“Impact of mobile banking quality, perceived trust, and perceived risk on post-adoption behavior: The mediating role of customer satisfaction”

AUTHORS	S. Saibaba

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S. Saibaba (India)

IMPACT OF MOBILE BANKING QUALITY, PERCEIVED TRUST, AND PERCEIVED RISK ON POST-ADOPTION BEHAVIOR: THE MEDIATING ROLE OF CUSTOMER SATISFACTION

Abstract

Mobile banking has emerged as a critical delivery channel for banks, particularly in emerging economies such as India, where sustained usage is essential for realizing long-term value. Despite extensive research on adoption, relatively less attention has been given to post-adoption behavior. This study aims to examine the impact of mobile banking quality, perceived trust, and perceived risk on post-adoption behavior, specifically customer satisfaction and continuance intention, and to analyze the mediating role of customer satisfaction. Data were collected from 345 active mobile banking users in India through a structured questionnaire. The focus on active users ensures that the findings reflect post-adoption evaluations based on actual usage experience. Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to analyze the data, with mobile banking quality modeled as a second-order construct comprising service quality, system quality, and information quality. The results indicate that mobile banking quality has a significant positive effect on customer satisfaction ($\beta = 0.567$, $p < 0.001$) and continuance intention ($\beta = 0.245$, $p < 0.001$). Perceived trust positively influences customer satisfaction ($\beta = 0.118$, $p < 0.05$) and continuance intention ($\beta = 0.322$, $p < 0.001$), while perceived risk negatively affects customer satisfaction ($\beta = -0.217$, $p < 0.001$) and continuance intention ($\beta = -0.129$, $p < 0.001$). Customer satisfaction also significantly mediates the relationships between mobile banking quality, perceived trust, perceived risk, and continuance intention. The findings highlight the importance of improving overall mobile banking quality, strengthening user trust, and reducing perceived risk to enhance customer satisfaction and promote sustained usage.

Keywords mobile banking, service quality, trust, perceived risk, customer satisfaction, continuance intention, PLS-SEM

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S. Saibaba, Ph.D., Associate Professor, SDM Institute for Management Development, India.

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INTRODUCTION

The emergence of mobile banking technology has significantly transformed how financial services are delivered to customers, allowing access to services anytime and anywhere. While the widespread adoption of mobile banking has been driven by the increasing use of smartphones and digital technologies, continued usage remains a significant challenge for financial service providers. The adoption process is largely influenced by convenience and accessibility, but sustained usage depends on how users evaluate their actual experience with the service. In recent years, the distinction between adoption and post-adoption behavior has gained importance, as long-term usage is crucial for the success of mobile banking. This issue is particularly relevant in emerging economies such as India, where the adoption of digital banking technologies has been both rapid and extensive. Digital transaction initiatives, combined with increasing smartphone penetration, have

accelerated the use of mobile banking systems. However, concerns related to privacy, security, and system reliability continue to persist. As a result, a gap exists between the number of adopters and those who continue to use mobile banking services over time. Understanding this gap requires examining how users evaluate mobile banking services after initial adoption. These evaluations are shaped by both service-related and psychological factors. Users evaluate service quality based on their experience with the system, including performance, reliability, and the accuracy of information provided. At the same time, their level of trust in digital platforms and their perception of associated risks influence their decision to continue using these services. Although previous research has often examined these factors individually, their combined influence on continued usage remains insufficiently explored, particularly in the Indian context. The central problem addressed here is to understand how users' perceptions of mobile banking quality, trust, and risk influence their continued use of mobile banking services.

1. LITERATURE REVIEW

As mobile banking has become more widely used, research attention has gradually moved beyond initial adoption to questions of continued usage. While early studies largely focused on adoption drivers, recent work highlights the importance of post-adoption behavior, particularly customer satisfaction and continuance intention. For financial institutions, sustained usage is critical, as it directly relates to customer retention and long-term profitability (Mullan et al., 2017; Shaikh et al., 2015). Continuance intention, in this context, reflects users' willingness to continue using mobile banking services after initial adoption (Thakur, 2014).

A significant stream of research emphasizes the role of service-related factors in shaping users' evaluations of mobile banking services. Earlier studies adapted traditional service quality frameworks to digital banking contexts and identified dimensions such as responsiveness, reliability, ease of use, and security as key determinants of user perceptions (Jun & Palacios, 2016; Shankar et al., 2020). However, subsequent research has revealed considerable variation in how mobile banking quality is conceptualized, with some studies focusing on specific attributes such as usability or functionality, while others argue that such approaches fail to capture the dynamic and experience-driven nature of mobile banking services (Mostafa, 2020; Shankar et al., 2019). This variation also suggests a lack of consensus regarding how users actually form quality perceptions in mobile banking contexts. These inconsistencies have led to growing support for a more integrated perspective that reflects users' overall service experience.

