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**IMPACT OF TECHNOLOGY IN FINANCIAL SERVICES: A STUDY AMONG THE  
RETAIL CUSTOMERS OF FINANCIAL SERVICES IN CHENNAI CITY**

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**Abstract**

The present study is carried out to investigate the effectiveness of technology in financial services among retail customers in Chennai city. The purpose of the study is to assess the current level of technology adoption, identify factors influencing customer satisfaction, and evaluate the impact of demographic variables on the usage of financial technology. Survey method is adopted for data collection from 300 retail customers. The collected data are for analyzed by using Chi-square test, ANOVA, correlation, and multiple regression analyses. The findings disclose strong association between education level and technology usage, differences in satisfaction levels across income groups, and a moderate positive correlation between technology usage and customer satisfaction. The study offers with recommendations for enhancing the effectiveness of technology in financial services through improved user training, user-friendly interfaces, and secure systems.

**Keywords:** Fintech Companies, Technology Adoption, Retail Customers, Security Risk, Technology Acceptance Model, Unified Theory of Acceptance.

**Introduction:**

In recent years, technology has revolutionized the financial services industry, transforming how financial transactions are conducted and how financial institutions operate. Technology integration into financial services, often called fintech, has brought about unprecedented changes, offering enhanced efficiency, accessibility, and convenience for service providers and customers.

The financial service firms are now leveraging the technology through Software as a Service (SaaS) and Lending Platform as a Service (LPaaS) model to reduce the capital expenditure. Chennai a major metropolitan city in India, has witnessed a significant uptake in technological advancements within its financial sector, driven by the growing demand for digital solutions among retail customers. Retail customers in Chennai have increasingly embraced technological innovations such as digital lending, online trading, online banking, mobile banking applications, automated teller machines (ATMs), electronic fund transfers, and digital wallets. These technologies have simplified financial transactions, making financial services more accessible to a broader population. The shift from traditional stock broking and banking methods to digital platforms has improved the customer experience and reduced operational costs for banking and financial institutions.

Integrating technology in financial services has significantly altered the landscape of the banking sector in Chennai.

This primary objective of the study is to evaluate the effectiveness of technology in financial services among retail customers in Chennai. By analyzing customer experiences, satisfaction levels, and the challenges faced, the present study seeks to provide insights into the current state of fintech adoption and its implications for the future of financial services in the region. This study encompasses the multifaceted impacts of digital transformation, exploring how technological advancements have reshaped the financial services in general and identifying areas for further improvement to ensure that the benefits of fintech are maximized for all stakeholders.

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The findings of the study can offer valuable perspectives for financial institutions, policymakers and technology providers to enhance the effectiveness of digital financial services and; to address the barriers to their adoption

### **Hindrances faced by present Fintech Startups:**

Ever increasing competition, inflation and economic fluctuation, regulatory challenges and infrastructure resources have affected today's fintech companies which are facing ever increasing unfavorable challenges in order to compete and survive in the market. Here are some of the most significant roadblocks hindering the contemporary fintech companies.

#### ➤ **Raising adequate Capital:**

Capital or funding is the lifeblood of any startup which helps them survive, grow, and stay competitive. Fintech startup founders and business leaders are aware that raising capital and attracting interest from the right investors is far from being a walk in the park involving waves of rejections and setbacks. Additionally, investors are always seeking detailed answers to several questions during due diligence to ensure their investment is in safe hands and whether there are any monetary and strategic benefits. Convincing investors in this highly competitive landscape amidst a funding is a huge challenge and requires high attention to detail, a crystal-clear roadmap of short and long-term plans.

