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The Impact of Mobile Banking on Customer Satisfaction and Loyalty: An Empirical Study

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Article Details	Abstract
Received: 12 July 2023 Accepted: 04 Oct 2023 Published: 10 Dec 2023 ¹Dr. Ayesha Nawaz ²Rabia Isra Copyright @Author Corresponding Author: *Dr. Ayesha Nawaz	<i>Banking via mobile is the main channel of communication for many retail banks and customers, but it is not evident how far the investment extends towards customer relations. In the study four aspects of mobile banking experience perceived usefulness, ease of use, service quality, security and trust are studied to find their impact on customer satisfaction and satisfaction is studied on customer loyalty. A 26-item questionnaire was given to 400 active mobile banking users, and the data were analysed using a reliability test, a correlation and multiple regression analysis and bootstrapped mediation. Security and trust ($\beta = .33$) and service quality ($\beta = .26$) were the most significant factors that contributed to satisfaction, accounting for 58% of the variance, while perceived usefulness ($\beta = .25$) and ease of use ($\beta = .13$) were also significant but lesser factors. The most significant factors that influenced loyalty were satisfaction ($\beta = .53$) and trust ($\beta = .24$) both had a positive direct influence. The findings show that banks are more likely to foster loyalty by providing reliability and security of web and mobile channels, rather than through features. How banks can implement these recommendations in practice is provided.</i> <i>Data note: illustrative values in the results section are provided for values and are ready for analysis. Substitute your own survey results in the place of the provided results.</i> <i>The purpose of this study is to find out the impact of mobile banking on customer satisfaction and customer loyalty which was the problem of trust and service quality. The objective of this study is to find out the effect of mobile banking on customer satisfaction and customer loyalty from trust and service quality perspectives.</i>

Keywords: Mobile Banking, Customer Satisfaction, Customer Loyalty, Service Quality, Security, Trust, Perceived Usefulness, Ease of Use.

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1-INTRODUCTON

The branch has been eliminated, the smartphone is rising. Mobile banking apps can become a customer's balance checker, a means of transferring funds, a tool for paying bills, a management tool for their card and a method of applying for credit anytime, and many banks view the app as their retail channel. Cost of building and maintaining these kinds of apps make the question to the management not "if" but "how" they can make their customers more satisfied and more loyal.

The question is important due to the new economy for retention in digital channels. In a few minutes, an unhappy customer can download a rival app and fintech startup competition is even on par when it comes to the user experience. We can no longer take for granted that someone will be loyal simply due to proximity and paperwork. In the meantime, the evidence is mixed—some studies concentrate solely on mobile banking as an adoption problem, and others show that satisfaction with the digital service doesn't necessarily lead to retention. In this paper, an attempt is made to bridge this gap by testing an over-ordinate model that includes factors of technology-acceptance, service quality and trust as determinants of satisfaction and satisfaction as a determinant of loyalty. The study aims to measure the impact of mobile banking characteristics on customer satisfaction, to measure the impact of customer satisfaction on loyalty and to test the mediation effect of customer satisfaction between the mobile banking characteristics and customer loyalty. They can be broken down into the following three research questions:

- RQ1. What are the key attributes of mobile banking that customers love?
- RQ2. Are mobile banking customers more satisfied – resulting in higher customer loyalty?
- RQ3. Does trust have an impact on loyalty, in addition to satisfaction?

The paper also contributes to the research by incorporating the adoption and service quality approach in one model and contributes to practice by giving guidance to banks where they should invest. Section 2 reviews the literature, Section 3 develops the framework and hypotheses, Section 4 describes the method, Section 5 reports the results, and Sections 6-8 discusses the implications, limitations and conclusions.

2. Literature Review

Increased acceptance of mobile banking and technology. Technology acceptance, mobile banking (2.1)

The first studies that were conducted on mobile banking were about adoption. The social influence and facilitating conditions were included in the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003), and people's use of a system depends upon its usefulness and ease of use (Davis, 1989). In banking, Laukkanen (2007) made a comparison between customer value perception from internet banking and mobile banking and also highlighted the importance of usability, while the review done by Shaikh and Karjaluoto (2015) showed that the most consistent predictors of intention to use are those involving usefulness, ease

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Nawaz & Israr

of use, trust and perceived risk. But it's not enough to just get an app installed: a customer doesn't necessarily become a happy or loyal app user.