The Information Systems Success Model provides a strong theoretical foundation for such an integrated approach by proposing that service quality, system quality, and information quality jointly influence user satisfaction and behavioral outcomes (DeLone & McLean, 2003). In the context of mobile banking, service quality relates to the responsiveness and support provided by banks, system quality reflects the technical performance and usability of applications, and information quality captures the accuracy, timeliness, and relevance of information presented to users (Santouridis et al., 2009; Arcand et al., 2017; Al-Otaibi et al., 2018; Rod et al., 2009; Egala et al., 2021). Empirical evidence suggests that these dimensions collectively shape users' perceptions of service effectiveness and influence their satisfaction and continued usage (Yuan et al., 2014; Susanto et al., 2016; Rahi & Abd Ghani, 2019).

Building on this perspective, recent studies argue that users tend to perceive mobile banking as a unified system rather than as a collection of independent service attributes, supporting the use of hierarchical or second-order constructs to represent overall quality perceptions (Hossain et al., 2021; Nunkoo et al., 2017). Such approaches have been applied across various service contexts and have been shown to provide more stable and comprehensive explanations of customer satisfaction and behavioral intentions (Ahmed et al., 2021; Yusfiarto, 2021). This indicates the relevance of modeling mobile banking quality as a higher-order construct in post-adoption research.

Customer satisfaction has consistently been identified as a central determinant of continuance intention in technology-enabled servic-

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es. According to the Expectation-Confirmation Model, satisfaction reflects users' post-usage evaluations based on the comparison between expectations and actual performance and directly influences their intention to continue using a system (Bhattacherjee, 2001). In mobile banking contexts, empirical studies demonstrate that satisfaction is strongly influenced by service-related factors and, in turn, serves as a key predictor of continued usage (Yuan et al., 2014; Susanto et al., 2016; Rahi & Abd Ghani, 2019). However, the relative importance of different quality dimensions varies across studies, indicating the need for integrated models that capture the combined influence of these factors (Al-Otaibi et al., 2018; Chung & Kwon, 2009).

In addition to service-related factors, psychological constructs such as trust and perceived risk play a crucial role in shaping post-adoption behavior. Trust reduces perceived uncertainty and enhances users' confidence in mobile banking platforms, thereby positively influencing both satisfaction and continuance intention (Zhou, 2011; Malaquias & Hwang, 2016; Farah et al., 2018). It also strengthens users' willingness to engage in financial transactions and supports the development of long-term relationships with service providers (Nguyen & Dao, 2024). At the same time, perceived risk – particularly concerns related to security, privacy, and system reliability – acts as a barrier to continued usage by negatively affecting user evaluations and behavioral intentions (Yuan et al., 2014; Chen & Li, 2016; Laksamana et al., 2022).

Although the importance of trust and perceived risk is well established, prior research presents mixed findings regarding their influence. Some studies suggest that the impact of perceived risk diminishes as users gain experience with mobile banking, while others report that risk perceptions remain significant even in post-adoption stages (Priya et al., 2018; Tiwari et al., 2021; Kumar et al., 2023). Similarly, the role of trust has been found to vary across contexts, with some studies emphasizing its importance during initial adoption and others highlighting its continued relevance for sustained usage (Cao et al., 2018; Albashrawi & Motiwalla, 2017). These inconsistencies indicate that trust and perceived risk should be examined alongside service-related factors within a unified framework. These mixed findings make it difficult to determine whether trust and risk operate independently or in conjunction with service-related factors in influencing continued usage.

Recent empirical studies in digital banking and fintech contexts further reinforce the importance of both service-related and psychological factors in shaping continuance intention. Evidence suggests that satisfaction continues to function as a central mechanism linking quality perceptions to behavioral outcomes, with its mediating role consistently observed across different contexts (Geebren et al., 2021; Bouhlel & Mzoughi, 2024). Trust has also been shown to strengthen long-term engagement with mobile banking platforms, particularly in environments characterized by technological uncertainty and perceived vulnerability (Garrouch et al., 2024; Hamouda & Tabbane, 2025). At the same time, perceived risk remains an important deterrent, although its impact may vary depending on users' experience levels and contextual factors (Yin & Lin, 2022). In addition, recent extensions of post-adoption models highlight the role of engagement and user empowerment in strengthening continuance intention (Neviana & Warganegara, 2026).

Furthermore, customer satisfaction has been identified as a key mechanism through which both service-related and psychological factors influence continuance intention. Prior research indicates that satisfaction often mediates the effects of quality perceptions, trust, and perceived risk on behavioral outcomes, helping to explain inconsistencies observed in direct relationships (Susanto et al., 2016; Srivastava & Vishnani, 2021; Sharma et al., 2024). This reinforces the importance of examining satisfaction as an intermediary variable in post-adoption models.