#### ➤ **Increasing Regulatory Challenges:**

Fintech is one of the most trending topics in the Indian financial ecosystem. Regulatory and compliance related challenges and constraints pose major hurdles for a majority of fintech startups in the country today. On one hand, Indian companies are aligned with the global trends in terms of technology and innovation. On the other hand, they are struggling to establish a solid foothold due to a complex regulatory framework. Fintech companies are fall under the purview of several governing bodies including SEBI, RBI, IRDAI, NPCI etc. Additionally, fintech companies need to adhere to different regulations including RBI Master Directions – NBFC –

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P2P Lending Platform Directions, 2017, IT Act, 2000, Digital Personal Data Protection Act, 2023, Payment and Settlement Act, 2007, and guidelines by RBI on digital lending.

It leads confusion over which laws apply to them, and recurring changes to these regulations continue to trouble fintech's today. In short, India's fintech ecosystem is terribly need of single-umbrella legislation and stable laws.

➤ **Risks in the Security Market and Data Breaches:**

Speedy innovation, government endorsements for fintech initiatives like the UPI, and exponential rise in smartphone usage have laid the foundations for a robust dynamic fintech ecosystem. As mentioned earlier, despite these promising and encouraging signs, security risks and data breaches are becoming a huge concern in the present environment. The availability of large volumes of data in digital formats has accelerated the need to secure sensitive customer data from cyber-attacks and other forms of digital threats. Additionally, as more and more consumers embrace digital financial tools and services, there is a growing need to establish and preserve consumer trust. Security, privacy, and data breaches tarnish the reputation and credibility of a fintech company, resulting in a loss of trust in the highly competitive sector.

➤ **Retention of Customers:**

Customer retention is another major challenge that continues to haunt fintech companies. As mentioned, the cut-throat competition and rapid technological advancement, highlight the need to prioritize user retention and offer a seamless application experience.

### **Technology in Fintech Services – A Theoretical Background**

Adopting technology in financial services often referred to as FinTech, has revolutionized how financial institutions operate and interact with their customers. FinTech encompasses a wide range of technological innovations designed to enhance the delivery of financial services, including mobile banking, online transactions, digital payments, and block chain technology.

The effectiveness of technology in financial services can be assessed through various dimensions, including regulatory compliance, customer satisfaction, ease of use, security, and the impact on financial inclusion. Customer satisfaction is a critical measure as it reflects the acceptance and usability of technological solutions. The ease of use pertains to how user-friendly these technologies are, especially for individuals needing tech-savvy. Security concerns are paramount in financial services, given the sensitivity of financial data and the increasing cyber-attack threats. Furthermore, technology has the potential to promote financial inclusion by providing access to financial services for underserved and unbanked populations. In Chennai, the proliferation of smartphones and the internet has facilitated the widespread adoption of mobile banking applications, trading apps and digital payment platforms. These technologies have enabled customers to perform a range of stock broking and banking activities from the comfort of their homes, thus saving time and effort.

The digital consumer lending market is poised to nearly triple in size, driven by several favorable socio-economic factors and timely regulatory measures. Over the years, increased access to credit has been facilitated by the proliferation of digital lending apps, simplified KYC validation, and streamlined repayment options. This has led to a surge in lending through digital channels rapidly.

Moreover, introducing artificial intelligence (AI) and machine learning (ML) in financial services has enhanced personalized banking experiences, fraud detection, and risk management. Despite the numerous benefits, the adoption of technology in financial services also presents challenges. Issues such as digital literacy, cybersecurity threats, and resistance to change among specific customer segments need to be addressed. Financial institutions must ensure robust security measures and educate customers on safe practices to mitigate risks associated with digital banking.

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The present study takes into account the following theories on adoption and impact of technology in financial services.

**1. Consumer Behavior Theory:** Understanding consumer behaviour is crucial for analyzing how retail customers interact with financial technologies. The Consumer Decision-Making Process Model outlines consumers' stages before, during, and after purchasing or adopting a new technology. This model includes problem recognition, information search, evaluation of alternatives, purchase decisions, and post-purchase behaviour. Analyzing these stages helps in understanding the factors influencing retail customers' decisions to adopt financial technologies.

