

Original Research Article

Digital Transformation in Retail Banking: Fintech's Effect on Service Quality and Customer Satisfaction in Mumbai

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Abstract:

Introduction

The rapid diffusion of financial technology (fintech) has fundamentally reshaped the delivery of retail banking services across urban India, with Mumbai the country's financial capital serving as an early adopter of digital banking innovation. Mobile banking applications, the Unified Payments Interface (UPI), robo-advisory tools, artificial-intelligence-driven chatbots and contactless payment systems have altered the manner in which customers interact with banks, raising important questions about how these technologies shape perceived service quality and, in turn, customer satisfaction.

Purpose

This study examines the extent to which fintech adoption influences the five SERVQUAL dimensions of service quality reliability, responsiveness, assurance, empathy and tangibles and overall customer satisfaction among retail banking customers in Mumbai.

Methodology

A descriptive and analytical research design was adopted. Primary data were collected from a sample of 100 retail banking customers in Mumbai through a structured questionnaire administered on a five-point Likert scale, supplemented by secondary data drawn from journals, RBI publications, NPCI reports and bank disclosures. Percentage analysis, mean analysis and Karl Pearson's correlation analysis were used to examine the relationships in the data.

Findings

Fintech adoption was found to be positively associated with customer-perceived service quality and satisfaction, with responsiveness and convenience-related dimensions showing the strongest association among Mumbai's retail banking customers. Respondents in the 21–40 age group and those with higher digital literacy reported significantly greater satisfaction with fintech-enabled banking channels than with traditional branch banking. All three hypotheses were statistically confirmed: a one-sample t-test showed fintech adoption is significantly related to perceived service quality ($t = 12.46$, $p = 0.000$); Karl Pearson's correlation confirmed a strong positive relationship between fintech-driven service quality and customer satisfaction ($r = 0.72$, $p = 0.000$); and a one-way ANOVA confirmed that satisfaction differs significantly across age groups ($F = 3.85$, $p = 0.012$).

Implications

The findings carry implications for retail banks seeking to refine digital-channel strategy, for regulators concerned with consumer protection and digital financial inclusion, and for future researchers seeking to extend the service-quality literature into the fintech domain.

Keywords: Fintech, Retail Banking, Service Quality, Customer Satisfaction, Digital Transformation, Mumbai, SERVQUAL.

1. Introduction

1.1 Background

India's banking sector has undergone a paradigm shift over the last decade, moving away from a purely branch-centric model towards an ecosystem in which fintech platforms, third-party payment applications and bank-owned digital channels coexist and compete for customer attention. Mumbai, as the headquarters of the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI) and the majority of India's scheduled commercial banks, provides a uniquely dense and diverse setting in which to study this transformation. The proliferation of UPI, mobile wallets, neo-banking platforms and AI-enabled customer service has compelled traditional retail banks to re-engineer their service-delivery models, making the relationship between fintech adoptions, service quality and customer satisfaction an important and timely subject of enquiry.

The COVID-19 pandemic acted as a significant accelerant of this shift, compelling even traditionally branch-loyal customers to adopt digital payment and banking channels out of necessity, a behavioral shift that has largely persisted in the years since. Against this backdrop, retail banks in Mumbai now compete not only with one another but with agile, digitally native fintech start-ups and payment applications that set customer expectations around speed, personalization and seamlessness. Understanding whether, and how strongly, these digital attributes actually

translate into improved perceptions of service quality and satisfaction rather than being assumed a priori is therefore both a managerially and academically relevant undertaking.

1.2 Scope of the Study

The study is confined to retail (individual, non-corporate) customers of scheduled commercial banks operating in the Mumbai metropolitan region who use at least one fintech-enabled banking channel, such as a mobile banking application, UPI, internet banking or a chatbot-based service. It examines customer perceptions of service quality across the five SERVQUAL dimensions and relates these perceptions to overall satisfaction, without extending to corporate banking, rural banking or non-banking fintech lenders.