Despite these developments, research on post-adoption mobile banking behavior remains somewhat fragmented. Existing studies tend to examine service-related factors and psychological constructs such as trust and perceived risk in isolation, offering only partial explanations

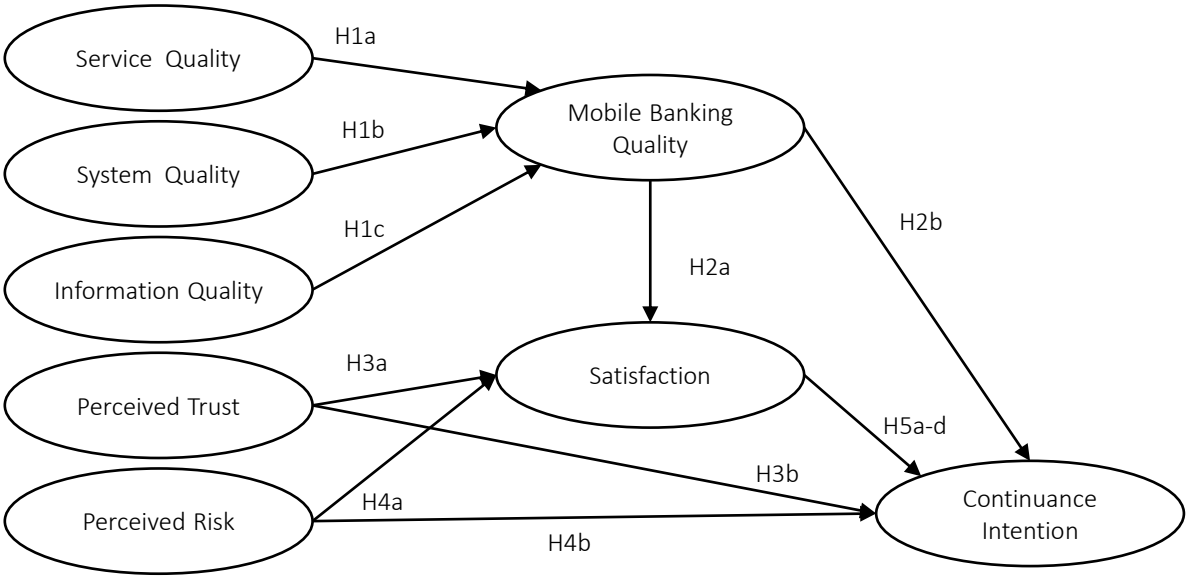

Figure 1. Conceptual model of mobile banking continuance intention showing hypothesized relationships

for continued usage. Moreover, the conceptualization of mobile banking quality has often been inconsistent, with limited attention given to its hierarchical nature as a multidimensional construct. Empirical findings regarding the roles of trust and perceived risk also remain inconclusive, particularly in emerging economies such as India, where contextual factors may shape user perceptions differently.

These limitations highlight the need for an integrated approach that simultaneously considers service-related and psychological factors within a unified framework to better explain post-adoption behavior.

Accordingly, this study examines the impact of mobile banking quality, perceived trust, and perceived risk on post-adoption behavior, specifically customer satisfaction and continuance intention, and analyzes the mediating role of customer satisfaction. Figure 1 presents the proposed research model and the hypothesized relationships among the study constructs.

Based on the above discussion, the following hypotheses are proposed:

H1a: Service quality positively influences mobile banking quality.

H1b: Information quality positively influences mobile banking quality.

H1c: System quality positively influences mobile banking quality.

H2a: Mobile banking quality positively affects customer satisfaction.

H2b: Mobile banking quality positively affects continuance intention.

H3a: Perceived trust positively affects customer satisfaction.

H3b: Perceived trust positively affects continuance intention.

H4a: Perceived risk negatively affects customer satisfaction.

H4b: Perceived risk negatively affects continuance intention.

H5a: Customer satisfaction positively affects continuance intention.

H5b: Customer satisfaction mediates the relationship between mobile banking quality and continuance intention.

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H5c: Customer satisfaction mediates the relationship between perceived trust and continuance intention.

H5d: Customer satisfaction mediates the relationship between perceived risk and continuance intention.

2. METHODS

This study adopts a cross-sectional quantitative research design to examine the post-adoption behavior of mobile banking users in India. Given the objective of understanding users' perceptions, attitudes, and continuance intentions after adoption, a survey-based approach was considered appropriate. Survey research enables the systematic collection of standardized data from a relatively large number of respondents, making it suitable for analyzing relationships among multiple constructs in behavioral studies.