**2. Trust and Risk in Technology Adoption:** Trust plays a critical role in the adoption of financial technologies. According to Gefen, Karahanna, and Straub (2003), trust in technology and the institutions providing the technology significantly impacts users' willingness to engage with new technological solutions. On the other hand, perceived risk can act as a barrier to adoption. Factors such as security concerns, privacy issues, and the potential for financial loss must be addressed to foster trust and encourage the use of FinTech.

**3. Unified Theory of Acceptance and Use of Technology (UTAUT):** The UTAUT model, proposed by Venkatesh et al. (2003), integrates elements from several previous models to explain user intentions to use technology and subsequent usage behaviour. It highlights four fundamental constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. In the context of financial services, this model helps understand the behavioral intentions of retail customers toward adopting financial technologies.

**4. Diffusion of Innovations Theory:** Everett Rogers' Diffusion of Innovations Theory (1962) provides a framework for understanding how new technologies spread within a society. The theory outlines the stages of adoption—knowledge, persuasion, decision, implementation, and confirmation—and identifies factors that influence adoption, such as relative advantage,

compatibility, complexity, trial ability, and observability. This theory is relevant to studying how retail customers in Chennai adopt and integrate financial technologies into their daily lives.

**5. Technology Acceptance Model (TAM):** Developed by Davis (1989), the TAM posits that perceived ease of use and perceived usefulness are the primary factors influencing users' acceptance of new technology. In the context of financial services, this model helps explain how retail customers perceive and adopt technological innovations such as mobile banking apps and online financial services.

**6. Resource-Based View (RBV):** The RBV theory suggests that a firm's resources and capabilities are critical for gaining a competitive advantage. In the financial services sector, the effective implementation of technology is a valuable resource that enhances service delivery, customer satisfaction, and operational efficiency. Financial institutions leveraging advanced technologies can differentiate themselves and achieve a competitive edge in the market. In summary, the theoretical background for studying the effectiveness of technology in financial services among retail customers in Chennai integrates various models and theories to provide a comprehensive understanding of technology adoption. These include the Technology Acceptance Model, Diffusion of Innovations Theory, Unified Theory of Acceptance and Use of Technology, trust and risk considerations, Consumer Behavior Theory, and the Resource-Based View. Understanding these theoretical perspectives helps analyze the factors influencing the adoption and effectiveness of financial technologies in enhancing customer satisfaction and operational efficiency.

### **Review of Literature**

**Anitha, M., & Ramanathan, M. (2023).** The financial services sector has seen numerous significant revolutionary stages in recent years. They demand and anticipate the ability to do their financial transactions 24/7 from any location. Plastic money, such as credit cards, debit cards, and smart cards, along with Internet banking services, including electronic payment services, online savings accounts, online trading platforms, electronic fund transfers, local office

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networks, telephone banking, mobile applications, and digital wallets, have significantly contributed to the growth of the banking industry. To maintain competitiveness, the banking sector must expeditiously embrace digital technologies. This modification is being implemented to enhance the affordability, competitiveness, and accessibility of financial services for all individuals residing in India.

**Mani, T. S. D., & Saraswathi, M. R. (2022).** The study's findings indicate a significant correlation between service quality parameters and customer satisfaction in E-banking within the Chennai District. This study demonstrates that providing high-quality services in E-banking results in satisfying customers' requirements and desires. Banks may get a competitive edge by delivering superior services to their clients in today's highly competitive environment. Recent literature highlights the growing significance of technology in enhancing customer satisfaction and operational efficiency in financial services. Studies have shown that mobile banking, online transactions, and fintech solutions have greatly improved customer convenience and service quality (Sarma & Singh, 2019; Raj & Kapoor, 2020). Research also indicates that demographic factors such as age, education, and income level play crucial roles in technology adoption (Kumar & Mittal, 2021; Suresh & Balu, 2022).

**K. Gunasekaran (2019).** This study assesses consumer satisfaction with ATM service quality offered by private sector banks in Chennai. Customers are pleased to get cash payments within a few steps of their homes. The biggest challenges ATMs face in Chennai are insufficient cash and malfunctioning devices. Additionally, users are disappointed with transaction costs and bank grievance resolution for ATMs. Banks should address these concerns to maintain loyal clients and attract new ones.