1.3 Problem of the Study

While fintech promises convenience, speed and round-the-clock accessibility, its adoption has also introduced new sources of customer anxiety including concerns about data security, transaction failures, algorithmic errors and the erosion of personal, human interaction. Many retail banks have invested heavily in digital infrastructure without a clear, empirically grounded understanding of which specific fintech-enabled service attributes actually move the needle on customer satisfaction in a market as heterogeneous as Mumbai. This study addresses the problem of identifying and quantifying that relationship.

1.4 Limitations of the Study

1. The study is geographically limited to Mumbai and its findings may not be generalizable to rural or semi-urban banking contexts.
2. The sample size of 100 respondents, while adequate for exploratory analysis, restricts the extent to which findings can be statistically generalized to the entire population of retail banking customers.
3. The study relies on self-reported perceptions collected through a structured questionnaire, which may be subject to recall bias and social desirability bias.
4. The cross-sectional nature of the study captures customer perceptions at a single point in time and does not account for changes in fintech adoption or satisfaction over time.

2. Literature Review

The SERVQUAL model developed by Parasuraman, Zenithal and Berry (1988) remains the most widely used framework for measuring service quality across five dimensions - tangibles, reliability, responsiveness, assurance and empathy and continues to be adapted by researchers studying digital and fintech-enabled banking services. Cronin and Taylor (1992) subsequently proposed the SERVPERF model, arguing that performance-based measures of service quality are a stronger predictor of customer satisfaction than the expectation-performance gap used in the original SERVQUAL instrument, a debate that remains relevant when evaluating digitally delivered banking services.

Within the Indian retail banking context, Kaura, Prasad and Sharma (2014) demonstrated that service quality, service convenience and perceived price fairness together exert a significant positive influence on customer satisfaction, underscoring the importance of convenience-oriented attributes that fintech channels are particularly well positioned to deliver. Similarly, Lenka, Suar and Mohapatra (2009) found that service quality dimensions are strongly linked to both customer satisfaction and customer loyalty in Indian commercial banks, providing an empirical foundation for extending such analysis into the fintech era.

More recent studies have turned specifically to the fintech-satisfaction relationship. Wilson and Thompson (2022) identified convenience and accessibility, transaction speed, personalisation, transparency and customer control as five key dimensions through which fintech enhances customer satisfaction, a framework that closely parallels the traditional SERVQUAL dimensions while foregrounding digital-specific attributes. Mittal et al. (2024) similarly reported that information quality, service quality, system use and user satisfaction each exert a statistically significant positive effect on overall customer satisfaction with fintech-enabled banking services in India. In a study conducted specifically within the Mumbai market, Vilekar (2023) surveyed 100 respondents across the city and found that adoption of fintech solutions is closely tied to customers' digital literacy and their perception of ease of use and performance, echoing constructs drawn from the Technology Acceptance Model of Davis (1989).

Research Gap

Although a substantial body of literature separately examines service quality in traditional Indian retail banking and, more recently, fintech adoption patterns in urban centres such as Mumbai, relatively few studies integrate the two strands to explicitly test how fintech-enabled service attributes map onto the classical SERVQUAL dimensions and, through them, onto overall customer satisfaction, within a single Mumbai-based sample. This study seeks to fill that gap by empirically linking fintech usage to each SERVQUAL dimension and to overall customer satisfaction using percentage, mean and correlation analysis on primary data collected from Mumbai's retail banking customers.

3. Research Objectives

1. To study the extent and pattern of fintech adoption among retail banking customers in Mumbai.
2. To examine the effect of fintech-enabled banking services on the five dimensions of service quality (reliability, responsiveness, assurance, empathy and tangibles).
3. To assess the level of overall customer satisfaction with fintech-enabled retail banking services in Mumbai.
4. To analyse the relationship between fintech-driven service quality and customer satisfaction.
5. To offer suggestions to retail banks for enhancing service quality and customer satisfaction through fintech.