The data used in this study were collected as part of a broader research project on mobile banking usage behavior in India conducted between October 2021 and December 2021. A structured questionnaire was administered to active users of mobile banking applications to ensure that the responses reflected actual usage experience rather than hypothetical or pre-adoption perceptions. A non-probability convenience sampling technique was employed due to the absence of a comprehensive sampling frame of mobile banking users in India. This approach is commonly adopted in studies involving technology users where a complete and accessible sampling frame is not available. The questionnaire was distributed online through social media platforms, enabling the collection of responses from mobile banking users across different regions of the country. This approach facilitated access to a geographically diverse sample of users with varying demographic backgrounds and levels of mobile banking experience. However, the sample may be more representative of digitally active users.

A total of 372 responses were collected, out of which 345 were found to be complete and suitable for further analysis after data screening. The sample size is adequate for structural equation modeling and consistent with established guidelines for multivariate analysis. It is important to note that a portion of this dataset has been used in a previously published study (Saibaba, 2024). However, the present study differs substantially in terms of its conceptual framework, variable operationalization, and analytical focus. Specifically, this study models mobile banking quality as a higher-order construct and examines its interaction with trust and perceived risk in explaining post-adoption behavior. Therefore, the analysis and findings presented here are distinct and original.

Participation in the survey was entirely voluntary. Respondents were informed about the purpose of the study and assured that their responses would be used solely for academic research. No personally identifiable information was collected, and anonymity and confidentiality were strictly maintained throughout the research process. Informed consent was obtained from all participants prior to their participation. Given that the study involved anonymous survey data and posed minimal risk to participants, formal institutional ethical approval was not deemed necessary.

The questionnaire was developed based on established scales from prior studies to ensure content validity and comparability with existing research. All constructs were measured using multi-item scales adapted from previously validated instruments. Mobile banking quality was conceptualized as a second-order reflective construct comprising service quality, system quality, and information quality. Service quality and system quality items were adapted from Chung and Kwon (2009), Santouridis et al. (2009), and Al-Otaibi et al. (2018), while information quality items were drawn from Rod et al. (2009) and Egala et al. (2021). These dimensions collectively capture users' evaluations of responsiveness, reliability, system performance, usability, and the accuracy and timeliness of information.

Perceived trust was measured using items adapted from Zhou (2011) and Malaquias and Hwang (2016), reflecting users' confidence in the security and reliability of mobile banking services. Perceived risk was assessed using scales from Yuan et al. (2014), Chen and Li (2016), and Tiwari et al. (2021), capturing concerns related to financial, privacy, and security risks. Customer satisfaction was measured using items adapted from Bhattacherjee (2001) and

Thakur (2014), representing users' overall evaluation of their experience with mobile banking services. Continuance intention was measured using scales adapted from Bhattacherjee (2001), Susanto et al. (2016), and Srivastava and Vishnani (2021), capturing users' intention to continue using mobile banking applications in the future. All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was pre-tested with a small group of mobile banking users to ensure clarity, relevance, and logical sequencing of items. Minor modifications were made based on the feedback received to improve readability and reduce ambiguity.

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was considered appropriate due to the presence of a higher-order construct, the exploratory nature of the model extension, and the need to examine both direct and indirect relationships simultaneously. The analysis followed a two-step approach. First, the measurement model was assessed for internal consistency reliability, convergent validity, and discriminant validity using established criteria such as composite reliability and average variance extracted. Second, the structural model was evaluated by examining path coefficients, coefficients of determination (R^2), and predictive relevance. The significance of hypothesized relationships, including mediation effects, was tested using a bootstrapping procedure with a large number of resamples, as recommended in prior methodological literature.

The demographic profile of the respondents indicates that the sample is reasonably diverse and suitable for the purpose of this study. The respondents included both male and female users, with a majority belonging to the economically active age group. Participants had varying levels of education, income, and occupation, reflecting a broad cross-section of mobile banking users in India. Most respondents reported having substantial experience with mobile banking applications and indicated regular usage for activities such as fund transfers, bill payments, and account management. This suggests that the sample is appropriate for examining post-adoption behavior, as respondents possess sufficient familiarity with mobile banking services to provide informed evaluations.

Table 1. Demographic characteristics of respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	235	68.1
	Female	110	31.9
Age	18-25 years	86	24.9
	26-35 years	135	39.1
	36-45 years	92	26.7
	46-55 years	22	6.4
	Above 55 years	10	2.9
Education level	School	9	2.6
	Diploma	42	12.2
	Bachelor's degree	132	38.3
	Master's degree	103	29.9
	Professional degree	43	12.5
	Doctoral degree	7	2.0
	Others	9	2.6
Occupation	Student	19	5.5
	Private employee	127	36.8
	Government employee	95	27.5
	Self-employed	41	11.9
	Professional	50	14.5
	Homemaker	3	0.9
	Retiree	10	2.9
Monthly income	Less than ₹10,000	36	10.4
	₹10,001-20,000	75	21.7
	₹20,001-30,000	83	24.1
	₹30,001-40,000	62	18.0
	₹40,001-50,000	61	17.7
	Above ₹50,000	28	8.1
Mobile banking experience	Less than 1 year	7	2.0
	1-2 years	22	6.4
	2-4 years	80	23.2
	4-6 years	106	30.7
	More than 6 years	130	37.7
Mobile banking usage frequency	Daily	39	11.3
	Weekly (a few times)	127	36.8
	Monthly (a few times)	105	30.4
	Occasionally	74	21.4