**Vinitha, K., & Shanmugam, V. (2018).** The study found that perceived speed partially mediates the relationship between intention to use and actual usage of mobile banking in Chennai. The Technology Acceptance Model (TAM) predicts this study's intention and utilization of information technology. Effective adoption of Mobile Banking technology relies on



consumer expectations for improved customer service across various channels. Increased perceived speed enhances service quality. This increases the regular use of Mobile Banking Technology.

**Shenbagaraman, V. M., and Kumar, G. (2017).** The study used self-administered questionnaires, employed random sampling, and used 98 samples. It was conducted in Chennai, India, and analyzed the data using factor and multiple regressions. This study found that compensation and recovery, access, personalization, and assurance affect online banking service quality. It also shows that consumer satisfaction breeds loyalty.

**B. Angamuthu (2016).** The study found a promising trend in M-banking expansion in terms of the volume and value of transactions in Pvt. SBs across the study period. Half of Pvt.SB customers have experienced M-banking, whereas 3/4th are aware of it. There is a substantial correlation between M-banking awareness and consumer gender and employment. Customers' education, employment, and family income impact their use of M-banking. Most M-banking consumers favour inquiry-based financial services over transaction-based ones.

### **Scope of the Study:**

The primary purpose of the study is to assess the effectiveness of various technological services such as online trading, digital lending, mobile banking, internet banking, and fintech applications. The study will evaluate customer satisfaction, usage patterns, and the impact of demographic factors on technology adoption. The retail customers of financial institution in Chennai are selected as the target group for collecting the responses.

### **Research Methodology:**

The study employs a quantitative research design for collecting data from 300 retail customers in Chennai. The study adopts a survey which includes questions on demographic profiles, usage of technology in financial services, and satisfaction levels. Statistical analyses

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such as Chi-square tests, ANOVA, correlation, and multiple regression analyses are conducted to examine the relationships between variables.

### **Objectives of the Study:**

1. To find out assess current level of technology adoption in financial services among retail customers in Chennai.
2. To detect key factors influencing customer satisfaction with technological services.
3. To bring out the impact of demographic variables on the usage of financial technology.
4. To disclose the relationship between technology usage and customer satisfaction.
5. To offer recommendations for enhancing the effectiveness of technology in financial services.

### **Hypotheses:**

1. **H1:** There is a significant relationship between perceived ease of use and customer satisfaction with financial technology.
2. **H2:** Demographic variables (age, gender, education, income) significantly influence the usage of financial technology.
3. **H3:** Higher levels of technology usage are associated with increased customer satisfaction.
4. **H4:** There is a significant difference in satisfaction levels across different income groups.

**Analysis and Interpretation:**

**Table 1: Demographic Characteristics of Respondents**

<b>Demographic Variable</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age</b>	18-25	80	26.7%
	26-35	100	33.3%
	36-45	70	23.3%
	46 and above	50	16.7%
<b>Gender</b>	Male	160	53.3%
	Female	140	46.7%
<b>Education Level</b>	High School	30	10%
	Bachelor's Degree	120	40%
	Master's Degree	110	36.7%
	Others	40	13.3%
<b>Income Level</b>	Below 20,000	70	23.3%
	20,001-40,000	110	36.7%
	40,001-60,000	80	26.7%
	Above 60,000	40	13.3%

\*\*\* **Source:** Primary data

The majority of respondents are aged 26-35 (33.3%), with a nearly equal distribution of males (53.3%) and females (46.7%). Most respondents hold a bachelor's degree (40%) and have an income between 20,001 and 40,000 (36.7%).

