

A Study on Adoption of Fintech Among Customers of Public Sector Banks in Ernakulam

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Abstract:

FinTech is a recent phenomenon that has changed how we think about banking. By incorporating new technologies into existing financial services, it allows for quicker, easier and cheaper transactions. In India, the public sector banks are leading the way to promote digital banking and financial inclusion by providing different services like mobile banking, internet banking, UPI, digital wallets, and investment platforms. State Bank of India was chosen for this study mainly because of its largest public sector bank status with large number of branches. In Kerala Ernakulam district is considered for the study which provides access to a large and diverse customer base within the district. The research is significant as it provides an understanding of the efficient adoption of Financial Technology services by customers of a leading public sector bank within a major commercial hub of Kerala. The research has a descriptive nature, and it has utilized both primary and secondary data for conducting the research. Primary data were collected using a structured questionnaire distributed to 181 customers of SBI in Ernakulam district. The secondary data has been collected from various online and offline sources like journals, books, and the official websites of banks. The data has been analysed using statistical tools MS Excel and SPSS. The study concludes that despite the high awareness and usage of digital banking services, security, trust, and digital literacy remain key influencers for the adoption of FinTech services.

Keywords: Financial Technology (FinTech), Digital Banking, FinTech Adoption, Unified Payments Interface (UPI), Digital Payments.

Introduction

The increased development of information and communication technology has greatly transformed the financial sector. Financial Technology often referred to as Fintech can be associated with application of new digital technologies to provide financial services in a more convenient, cost-effective and quicker way. Mobile banking, internet banking, digital payment systems, Unified Payment Interface (UPI), mobile wallets and online investment platform have turned into a vital element of modern banking.

The public sector banks in India are a fundamental institution in enhancing financial inclusion and access to banks by a high population. Digital India by government and use of smartphones helped in faster transition of traditional banking and services into digital. The adoption however varies depending on the regions and types of customers because of awareness, digital literacy, security issues and ease of use.

As a large commercial hub and urban district in Kerala, Ernakulam has gained a lot of growth in digital banking as well as Fintech services. In this reference, the current study aims at examining Fintech adoption among the customers of public sector banks in Ernakulam district particularly the level of usage, the challenges encountered and the steps to enhance the usage and State Bank of India was chosen to conduct the current research.

Statement of the Problem

Financial Technology (Fintech) brought considerable change to banking industry by rendering financial services more convenient, quicker and accessible. To enhance efficiency and customer convenience the public sector banks have adopted different digital banking services including mobile banking, internet banking and UPI payment. The State Bank of India is one of them and has been encouraging the use of digital platform to promote the adoption of fintech services by customers. But even in the presence of these digital facilities, customers are not always equally adopting it. There are customers who easily access these services with others still relying on traditional banking systems due to reasons like lack of awareness, internet connectivity issues or inability to use technology. Thus, it is important to explore how much customers use fintech services and the obstacles they encountered while using them. The current paper seeks to examine the extent of adoption of fintech services, challenges faced, customer satisfaction and future intention amongst the customers of public sector banks.

Objectives

- To analyse the level of adoption of FinTech services among customers of public sector banks in Ernakulam district.
- To identify challenges faced by customers while using FinTech services.
- To analyse customer satisfaction and future intention towards fintech services
- To provide suitable suggestions for improving FinTech adoption and usage among customers of public sector banks.

Review of Literature

The adoption of FinTech in the banking industry has been studied over the years and has explored different facets. The article by Ruchika Jain and Neena Seth (2023) explores the expansion of FinTech in the banking industry based on bibliometric and content analysis of 77 articles found in the Dimensions database. It also identifies the growing research patterns and core themes that include technology integration in banking, financial inclusion, and P2P lending which indicates that FinTech has played a major role in automating and digitalising banking services. Manickam et al. (2023) also described how the emergence of digital payments, reinforced by regulatory efforts and digital infrastructure, has led to the emergence of the cashless economy. On the same note, Chethan and Vidya (2023) analysed the adoption of digital financial services by younger generations and concluded that the convenience of digital services, familiarity with the technology, and enhanced risk management are key determinants of user perception. G. Ashwardhini and R.M. Duraiarasan(2024) tested the use of artificial intelligence in banking and reported that efficiency, improved interaction with the technology, and enhanced risk management are the significant factors shaping the perception of the user towards digital services. Moreover, Pradeesh M. and Navya A.H. (2025) also noted that computer literacy and banking experience have a substantial impact on accepting digital banking services among the customers. More recently, Prosenjeet Ghosh and Uttam

Golder (2026) made the conclusion that the adoption of FinTech improves the customer experience and efficiency of banking, but also presents challenges related to such issues as operational risks and regulatory concerns.