3. RESULTS

Statistical analyses were conducted using SPSS version 24 for descriptive statistics and SmartPLS 4 for structural equation modeling and hypothesis testing. Partial Least Squares Structural Equation Modeling (PLS-SEM) is appropriate for analyzing complex models involving higher-order constructs and mediation effects (Hair et al., 2017). The results are presented in a sequential manner, including descriptive statistics, assessment of common method variance, evaluation of the measurement model, and testing of the structural model.

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Table 2. Descriptive statistics of study constructs

Constructs	Mean	Std. deviation	Skewness	Std. error (skewness)	Kurtosis	Std. error (kurtosis)
Service quality (SQ)	3.040	0.629	–0.440	0.131	1.365	0.262
Information quality (IQ)	3.658	0.782	–0.288	0.131	0.380	0.262
System quality (SYQ)	3.012	0.740	–0.097	0.131	1.071	0.262
Perceived trust (PT)	2.813	0.761	0.148	0.131	0.288	0.262
Perceived risk (PR)	3.102	0.652	–0.028	0.131	0.572	0.262
Customer satisfaction (SAT)	3.389	0.724	–0.251	0.131	0.324	0.262
Continuance intention (CI)	2.966	0.898	0.107	0.131	0.008	0.262

Note: Standard error values are reported for skewness and kurtosis.

Descriptive statistics for all constructs are presented in Table 2. The mean values ranged from 2.81 for perceived trust to 3.66 for information quality, while standard deviations ranged from 0.63 to 0.89. The distribution of the data was assessed using skewness and kurtosis. All values were within acceptable limits for structural equation modeling (Hair et al., 2014). The highest kurtosis value was observed for service quality (1.365), and the lowest for continuance intention (0.008), indicating no serious deviations from normality.

To examine the potential presence of common method variance (CMV), Harman's single-factor test was conducted using exploratory factor analysis with an unrotated principal component approach (Podsakoff et al., 2003). Multiple factors with eigenvalues greater than 1.0 were extracted, and the first factor accounted for 36.5% of the total variance, which is below the commonly accepted threshold of 50%. The total variance explained by all extracted factors was 82.8%. In addition, inter-construct correlations were below 0.90 (Pavlou et al., 2007). These re-

Table 3. Measurement model results: reliability and convergent validity

Construct	Item	Loading	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
Service quality (SQ)	SQ1	0.963	0.923	0.963	0.928
	SQ2	0.964			
Information quality (IQ)	IQ1	0.944	0.945	0.965	0.902
	IQ2	0.942			
	IQ3	0.963			
System quality (SYQ)	SYQ1	0.945	0.945	0.965	0.901
	SYQ2	0.937			
	SYQ3	0.803			
Perceived trust (PT)	PT1	0.840	0.878	0.915	0.729
	PT2	0.856			
	PT3	0.831			
	PT4	0.888			
Perceived risk (PR)	PR1	0.905	0.883	0.919	0.741
	PR2	0.927			
	PR3	0.883			
	PR4	0.711			
Customer satisfaction (SAT)	SAT1	0.876	0.918	0.942	0.803
	SAT2	0.924			
	SAT3	0.867			
	SAT4	0.916			
Continuance intention (CI)	CI1	0.967	0.965	0.977	0.935
	CI2	0.974			
	CI3	0.959			
	CI4	0.944			

Table 4. Discriminant validity assessment using Fornell-Larcker criterion and HTMT ratio

Panel A. Fornell-Larcker criterion							
Construct	**SQ**	**IQ**	**SYQ**	**PT**	**PR**	**SAT**	**CI**
Service quality (SQ)	0.964						
Information quality (IQ)	0.368	0.950					
System quality (SYQ)	0.422	0.392	0.949				
Perceived trust (PT)	0.320	0.372	0.290	0.854			
Perceived risk (PR)	–0.195	–0.006	–0.027	–0.095	0.861		
Customer satisfaction (SAT)	0.572	0.446	0.480	0.379	–0.276	0.896	
Continuance intention (CI)	0.525	0.398	0.357	0.525	–0.243	0.543	0.967
Panel B. Heterotrait-Monotrait ratio (HTMT)							
Construct	**SQ**	**IQ**	**SYQ**	**PT**	**PR**	**SAT**	**CI**
Service quality (SQ)							
Information quality (IQ)	0.394						
System quality (SYQ)	0.451	0.412					
Perceived trust (PT)	0.347	0.400	0.308				
Perceived risk (PR)	0.211	0.032	0.058	0.107			
Customer satisfaction (SAT)	0.620	0.479	0.514	0.417	0.297		
Continuance intention (CI)	0.557	0.416	0.373	0.541	0.257	0.575	

Note: The diagonal elements in Panel A represent the square root of the average variance extracted (AVE). All HTMT values in Panel B are below the recommended threshold of 0.85, indicating adequate discriminant validity.

sults indicate that common method variance is not a significant concern in this study.