**Table 2: ANOVA Test for Differences in Satisfaction Levels Across Income Groups**

Source of Variation	SS	df	MS	F	p-value
Between Groups	1250.32	3	416.77	5.23	0.0023
Within Groups	11300.54	296	38.18		
Total	12550.86	299			

The ANOVA test shows a significant difference in satisfaction levels with financial services across different income groups ( $F = 5.23, p < 0.05$ ). This suggests that income level significantly affects customer satisfaction with financial services technology.

**Table 3: Chi-square Test for Association Between Education Level and Usage of Financial Technology**

Education Level	High Usage	Low Usage	Total
High School	15	15	30
Bachelor's Degree	90	30	120
Master's Degree	85	25	110
Others	30	10	40
<b>Total</b>	220	80	300

Chi-square Value ( $\chi^2$ ): 18.45, Degrees of Freedom (df): 3 p-value: 0.00035. The chi-square test indicates a significant association between education level and the usage of financial technology ( $\chi^2 = 18.45, p < 0.001$ ). Higher education levels are associated with increased usage of financial technology.

**Table 4: Multiple Regression Analysis for Predictors of Customer Satisfaction**

Predictor	Coefficient	Standard Error	t-value	p-value
Constant	2.45	0.58	4.22	0.0001
Age	-0.03	0.02	-1.5	0.134
Gender	0.12	0.09	1.33	0.183
Education Level	0.35	0.11	3.18	0.0016
Income Level	0.27	0.08	3.38	0.0009
Technology Usage	0.44	0.12	3.67	0.0003

The multiple regression analysis reveals that education level ( $p < 0.01$ ), income level ( $p < 0.01$ ), and technology usage ( $p < 0.001$ ) are significant predictors of customer satisfaction with financial services. Age and gender do not significantly predict customer satisfaction in this context.

**Table 5: Correlation Analysis Between Technology Usage and Customer Satisfaction**

Variable	Technology Usage	Customer Satisfaction
Technology Usage	1	0.58
Customer Satisfaction	0.58	1

The correlation analysis shows a moderate positive correlation ( $r = 0.58$ ) between technology usage and customer satisfaction, indicating that higher usage of technology in financial services is associated with greater customer satisfaction.

**Suggestions:**

Based on the above statistical findings and analysis the following suggestions are made.

- Policymakers should develop adaptive regulations balancing innovation with consumer protection. Develop inclusive strategies to benefit underserved populations—Foster collaboration between financial institutions, technology providers, and policymakers. To

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avoid hefty penalty by the regulators, sufficient expertise should be in fintech companies to handle the regulatory guidelines and norms.

- Ensure digital platforms are user-friendly and accessible.
- Implement feedback mechanisms to gather customer insights continuously. Stay abreast of emerging technologies like blockchain and biometric authentication to enhance efficiency and security.
- Financial institutions should invest in robust cybersecurity infrastructure to protect customer data and build trust. Implement educational programs to improve digital literacy, especially among older adults and less tech-savvy individuals.
- Offer accessible customer support to help users navigate digital platforms and resolve issues.
- Utilize Artificial Intelligence and Machine Learning for personalized financial services, addressing ethical concerns related to data privacy.

### **Conclusion:**

Technology play a key role in providing financial services to the retail customers. It also brings some challenges in planning and implementing technological adoption in financial service sector. The present study on the effectiveness of technology in financial services among retail customers in Chennai highlights significant improvements in efficiency, convenience, and customer satisfaction due to technological advancements. Enhanced customer experience through online and mobile platforms, increased financial inclusion for underserved populations, and cost reductions for financial institutions are notable benefits. However, challenges such as security concerns, digital literacy, resistance to change, and regulatory issues must be addressed. AI and machine learning offers personalized services but raises ethical concerns. Prospects

include integrating advanced technologies like block chain and biometric authentication, promising greater efficiency. Collaborative efforts among financial institutions, policymakers, and technology providers are essential to ensure widespread and equitable adoption, maximizing the potential of fintech for a more efficient, secure, and inclusive financial system. Fintech companies in Chennai can scale better heights in attracting customers and retaining them for a considerable period if the suggestion given above are considered.

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