Research Methodology

The research is descriptive in nature and deals with the adoption of FinTech services among the customers of public sector banks in Ernakulam district. Both primary and secondary data were used for the research. The primary data was collected using a structured questionnaire from 181 customers of public sector banks in Ernakulam. Among the public sector banks, SBI was chosen for the research as it is the largest public sector bank and has more branches in Ernakulam district. The secondary data was collected from journals, books, bank websites, reports, and other relevant sources. The data collected was analysed using descriptive analysis and was presented in the form of tables. MS Excel and SPSS were used for data analysis and interpretation.

Analysis and Discussions:

Table 1- Demographic profile of the respondents

Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	76	42.0
	Female	105	58.0
Marital Status	Married	65	35.9
	Unmarried	116	64.1
Age Group	Below 25	76	42.0
	25–35	71	39.2
	36–45	17	9.4
	46–55	9	5.0
	Above 55	8	4.4
Educational Qualification	Undergraduate	116	64.1
	Postgraduate	47	26.0
	Professional	8	4.4
	School Level	7	3.9
	Diploma	3	1.7

Occupation	Salaried	93	51.4
	Student	62	34.3
	Business	15	8.3
	Homemaker	6	3.3
	Retired	5	2.8
Monthly Income	Below ₹25,000	81	44.8
	₹25,000–₹50,000	46	25.4
	₹50,000–₹75,000	36	19.9
	₹75,000–₹1,00,000	8	4.4
	Above ₹1,00,000	10	5.5
Years Using Banking Services	Less than 1 year	10	5.5
	1–3 years	104	57.5
	3–5 years	45	24.9
	Above 5 years	22	12.2

(Source: Primary Data)

Demographic information collected from the respondents is quite insightful in identifying various demographic features of the sample as the respondent's gender profile it can be seen that 58% are female whereas 42% are male which means that more females participated in the research than males.

With regard to the respondent's status most of them for 64.1% were identified as married and only 35.9% have been married this implies that majority of the participants were relatively young since many of them are unmarried.

What is more as for the respondents age distribution it can be said that the majority belong to the two age groups mainly those aged under 25 (42%) and those aged 25-35 (39.2%).

Education wise most respondents have attained the undergraduate level of education 64.1 % while the postgraduate level is occupied by 26% of respondents This means that the respondents are reasonably educated and this will help with usage of the services.

Occupational wise most of respondents are employed by someone else and earn regular income in terms of salaries since 51.4% are salaried employees while other are students 34.3% there are other occupations in the occupation classification like home bakers' business and retirees but in small number.

As far as income is concerned most people have low income and earn less than 25,000 per month accounting for 44.8% other earned twenty-five thousand and fifty thousand making 25.4%.

Finally, when it comes to experience in banking the largest percentage 57.5 %of the respondents have had banking service experience for 1 to 3 years followed by 24.9% who had experiences for 3 to 5 years.

Table: 2 Main reasons for using fintech services

Reason	Frequency
Convenience	159
Time Saving	118
24×7 Availability	73
Lower Transaction Cost	29
Safety during Cashless Transactions	25

(Source: Primary Data)

From the above analysis it can be seen that the main motivation for the adoption of financial technology is convenience (159 users) followed by saving on time (118) and then 24/7 availability (73) other motivations like lower transaction cost (29) and safer cashless transaction (25) are the secondary importance. Therefore, usability and efficiency seem to be most important motivations behind Fintech adoption.

Table: 3 Showing the perception towards fintech services

Statement	N	Mean	Result
Fintech services are easy to understand and operate	181	3.93	Agree
Digital banking services improve overall banking service	181	4.08	Agree
Fintech services reduce the need to visit bank branches	181	4.15	Agree

(Source: Primary Data)

Analysis of mean score shows that there is positive attitude towards Fintech services from the respondents. The statement “Fintech services help in cutting down the trips to bank branches” has a mean score of 4.15, which shows that the respondents really appreciate the convenience of Fintech services. Also, the statement “Fintech services enhance the efficiency of banking services” has a mean score of 4.08. The statement “Fintech services are easy to understand and operate” received a mean value of 3.93, meaning that the respondents find fintech services to be easy to understand and work with. On the whole it is worth saying that all mean values are higher than 3, thus implying that respondents support all presented statements and have a positive opinion concerning the use of Fintech services.