The measurement model was evaluated in terms of internal consistency reliability and validity. As shown in Table 3, Cronbach's alpha values ranged from 0.878 to 0.965, exceeding the recommended threshold of 0.70 (Nunnally & Bernstein, 1994). Composite reliability values were above 0.90 for all constructs, indicating high internal consistency (Hair et al., 2017). Convergent validity was assessed using average variance extracted (AVE), with values ranging from 0.729 to 0.935, exceeding the recommended threshold of 0.50 (Fornell & Larcker, 1981). One item (SQ3) was removed due to a loading below 0.70. All remaining items exhibited loadings above 0.80.

Discriminant validity was assessed using both the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio. As presented in Table 4, the square root of AVE for each construct was greater than its correlations with other constructs, satisfying the Fornell-Larcker criterion (Fornell & Larcker, 1981). HTMT values were below the threshold of 0.85, indicating adequate discriminant validity (Henseler et al., 2014; Kline, 2016).

The structural model was evaluated using bootstrapping with 5,000 resamples to assess the significance of path coefficients (Chin et al., 2008; Hair et al., 2019). The coefficient of determination (R^2) values for satisfaction (0.465) and continuance intention (0.457) indicate moderate explanatory power (Chin, 1998; Hair et al., 2017). The goodness-of-fit (GOF) index was calculated as 0.625, exceeding the suggested threshold of 0.36 (Tenenhaus et al., 2005; Hoffmann & Birnbrich, 2012).

The results of hypothesis testing are presented in Table 5. Service quality ($\beta = 0.477$, $p < 0.001$), information quality ($\beta = 0.470$, $p < 0.001$), and system quality ($\beta = 0.477$, $p < 0.001$) significantly influenced mobile banking quality, supporting *H1a*, *H1b*, and *H1c*. Mobile banking quality significantly influenced satisfaction ($\beta = 0.567$, $p < 0.001$) and continuance intention ($\beta = 0.245$, $p < 0.001$), supporting *H2a* and *H2b*. Perceived trust significantly influenced satisfaction ($\beta = 0.118$, $p < 0.05$) and continuance intention ($\beta = 0.322$, $p < 0.001$), supporting *H3a* and *H3b*. Perceived risk had a significant negative effect on satisfaction ($\beta = -0.217$, $p < 0.001$) and continuance intention ($\beta = -0.129$, $p < 0.001$), supporting *H4a* and *H4b*. Satisfaction significantly influenced continuance intention ($\beta = 0.229$, $p <$

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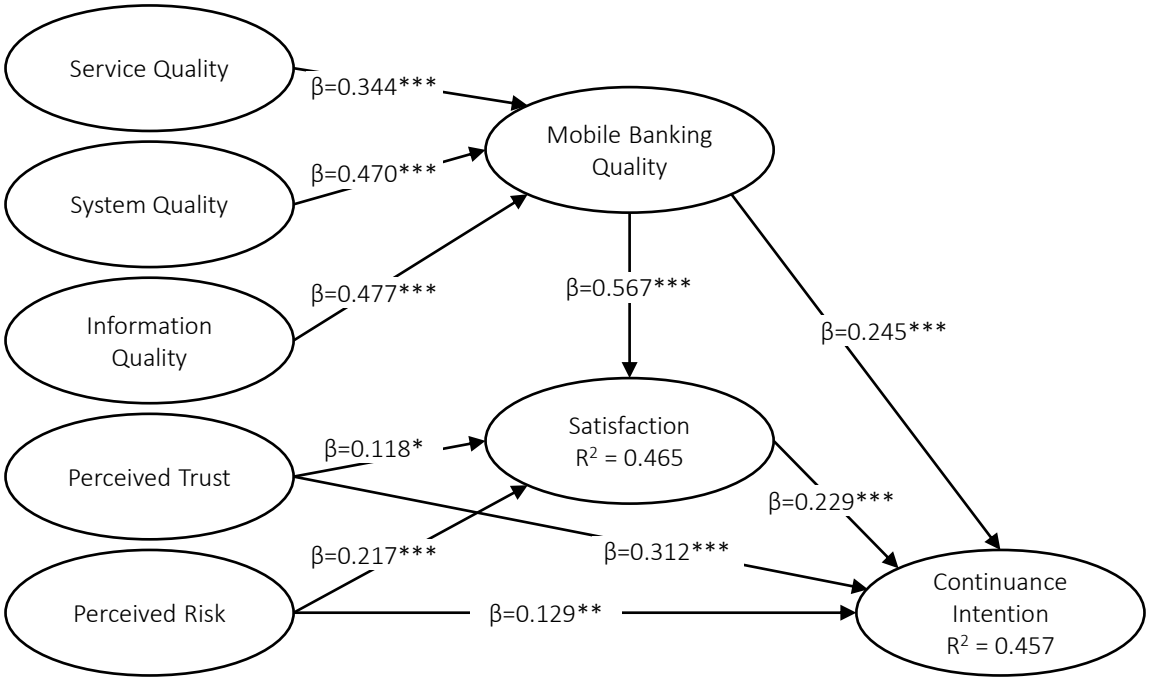