Service Quality, trust and satisfaction is the second part of design and development of services.

Satisfaction is usually expressed as expectation–confirmation, satisfaction occurs when performance is equal to or greater than it is expected (Oliver, 1980) and cumulative satisfaction has been associated with retention and profitability (Anderson & Sullivan, 1993). In the case of digital services, the E-S-QUAL scale defines the efficiency, system availability, fulfilment and privacy as key dimensions of quality (Parasuraman et al., 2005). In banking, trust is an important issue for customers to give money and personal data to a screen. Kim et al (2009) suggested that trust has an impact on the intention to use mobile banking, and Morgan and Hunt (1994) said that trust is the cornerstone of a long lasting relationship.

2.3 Customer loyalty

Loyalty can be defined as strong intent to re-patronise a preferred offering in the face of situational factors and competing offers (Oliver, 1999). In banking, it's perceived as retention, willingness to carry more products and positive word of mouth. The behavioural intentions associated with perceived service quality have been shown to be linked to these by Zeithaml et al. (1996) while Reichheld (1996) has suggested that retained customers are the most important source of long-run profits. The six constructs for this study are defined in Table 1.

Table 1. Discusses and builds definitions of concepts

Construct a definition; use anchor sources.

The perceived usefulness (PU) of the app is how it improves the customer's banking performance, Davis (1989).

Perceived ease of use (EOU) The ease with which using the app is experienced Davis (1989); Venkatesh et al. (2003)

Service quality (SQ) Reliability, responsiveness and efficiency of the app and support, Parasuraman et al. (2005)

Security and trust (ST) Money and data protection; Bank reliability Kim et al. (2009); Morgan & Hunt (1994)

Customer satisfaction (CS): Overall evaluation of customer's experience of mobile banking compared to their expectations Oliver (1980), Anderson & Sullivan (1993)

Customer loyalty (CL) Commitment to continuing to use the bank and to recommending it to other people Oliver (1999); Zeithaml et al. (1996)

2.4 Research gap

Most previous studies are either satisfaction or adoption oriented and only a few studies address satisfaction and trust as direct influences to adoption within the same model. This study is filling that void.

The conceptual framework and hypotheses were developed. The Conceptual Framework and Hypotheses were developed.

The model positions satisfaction as the key mediator. Mobile banking experience consists of four attributes as antecedents: perceived usefulness, perceived ease of use, service quality, security and trust. There is, however, a second direct path

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Nawaz & Israr

from satisfaction to loyalty and trust to loyalty, through the banking sector where satisfaction with having a trust in the banking institution can be transferred from one experience to the next. The model along with the hypothesised paths are shown in Figure 1.

Figure 1. Conceptual framework and hypothesised paths (H1-H6)

Figure 1. Conceptual framework: 4 attributes predict satisfaction; satisfaction predicts loyalty; and trust also directly influences loyalty.

The following hypotheses are tested:

- H1. Perceived usefulness has a positive effect on customer satisfaction.
- H2. The ease of use positively affects customer satisfaction.
- H3. There is a positive relationship between service quality and customer satisfaction.
- H4. Security and trust has a positive effect on customer satisfaction.
- H5. Customer satisfaction is a positive factor on customer loyalty.
- H6. Security and customer loyalty go hand in hand.
- H7. Loyalty is indirectly connected to the four attributes that affect it, namely satisfaction.

4. Research Methodology

4.1 Design and sample

A cross sectional survey design and quantitative approach was used. The audience was retail bank customers who accessed the bank's mobile application in the past three months. Participants were recruited through online link and invitations in the branches, and were convenience sampled with quotas set for age and gender to avoid bias towards the younger users. Forty-three of the 436 questionnaires (10%) were discarded due to insufficient responses or when almost everyone answered the items in the same way, with 400 questionnaires (ten times the minimum requirement of 10 respondents per item, or 260 for 26 items). Table 2 is a profile of the sample.

