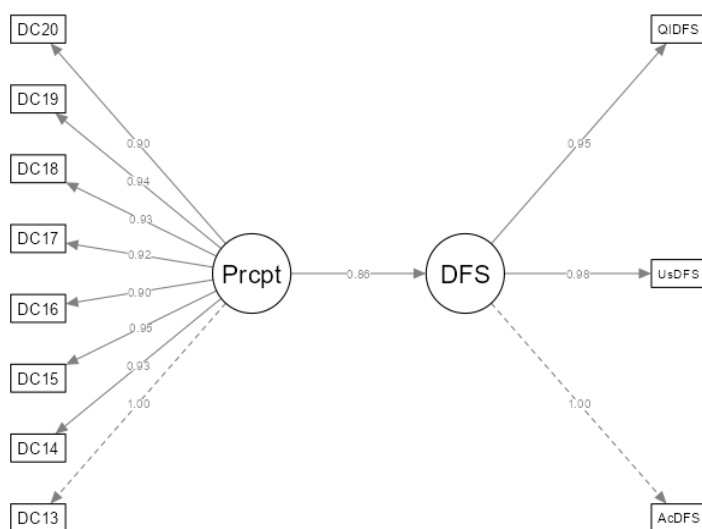
Structural equation Modelling (SEM) is a powerful statistical method used to examine relationships between observed and latent variables. In SEM, observed variables are directly measured and contribute to the composition of latent variables, which are unobserved and inferred from the observed data. This approach simplifies complex relationships by creating a path model that explains the effects of both observed and latent variables. SEM aims to extend confirmatory factor analysis (CFA) by assessing the relationships between latent variables and their impacts on each other, providing insights into cause-and-effect relationships among variables.

In this Analysis Perception and Digital Financial Services are Exogeneous and endogenous variables, Access, Usage and Quality as latent constructs of endogenous variables. Digital financial inclusion measured with DFI index such as Access, Usage, Quality as parameters with perception can be analyzed through different items relating to DFS.

The factors like The information provided by the bank regarding the DFS is pertinent to me, The bank consistently furnishes me with timely updates regarding the DFS, The bank ensures that I receive comprehensive information about the DFS, The bank has furnished me with a complete guide on how to use the DFS represent Access to Digital financial services. Where as Usage of digital financial services represents I frequently utilize my DFS for transactions, I perceive the DFS as a preferable alternative to cash, The DFS offers me the convenience of round-the-clock usage, I am confident in my understanding of the DFS. and quality of DFS takes count the factors of The process of using the DFS meets my satisfaction, I am thoroughly content with the DFS, I trust that the DFS will guarantee error-free transactions, Utilizing the DFS would expedite the completion of my tasks.

Perception considers The DFS would streamline the execution of my tasks, In my opinion, the DFS is a valuable tool, Overall, I view the DFS as advantageous, Using the DFS is simpler for me, My interactions involving the use of the DFS are clear and comprehensible, I believe that using the DFS can save me time in conducting banking transactions, I believe that using the DFS can provide me with access to a diverse array of banking products, services, and investment opportunities, I anticipate enjoying the round-the-clock service.

Parameters estimates									
				95% Confidence Intervals					
Dep	Pred	Estimate	SE	Lower	Upper	β	z	p	
DFS	Perception	0.861	0.112	0.642	1.08	0.974	7.7	< .001	



The results presented indicate parameter estimates for a regression model examining the relationship between DFS (Digital Financial Services) and perception towards DFS. The results suggest that DFS perception has a statistically significant positive effect on the predicted outcome variable. Specifically, higher levels of DFS perception are associated with an increase in the predicted outcome variable. The estimate of 0.861 indicates the magnitude of this effect, and the narrow confidence interval (0.642 to 1.08) further supports the precision of this estimate. Overall, these findings highlight the importance of perception in influencing the digital financial services under investigation.

Conclusion:

Digital finance has emerged as a catalyst for innovation, driving its rapid adoption in several countries. It serves as a crucial tool for enhancing productivity, expanding reach, promoting financial inclusion, and improving efficiency, benefiting not only individuals and corporations but entire nations. India, with over 348 million internet users, ranks second globally in terms of online market size. The decreasing data costs resulting from intense competition in the telecom sector, coupled with initiatives like demonetization and Digital India, create a fertile environment for digital finance growth in the country.

The Indian government has collaborated with private entities to develop digital payment solutions such as the Unified Payment Interface (UPI) and Aadhaar Enabled Payment System (AEPS). This study emphasizes that Indian consumers are likely to adopt digital finance if it is perceived as convenient, reliable, secure, and cost-effective in terms of time and money. New digital products must offer tangible benefits to motivate widespread usage.

Key challenges including privacy protection, infrastructure limitations, and digital literacy require strategic policy planning and execution to address effectively. Established and trusted institutions should lead by offering affordable and user-friendly digital services to drive adoption.

India is making strides in digital transformation, but significant progress is still needed. This paper contributes to the discussion on digital finance and its impact on financial inclusion, highlighting the importance of usability, convenience, accurate timing, and interbank account accessibility in driving mobile banking adoption. Low service charges are particularly impactful for mobile wallets and DFSs, underscoring the role of digital finance in fostering financial inclusion despite existing challenges such as affordability, security, and adaptability. Overall, digital finance holds tremendous potential to positively transform daily financial activities and drive inclusive economic growth.

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