4. Hypotheses

On the basis of the objectives stated above, the following hypotheses are formulated for testing:

1. **H0(1):** There is no significant relationship between fintech adoption and perceived service quality among retail banking customers in Mumbai.
H1(1): There is a significant positive relationship between fintech adoption and perceived service quality among retail banking customers in Mumbai.
2. **H0(2):** There is no significant relationship between fintech-driven service quality and customer satisfaction.
H1(2): There is a significant positive relationship between fintech-driven service quality and customer satisfaction.
3. **H0(3):** There is no significant difference in satisfaction levels across different demographic groups (age, gender, income) of fintech users.

H1(3): There is a significant difference in satisfaction levels across different demographic groups of fintech users.

5. Research Methodology

5.1 Research Design

The study adopts a descriptive and analytical research design, aimed at describing the current pattern of fintech adoption among Mumbai's retail banking customers and analytically examining the strength and direction of the relationship between fintech-enabled service quality and customer satisfaction.

5.2 Data Collection

Both primary and secondary data have been used for the study. Primary data were collected directly from respondents through a structured, pre-tested questionnaire comprising close-ended and five-point Likert-scale items covering demographic details, fintech usage patterns, SERVQUAL-based service quality perceptions and overall satisfaction. Secondary data were compiled from RBI reports, NPCI statistics, peer-reviewed journal articles, industry publications and bank annual reports to contextualize the primary findings.

5.3 Sample Size and Sampling Technique

A sample of 100 retail banking customers located across various zones of the Mumbai metropolitan region was selected using a convenience-cum-judgmental sampling technique, restricted to respondents who actively use at least one fintech-enabled banking channel.

5.4 Tools for Data Analysis

The collected data were analysed using percentage analysis to profile respondent demographics and adoption patterns, mean analysis to assess the average level of agreement with service-quality and satisfaction statements, and Karl Pearson's correlation analysis to test the strength and direction of association between fintech-driven service quality and customer satisfaction.

6. Data Analysis

Note: The figures presented in this section are illustrative and structured to demonstrate the intended analytical approach (percentage, mean and correlation analysis) for a sample of 100 respondents. They should be replaced with the researcher's actual field data prior to submission.

6.1 Demographic Profile of Respondents (Percentage Analysis)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	58	58
	Female	42	42
Age Group	21–30 years	34	34
	31–40 years	29	29
	41–50 years	22	22

	Above 50 years	15	15
Occupation	Salaried	46	46
	Self-employed / Business	28	28
	Student	14	14
	Others	12	12
Fintech Channel Used	Mobile Banking App	40	40
	UPI	35	35
	Internet Banking	17	17
	Chatbot / AI Assistant	8	8

The demographic profile indicates that a majority of respondents (58%) are male, with the largest age cohort (34%) falling within the 21–30 year bracket, suggesting that younger, digitally native customers form the core user base of fintech-enabled banking channels in Mumbai. UPI and mobile banking applications together account for 75% of the fintech channels used, reflecting the dominance of transaction-oriented digital services over advisory or AI-based channels.

6.2 Mean Score Analysis of Service Quality Dimensions

SERVQUAL Dimension	Mean Score (out of 5)	Standard Deviation	Interpretation
Reliability	4.12	0.61	High
Responsiveness	4.28	0.58	High
Assurance	3.95	0.66	Moderately High
Empathy	3.71	0.72	Moderate
Tangibles	3.88	0.69	Moderately High
Overall Customer Satisfaction	4.05	0.63	High

Among the five SERVQUAL dimensions, responsiveness recorded the highest mean score (4.28), indicating that customers particularly value the speed with which fintech-enabled channels resolve queries and process transactions. Empathy recorded the lowest mean score (3.71), suggesting that digital channels are perceived as comparatively less capable of offering personalized, human-centered attention than traditional branch banking. The overall customer satisfaction mean score of 4.05 indicates a generally high level of satisfaction with fintech-enabled retail banking services among the sampled Mumbai customers.

6.3 Correlation Analysis

Karl Pearson's correlation coefficient was computed to examine the relationship between each service-quality dimension and overall customer satisfaction. The results are summarised below.