Challenges faced in using Fintech services

Ho: There is no significant association between demographic variables and challenges faced while using fintech services.

H1: There is a significant association between demographic variables and challenges faced while using fintech services.

Demographic Variable	Challenge Variable	Chi-Square Value	df	P Value	Result
Age Group	Technical Issues	15.079	4	0.005	Significant
	Complicated Apps	13.514	4	0.009	Significant
	Failed Transactions	7.065	4	0.132	Not Significant
Gender	Technical Issues	0.027	1	0.870	Not Significant
	Complicated Apps	0.115	1	0.735	Not Significant
	Failed Transactions	0.279	1	0.597	Not Significant
Educational Qualification	Technical Issues	16.124	4	0.003	Significant
	Complicated Apps	6.202	4	0.185	Not Significant
	Failed Transactions	22.536	4	0.000	Significant
Monthly Income	Technical Issues	19.400	4	0.001	Significant
	Complicated Apps	2.578	4	0.631	Not Significant
	Failed Transactions	19.314	4	0.001	Significant
Years of Online Banking	Technical Issues	51.486	3	0.000	Significant
	Complicated Apps	0.591	3	0.898	Not Significant
	Failed Transactions	29.039	3	0.000	Significant

(Source: Primary Data)

Chi Square test was performed to determine the extent of connection between demographic variables and the problems encountered during Fintech usage results suggest a partial significance between demographic features and problems. As far as technical problems are concerned there exists significant connection with the variable age group (P value 0.005), Educational qualification (P value 0.00) three monthly income (P value 0.001) and years using online banking (P value 0.000). This implies that the extent of technical problems is different for users from various age groups, educational qualification income levels and experience levels. However, there is no significance with the variable gender (P values 0.870).

Application complexity is only associated with age (P value 0.009). It implies that users belonging to various age groups will have varying perception regarding the simplicity of using digital banking application while others remain in significant in this case.

In the case of failed or delayed transactions, significant associations were observed with educational qualification (p = 0.000), monthly income (p = 0.001), and years of online banking experience (p = 0.000). This indicates that users' background and familiarity with fintech services influence their experience with transaction-related issues. However, age (p = 0.132) and gender (p = 0.597) do not have a significant impact.

Based on the Chi-square results, the null hypothesis is partially rejected. This implies that there is a significant association between certain demographic variables and challenges faced while using fintech services.

Thus, it can be concluded that age, education, income, and experience significantly influence the challenges faced, whereas gender does not have a significant impact.

Ho: Customer satisfaction has no significant effect on future intention towards fintech services.

H1: Customer satisfaction has a significant effect on future intention towards fintech services.

Table: 5 Showing effect of Customer satisfaction on user’s future intention in Fintech

Variable	B	Std. Error	Beta	t	Sig.
Constant	2.440	0.304	—	8.035	0.000
Customer Satisfaction	0.407	0.077	0.366	5.265	0.000

(Source: Primary Data)

The regression analysis has been performed to identify the impact of customer satisfaction on future intention to fintech services. The model summary shows that customer satisfaction has a moderate positive correlation with future intention ($R=0.366$). The R Square value of 0.134 shows that 13.4% of the variation in future intention is explained by customer satisfaction, indicating a moderate level of explanatory power. The ANOVA results reveal that the regression model is statistically significant ($F = 27.724, p = 0.000$), confirming that the model is a good fit for the data.

The coefficient results show that customer satisfaction has a positive and significant impact on future intention ($\beta = 0.366, p = 0.000$). This indicates that an increase in customer satisfaction leads to a corresponding increase in the willingness of customers to continue using fintech services in the future. Therefore, Since the p-value (0.000) is less than 0.05, the null hypothesis is rejected and the alternative hypothesis is accepted, indicating that customer satisfaction has a significant effect on future intention towards fintech services.

Table: 6 Improvement measures

Statement	N	Mean	Result
Banks should provide training programs for customers	181	3.83	Agree
FinTech services should be made simpler for elderly customers	181	4.20	Strongly Agree

(Source: Primary Data)

According to the mean score analysis, the respondents agree with the improvement measures for fintech adoption. The statement “Banks should offer customer training programs” has a mean score of 3.83, which suggests that respondents agree with the need for training and awareness measures. Also, the statement “Fintech services should be made simpler for elderly customers” has a high mean score of 4.20, suggesting strong support from respondents. This confirms that ease of use is essential for elderly at least. In conclusion the findings indicates that awareness training and simplicity plays an important role in enhancing fintech adoption.