Note: Significance levels: * = 0.05; ** = 0.01; *** = 0.001.

Figure 2. Empirical validation of the structural model

0.001), supporting *H5a*. The indirect effects indicate that satisfaction mediates the relationship between mobile banking quality and continuance intention (β = 0.130, p < 0.001), perceived trust and continuance intention (β = 0.027, p < 0.05), and perceived risk and continuance intention (β = –0.050, p < 0.01), supporting H5b, *H5c*, and *H5d*.

The total effects are presented in Table 6. Service quality, information quality, and system quality showed positive total effects on satisfaction and continuance intention. Perceived trust showed a positive total effect, while perceived risk showed a negative total effect on both dependent variables.

The effects of control variables are presented in Table 7. The inclusion of demographic and usage-related variables did not substantially change the variance explained in satisfaction (R^2 = 0.465) and continuance intention (R^2 ≈ 0.457-0.458). The path coefficients associated with control variables were not statistically significant.

Table 5. Structural model results and hypothesis testing

Hypothesis	Path	Path coefficient (β)	t-value	p-value	Result
H1a	SQ → MBQ	0.477	21.672	< 0.001	Supported
H1b	IQ → MBQ	0.470	20.754	< 0.001	Supported
H1c	SYQ → MBQ	0.477	21.672	< 0.001	Supported
H2a	MBQ → SAT	0.567	11.521	< 0.001	Supported
H2b	MBQ → CI	0.245	4.377	< 0.001	Supported
H3a	PT → SAT	0.118	2.523	< 0.050	Supported
H3b	PT → CI	0.322	6.308	< 0.001	Supported
H4a	PR → SAT	–0.217	5.025	< 0.001	Supported
H4b	PR → CI	–0.129	3.058	< 0.001	Supported
H5a	SAT → CI	0.229	3.829	< 0.001	Supported
H5b	MBQ → SAT → CI	0.130	3.652	< 0.001	Supported
H5c	PT → SAT → CI	0.027	2.070	< 0.050	Supported
H5d	PR → SAT → CI	–0.050	2.758	< 0.010	Supported

Table 6. Total effects on customer satisfaction and continuance intention

Panel A. Dependent variable: Customer satisfaction			
Predictor	**Total effect (β)**	**t-value**	**p-value**
Service quality	0.195	10.927	< 0.001
Information quality	0.267	11.050	< 0.001
System quality	0.271	10.485	< 0.001
Perceived trust	0.118	2.523	< 0.050
Perceived risk	–0.217	5.025	< 0.001
Panel B. Dependent variable: Continuance intention			
Predictor	**Total effect (β)**	**t-value**	**p-value**
Service quality	0.129	7.672	< 0.001
Information quality	0.177	7.467	< 0.001
System quality	0.179	7.950	< 0.001
Perceived trust	0.349	6.988	< 0.001
Perceived risk	–0.179	4.204	< 0.001
Customer satisfaction	0.229	3.829	< 0.001

Note: Total effects represent the combined direct and indirect effects of predictor variables on the dependent variables.

Table 7. Effects of control variables on customer satisfaction and continuance intention

Control variable	t-value (Satisfaction)	R^2 (Satisfaction)	t-value (Continuance intention)	R^2 (Continuance intention)
Uncontrolled model	–	0.465	–	0.457
Gender	0.348	0.465	0.034	0.457
Age	0.171	0.465	0.752	0.457
Education	0.145	0.465	0.761	0.457
Income	0.156	0.465	0.638	0.457
Occupation	0.163	0.465	0.186	0.457
Mobile banking experience	0.127	0.465	0.805	0.458
Usage frequency	0.154	0.465	0.520	0.458

Note: R2 values indicate the variance explained in the dependent variables. The inclusion of control variables does not significantly change the explanatory power of the model.