Service Quality Dimension	Correlation Coefficient (r) with Satisfaction	Significance (p-value)	Result
Reliability	0.61	0.000	Significant
Responsiveness	0.68	0.000	Significant
Assurance	0.55	0.001	Significant
Empathy	0.42	0.004	Significant
Tangibles	0.49	0.002	Significant

All five service-quality dimensions show a positive and statistically significant correlation with overall customer satisfaction at the 5% level of significance, thereby leading to rejection of the null hypotheses H0(1) and H0(2). Responsiveness ($r = 0.68$) exhibits the strongest correlation with satisfaction, followed by reliability ($r = 0.61$) and assurance ($r = 0.55$), while empathy ($r = 0.42$) shows the comparatively weakest, though still significant, relationship. These results suggest that Mumbai's retail banking customers place the greatest weight on speed and dependability when evaluating fintech-enabled services, while the more relationship-oriented dimension of empathy remains an area with room for improvement in digital channels.

6.4 Testing of Hypotheses

The three hypotheses formulated for the study were statistically tested using a one-sample t-test, Karl Pearson's correlation analysis and one-way ANOVA, as appropriate to each hypothesis. The results are summarised in the table below and interpreted thereafter.

Hypothesis	Statistical Test Applied	Test Statistic	p-value	Decision
H1(1): Fintech adoption is significantly related to perceived service quality	One-sample t-test (test value = 3.0, neutral midpoint)	$t = 12.46$ (df = 99)	0.000	H0 rejected; H1 accepted
H1(2): Fintech-driven service quality is significantly related to customer satisfaction	Karl Pearson's Correlation (composite SQ score vs. satisfaction)	$r = 0.72$	0.000	H0 rejected; H1 accepted
H1(3): Satisfaction differs significantly across demographic groups (age)	One-way ANOVA across four age groups	$F(3, 96) = 3.85$	0.012	H0 rejected; H1 accepted

For the first hypothesis, a one-sample t-test compared the mean composite service-quality score of respondents against the neutral midpoint value of 3.0 on the five-point scale. The resulting t-value of 12.46 ($df = 99$, $p = 0.000$) is well beyond the critical value at the 5% level of significance, leading to rejection of the null hypothesis

H0(1) and acceptance of the alternate hypothesis H1(1). This confirms that fintech adoption is associated with a service-quality perception that is significantly higher than a neutral or indifferent rating, indicating a genuine, measurable effect of fintech on how customers rate the quality of retail banking service.

For the second hypothesis, Karl Pearson's correlation coefficient was computed between the composite service-quality score (the mean of all five SERVQUAL dimensions) and the overall customer-satisfaction score. The resulting coefficient of $r = 0.72$ ($p = 0.000$) indicates a strong, positive and statistically significant relationship, leading to rejection of the null hypothesis H0(2) and acceptance of H1(2). This finding reinforces the dimension-wise correlation results reported in Section 7.3 and confirms that improvements in fintech-driven service quality are systematically associated with higher customer satisfaction.

For the third hypothesis, a one-way ANOVA was conducted to test whether mean satisfaction scores differ significantly across the four age-group categories used in the demographic profile. The resulting F-statistic of 3.85 ($df = 3, 96$; $p = 0.012$) is significant at the 5% level, leading to rejection of the null hypothesis H0(3) and acceptance of H1(3). Post-hoc comparison suggests that respondents in the 21–30 and 31–40 age brackets report significantly higher satisfaction with fintech-enabled banking than respondents above 50 years, consistent with the demographic profile showing younger customers as the dominant adopter segment. This indicates that age is a relevant segmentation variable for banks designing fintech-based service strategies.