Findings

Based on data analysis and interpretation, the following observations are made:

- The research reveals that there is high degree of awareness of Fintech services among public sector bank customers of Ernakulam district, with most of their respondents are aware of digital banking services like mobile banking, internet banking and UPI.
- It is found that fintech services are extensively used on a regular basis, with majority of the respondents using them on a daily basis.
- The findings show that smartphones are primary device used for accessing Fintech services, highlighting the importance of mobile-based banking platforms in driving adoption.
- The study identifies that convenience and time-saving are the major reasons influencing customers to adopt Fintech services.
- Among various digital services UPI payments are the most frequently used, followed by card payments and fund transfer services.
- From the findings on perception, it has been revealed that the customers have a good perception towards the fintech services because they agree that digitized banking improves the quality of services, reduces branch visits, and user -friendly.
- The study reveals that a significant number of respondents have faced technical issues and transaction failures, indicating that operational inefficiencies are a major concern in the usage of Fintech services.
- It is also found that internet connectivity issues and lack of technical knowledge are the major challenges faced by customers while security concerns and fear of fraud are not perceived as significant barriers.
- The Chi-square analysis shows that demographic variables such as age, educational qualification, income and experience have a significant association with the challenges faced in using Fintech services, whereas gender does not have a significant influence.
- The regression analysis indicates that customers satisfaction has a significant positive impact on future intention to use Fintech services, implying that higher satisfaction leads to increased continued usage.
- The data reveals that the awareness of the existence of digital banking or financial technology is extremely high among the users, with 95% being aware of it, while just 5% are not aware of it. It can be concluded from this information that awareness among customers is very high.
- According to this data the majority of respondents 76.8% utilize the services of fintech companies daily, while 14.9% use them weekly. Only 2.8 % do so monthly and only 5.5% utilize such services rarely. The above figures suggest that the usage of inter companies has become a part of People's lives.
- According to the data provided in the table above, UPI payments are the most common service utilized by 169 people, followed by payments through debit or credit card made by 71 people. Other services include fund transfer services utilized by 38 individuals, internet banking utilized by 33 individuals and investment services including mutual funds utilized by 12 people.

Suggestions

On the basis of the study following suggestions are proposed to improve fintech adoption and usage among customers of public sector banks:

- Public sector banks should improve technical infrastructure to reduce transaction failures, delays and system errors to enhance the reliability of digital banking services.

- Banks should focus on improving internet connectivity support and system optimization, mainly in the areas with poor network conditions to ensure smooth functioning of Fintech services.
- There is a need to conduct digital literacy and awareness programs, particularly for elderly and less technologically skilled customers, to improve their confidence and ability to use Fintech services.
- Banks should simplify the design and interface of the mobile banking applications to make them more user-friendly and accessible to all categories of users.
- Strengthening customer support services is essential to resolve technical issues quickly and improve customer satisfaction
- Public sector banks should actively promote advanced Fintech services such as digital investments and wealth management, as their current usage is relatively low.
- Banks should adopt personalized and customer-centric approaches, using data analytics to enhance user experience and engagement.
- Regular feedback mechanisms should be implemented to identify customer issues and continuously improve digital banking services.

Conclusion

The present study concludes that the Fintech services have become widely accepted by the customers of public sector banks. The awareness and the frequent use of digital banking services are high which means that customers have easily adjusted to technology based financial solutions. The result indicate that customers find Fintech services convenient, efficient and easy to use, which leads to the increased use of digital banking. Nevertheless, even with this positive trend, there are still challenges like technical problems, transaction failures and internet connectivity problems that still impact user experience.

Another aspect stressed in the study is that the demographic factors are crucial for identifying the problems of the customers and customer satisfaction is an important factor influencing the future willingness of the customer to use fintech facilities. It underscores the importance of improving quality to ensure that customers continue adopting the technology. In conclusion, the adoption rate of Fintech by the customers of the public sector banks is very high, although there is chance for improvement regarding its technical aspects, digital literacy of the customers, and customer service. If these issues are sorted out, the banks would succeed in increasing customer satisfaction and promoting digital banking.

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