4. DISCUSSION

The findings of this study provide important insights into post-adoption mobile banking behavior by showing that continued usage is shaped by both service-related and psychological factors. Users' engagement with mobile banking services depends not only on the technical and functional quality of the system but also on their perceptions of trust and risk. This highlights the multi-dimensional nature of post-adoption behavior, where users continuously evaluate their experiences and adjust their usage decisions accordingly.

The results indicate that mobile banking quality has a strong positive influence on both customer satisfaction and continuance intention. This aligns with prior research emphasizing the importance of service quality, system quality, and information quality in shaping user evaluations of digital services (Yuan et al., 2014; Chung & Kwon, 2009; Al-Otaibi et al., 2018). At the same time, the findings extend existing literature by showing that users tend to evaluate mobile banking quality as a unified experience rather than as separate dimensions. This suggests that users' evaluations are not based on isolated service attributes but on an overall experience that combines functional performance with psychological assurance. The use of a higher-order construct, therefore, provides a more comprehensive explanation of how quality perceptions influence post-adoption behavior.

The findings also underscore the continued importance of perceived trust in influencing both satisfaction and continuance intention. This is consistent with earlier studies that identify trust as a mechanism for reducing uncertainty and encouraging the use of digital financial services

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(Zhou, 2011; Malaquias & Hwang, 2016; Farah et al., 2018). However, in contrast to research suggesting that the role of trust diminishes as users become more familiar with technology (Albashrawi & Motiwalla, 2017), the present study shows that trust remains significant even in the post-adoption stage. This may be explained by the nature of financial services, where perceived vulnerability and information asymmetry persist over time. Similarly, the negative effects of perceived risk on satisfaction and continuance intention confirm its role as a barrier to sustained usage. While this finding is consistent with studies highlighting security and privacy concerns in digital banking (Chen & Li, 2016; Laksamana et al., 2022; Yuan et al., 2014), it contrasts with research suggesting that risk perceptions decline with experience (Priya et al., 2018). This divergence indicates that, in contexts such as India, concerns related to cyber fraud, data misuse, and system reliability may continue to influence user perceptions even after adoption.

Customer satisfaction emerges as a central mechanism linking quality, trust, and perceived risk to continuance intention. These results support the Expectation-Confirmation Model, which identifies satisfaction as a key determinant of continued system usage (Bhattacherjee, 2001). The mediating role of satisfaction observed in this study also aligns with prior research demonstrating that satisfaction translates user perceptions into behavioral outcomes (Susanto et al., 2016; Srivastava & Vishnani, 2021). Importantly, the results help clarify inconsistencies in earlier studies by showing that the effects of trust and perceived risk are not only direct but also operate indirectly through satisfaction.

CONCLUSION

This study examined the effects of mobile banking quality, perceived trust, and perceived risk on post-adoption behavior, particularly customer satisfaction and continuance intention, among mobile banking users in India. The findings indicate that mobile banking quality and perceived trust positively influence customer satisfaction and continuance intention, whereas perceived risk exerts a negative influence on both outcomes. The results also demonstrate that customer satisfaction serves as an important mechanism through which users' perceptions of quality, trust, and risk influence their intention to continue using mobile banking services.

The study contributes to the growing body of post-adoption mobile banking research by integrating service-related and psychological factors within a single framework. By conceptualizing mobile banking quality as a higher-order construct comprising service quality, system quality, and information quality, the study provides a more comprehensive understanding of how users evaluate mobile banking services during continued usage. The findings further highlight that continued engagement with mobile banking depends not only on functional service performance but also on users' perceptions of trust and risk.

From a managerial perspective, the findings suggest that banks should focus on improving the overall quality of mobile banking services rather than emphasizing individual service attributes in isolation. Strengthening customer trust through reliable service delivery, transparent communication, and effective security mechanisms is equally important. In addition, reducing users' perceptions of financial, privacy, and security risks can enhance customer satisfaction and encourage long-term usage. Monitoring customer satisfaction as a key performance indicator may help banks assess whether improvements in service quality, trust-building initiatives, and risk management efforts are translating into sustained customer engagement.

Despite its contributions, the study has certain limitations. The cross-sectional design limits the ability to examine changes in user perceptions and behavior over time. Future research may employ longitudinal approaches to better understand the dynamic nature of post-adoption mobile banking behavior. Further studies may also incorporate additional factors such as habit, perceived value, user engagement, or digital literacy and examine these relationships across different countries and technological contexts to enhance the generalizability of the findings.

AUTHOR CONTRIBUTIONS

Conceptualization: S. Saibaba.
Data curation: S. Saibaba.
Formal analysis: S. Saibaba.
Investigation: S. Saibaba.
Methodology: S. Saibaba.
Project administration: S. Saibaba.
Validation: S. Saibaba.
Visualization: S. Saibaba.
Writing – original draft: S. Saibaba.
Writing – reviewing & editing: S. Saibaba.

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