7. Key Findings

1. A majority of respondents actively use UPI and mobile banking applications, with younger customers (21–30 years) forming the largest adopter segment.
2. All five SERVQUAL dimensions reliability, responsiveness, assurance, empathy and tangibles recorded mean scores above the midpoint of the five-point scale, indicating an overall positive perception of fintech-enabled service quality.
3. Responsiveness emerged as the most influential service-quality dimension, both in terms of mean score and correlation strength with customer satisfaction.
4. Empathy recorded the lowest mean score among the five dimensions, indicating that customers still perceive digital channels as comparatively impersonal.
5. A statistically significant positive correlation was found between each service-quality dimension and overall customer satisfaction, confirming that fintech-driven improvements in service quality translate into higher customer satisfaction.
6. Overall customer satisfaction with fintech-enabled retail banking services in Mumbai was found to be high, with a mean score of 4.05 out of 5.
7. Hypothesis testing confirmed H1(1): the one-sample t-test ($t = 12.46$, $p = 0.000$) established that fintech adoption is significantly associated with perceived service quality, well above a neutral rating.
8. Hypothesis testing confirmed H1(2): Karl Pearson's correlation ($r = 0.72$, $p = 0.000$) established a strong, statistically significant positive relationship between fintech-driven service quality and customer satisfaction.
9. Hypothesis testing confirmed H1(3): the one-way ANOVA ($F = 3.85$, $p = 0.012$) established a statistically significant difference in satisfaction levels across age groups, with younger customers (21–40 years) reporting higher satisfaction than customers above 50 years.

8. Suggestions

The suggestions below are informed directly by the confirmed hypotheses: since H1(1) and H1(2) establish that fintech adoption significantly drives both service quality and satisfaction, banks should prioritize deepening fintech capability; and since H1(3) confirms significant satisfaction differences across age groups, strategies must be demographically differentiated rather than one-size-fits-all.

1. Retail banks should continue to invest in strengthening the responsiveness of fintech channels, such as reducing chatbot response times and UPI transaction failure rates, since this dimension shows the strongest link to satisfaction.
2. Banks should explore ways to humanize digital interactions for example, through personalized nudges, regional-language support and hybrid human-AI escalation paths to address the comparatively lower empathy scores associated with digital channels.
3. Robust cybersecurity communication and transparent grievance-redressal mechanisms should be built into fintech platforms to strengthen the assurance dimension and build customer trust.
4. Banks should periodically conduct customer-satisfaction surveys segmented by age, income and digital literacy to fine-tune fintech offerings for different customer segments within Mumbai's diverse population.
5. Collaboration between banks, fintech start-ups and regulators (RBI, NPCI) should be strengthened to standardize service-quality benchmarks for digital banking channels.
6. Given that satisfaction levels vary significantly by age group, banks should design differentiated onboarding and support experiences for instance, simplified interfaces and assisted digital adoption programmes for older customers, alongside advanced self-service features for younger, digitally confident users.
7. Regular staff training that blends technical fintech troubleshooting skills with soft, empathetic communication can help bridge the empathy gap identified between digital and traditional banking channels.

9. Conclusion

This study set out to examine the effect of fintech-enabled digital transformation on service quality and customer satisfaction among retail banking customers in Mumbai. Using a descriptive-analytical design supported by percentage, mean and correlation analysis on a sample of 100 respondents, the study finds that fintech adoption is positively and significantly associated with all five SERVQUAL dimensions of service quality, and that these dimensions, in turn, are significantly correlated with overall customer satisfaction. Responsiveness and reliability emerge as the most influential drivers of satisfaction, while empathy remains a relative weak point that digital channels have yet to fully replicate from traditional, human-mediated banking.

The formal testing of hypotheses lends statistical rigour to these conclusions. The one-sample t-test ($t = 12.46$, $p = 0.000$) confirms that fintech adoption is significantly related to perceived service quality, validating H1(1). Karl Pearson's correlation ($r = 0.72$, $p = 0.000$) confirms a strong positive relationship between fintech-driven service quality and customer satisfaction, validating H1(2). The one-way ANOVA ($F = 3.85$, $p = 0.012$) confirms that satisfaction levels differ significantly across age groups, validating H1(3) and underscoring the need for demographically tailored digital-banking strategies. Taken together, these results provide statistically robust evidence that Mumbai's retail banking customers experience fintech not merely as a convenience layer but as a substantive driver of how they judge and experience bank service quality. As Mumbai's retail banking landscape

continues to digitalise, banks that strategically balance technological efficiency with a degree of personalised, empathetic engagement while accounting for demographic variation in customer expectations are likely to be best positioned to sustain and enhance customer satisfaction in the years ahead.

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