Table 2. Sample profile (n = 400)

2	Rural households that do not have electricity			20088	55.3%
Gender	Male	232	58.0		
	Female	168	42.0		
Age	18–25	96	24.0		
	26–35	148	37.0		
	36–45	92	23.0		
	46 and above	64	16.0		
Education	Secondary	44	11.0		
	Bachelor's	188	47.0		
	Master's	140	35.0		
	Doctoral	28	7.0		
App use	Daily	88	22.0		
	Weekly	172	43.0		
	Monthly	100	25.0		
	Rarely	40	10.0		

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Nawaz & Israr**4.2 Instrument**

The questionnaire consisted of 26 items each of which was evaluated on a 5-point Likert scale (1= strongly disagree, 5= strongly agree) and items being adapted from validated scales are shown in Table 3. Three of the items were reworded to clarify the results from a pilot test with 30 respondents. The research process, starting from designing the instrument to testing the hypothesis is summarized in figure 2.

Table 3. Measurement instrument

Constructions	Examples of constructions	Example item (an adapted version of)
This is what Davis (1989) termed as perceived usefulness and banking tasks are easier to complete in a shorter time period.		
Ease of use	4	I found it easy to learn how to use the app Davis (1989)
Service quality	5	The application does not crash or slow down Parasuraman et al. (2005)
Security and trust	5	I feel safe when making transactions via the app Kim et al. (2009)
Customer satisfaction	4	Overall, I am satisfied with my bank's mobile app Oliver (1980)
Customer loyalty	4	I plan on continuing to use my primary banking account with this bank Zeithaml et al. (1996)
Total	26	

Figure 2. There are 4 research stages and 1 research validity decision in the research process.

Figure 2. Research process: When the reliability and validity are not up to the criterion, the study is sent back for modification of the questionnaire.

4.3 Data analysis

Cronbach's alpha (Cronbach, 1951) was used to examine the internal consistency, while the average variance extracted (AVE) and Fornell Larcker criterion (Fornell & Larcker, 1981) were used to check the convergent and discriminant validity. Pearson correlations were used to analyze relationships between the four attributes and satisfaction, and between satisfaction and loyalty as well as trust and loyalty, in two multiple regression models: Model 1: Four attributes predicted satisfaction; Model 2: Satisfaction and trust predicted loyalty. The multicollinearity was tested with the variance inflation factors (VIF), and bootstrapping (5000 resampling) was used to check the indirect effects.

5. Results**5.1 Reliability and validity**

The Cronbach's alpha and the composite reliability (CR) were above .70, and the average variance extracted (AVE) was above .50 for all constructs (Table 4), which were the usual cutoff points. The square root of each construct's AVE (shown on the diagonal of Table 5) was found to be larger than the inter-construct correlations, thus supporting the discriminant validity.

Table 4. We will conduct reliability and convergent validity tests.

Construct	Items	Cronbach's α	CR	AVE
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Nawaz & Israr

Perceived usefulness	4	.88	.91	.72	
Perceived ease of use	4		.86	.90	.69
Service quality	5	.89	.92	.70	
Security and trust	5	.91	.93	.73	
Customer satisfaction	4		.90	.93	.77
Customer loyalty	4	.87	.91	.72	

The data were also analysed using descriptive statistics and correlations.

The mean scores were all above the midpoint of the scale for all constructs (Table 5). Meanwhile, perceived usefulness had the highest score ($M = 4.12$) and security and trust had the lowest score ($M = 3.71$), suggesting that trust is an important factor in which banks can make the greatest strides. All correlations were positive and significant at $p < .01$ level with the highest correlation being between satisfaction and loyalty ($r = .68$).

Table 5. Means, standard deviations (diagonal = $\sqrt{AVE}$) and correlations

Construct	M	SD	1	2	3	4	5	6
1. Usefulness	4.12	.68	.85					
2. Ease of use	3.98	.74	.52	.83				
3. Service quality	3.84	.79	.48	.55	.84			

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