

Service Quality of Mobile Banking in Bangladesh: An Assessment of Customers' Satisfaction

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Abstract

Mobile banking is now one of the new instruments used in the banking industry to provide digital financial services. In order to ensure the satisfaction of customers, mobile banking service providers concentrate on delivering up-to-date and quality service. The main purpose of this paper is to explore the relationship between the dimensions of service quality (tangible, reliability, responsiveness, assurance and empathy) and the satisfaction of customers. To conduct the study, a total number of 170 respondents were taken as sample from Chittagong region by using simple judgmental sampling technique. A face-to-face interview method was followed by using a structured questionnaire to collect the data. In this study, some statistical measures such as mean, standard deviation, correlation, regression were used to analyze the linkage. The results found that there is a positive relation between service quality dimensions and customers' satisfaction specifically reliability, responsiveness, assurance, empathy have significant influence on customers' satisfaction. The study also revealed that tangibles have insignificant relation with customers' satisfaction.

Keywords: Mobile banking, customers' satisfaction, service quality.

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1. Introduction

Today banks are focusing on using modern technologies to provide better service to customers and to attain competitive advantage in the market. Banking can be understood as the business of book keeping, lending, exchanging and issuing money. The use of mobile phone in banking operation has given a new dimension in transaction and saving system. Mobile banking is a system that enables a financial institution's clients to access their accounts and general information on bank products and services through mobile devices (Ghosh & Barua, 2014). In mobile banking, customers get various savings and financial services, such as transfer of money, savings products, insurance products, collecting payments, paying fees of different types.

Mobile banking assists banks to offer banking service without having any branch to a large number of people throughout the country including remote areas. Due to widely distributed agents, available mobile network and affordable technology, banks can easily serve their service to the behindhand people. Mobile banking can be treated as a tool of making customers satisfied by rendering service quickly and easily at a convenience time and location. Thus the service providers are focusing on delivering quality service for getting competitive advantage through ensuring customer satisfaction.

The satisfaction of customers is primarily dependent upon the perceived performance of the product or service. The consumer is disappointed when the output of the product is lower than expectations, satisfied when preference meets expectations, and extremely satisfied when it exceeds the expectations of customers (Kotler & Armstrong, 2010). Service quality is an important factor for the satisfaction of customers and the development of organizations. This is a judgment of customers regarding the overall performance of service delivery of an organization (Sinkkonen, et al., 2007). Service quality in banking sector is considered as a powerful antecedent of meeting customer expectation and retention due to available alternative service providers in the market.

In 2011, the Bangladesh Bank launched mobile banking permits to help business growth. Initially, five banks reacted positively to the establishment of deployments of which three of the largest were immediately launched. On 31 March 2011, Dutch Bangla Bank Ltd. began mobile banking in full swing and extensively in Bangladesh. In July 2011, Brac Bank (bkash) was launched and is now the leading mobile financial service provider. By the end of January 2020, there are more than 80.9 million registered clients with around 33.3 million active accounts served by about 0.98 million agents. More than 7.4 million average daily transactions is occurred across the country by the 16 service providing banks (Bangladesh Bank, January 2020)

In Bangladesh, the expansion of mobile banking is effected with several infrastructural, institutional and regulatory constraints like secure telecommunication infrastructure, lack of skilled manpower and training facilities, absence of supportive policies, rules and regulation regarding e-transaction, lack of public awareness, inadequate availability of reliability etc. (Bhuiyan & Rahman, 2013). Due to such limitations, mobile banking failed to meet the expectation of customers and modern technology advanced generation are not attracted to the service. To modernize the country's banking system and to build 'Digital Bangladesh', Bangladesh Bank needs to develop proper strategy and action plan focusing the customers' satisfaction. Thus service quality of mobile

banking and its effect on customers' satisfaction is an important issue to investigate.

2. Literature Review

Service is described as a benefit received by one party from another that is essentially intangible and does not result in ownership of something (Kotler & Armstrong, 2010). Service quality has become a useful weapon for the organization to attract and retain customers as it directly influences the customer satisfaction. The outcome and measurement of service quality are influenced by factors such as time, circumstance, type of service setting, need, and customer expectations, which change as time, competitive climate, and the number of encounters with a specific service increase (Seth et al., 2005). Technical quality, functional quality, and image are the three components of service quality defined by Gronroos (1984). Customers differentiate between the quality of customer experiences that occur during service delivery (functional quality) and the quality of the result the customer achieves in the experience, according to him (technical quality).

Customers' satisfaction refers to how they feel about a perceived inconsistency between their perceptions and the actual results of a product or service after they've used it (Tse & Wilton, 1988). Customer satisfaction is a metric for determining how well a company's services or goods fulfill consumers' expectations, and it is a symbol of customer loyalty and desire to buy again (Jannat & Ahmed, 2015).

Agndaie and Faghani (2012) investigated the relationship between mobile banking service quality and customer satisfaction, finding that reliability, responsiveness, tangibility, and empathy of service quality all have a positive impact on customer satisfaction. Rahman et al., (2017) looked into the impact of the SERVQUAL dimensions on customer satisfaction in Bangladesh's mobile banking market. Customers' satisfaction with mobile banking services is largely determined by tangible factors such as reliability, responsiveness, and empathy, according to the researchers. Ghosh and Barua (2014) studied on customer satisfaction and loyalty on mobile banking service quality in Bangladesh. They revealed that reliability and responsiveness, efficiency and convenience have a positive influence on satisfaction, where reliability and efficiency positively influence on customer retention. Nurpur (2010) studied on E-banking service and customer satisfaction in Bangladesh. He said that efficiency, responsiveness, and assurance all have a major positive relationship with customer satisfaction in the delivery of E-banking services, while tangibility and empathy do not.

Saleem and Rashid (2011) revealed that customers are concerned about confidentiality, authenticity, and reliability of technology when it comes to using mobile banking. They also recommended that companies concentrate on IT applications, innovative services, security, customer confidence, and risk as key indicators of technological innovation. To understand customers' satisfaction with e-service quality, Ganguly and Roy (2011) defined some dimensions, including technology security and information quality, technology accessibility, technology use easiness, and efficiency. According to Sharma and Singh (2009), Bangladeshi mobile banking users are particularly concerned about security issues such as financial fraud, account misuse, and user friendliness issues such as trouble recalling different codes for different products and services, application software implementation, and modernization due to a lack of standardization. Customers' satisfaction with mobile banking services is influenced by speed, responsiveness, assurance, and cost, according to Islam and Himel (2015). Any issue regarding to these factors can lead to significant customer dissatisfaction. Alsheikh and Bojei (2012) revealed that the effectiveness, convenience, quality, versatility, and distinction of services that can be provided using mobile technology can improve consumer value, and these are considered profit factors by consumers when using mobile banking. According to Shahneaz et al., (2016), significant challenges of mobile banking services in Bangladesh include mobile phone operability, safety, flexibility, standardization of services, having to download software applications, and telecom service quality. They also reported that, in contrast to retail banking and online banking, the vast majority of consumers were uninterested in mobile banking's utility. Dahlberg and Mallat (2002) suggested that mobile payment solution providers can handle ease of use, protection, low transaction costs, and broad applicability of solutions to increase expected value for customers.

Khan et al., (2017) observed that the adoption and use of mobile banking in Bangladesh is influenced by a number of factors including security, convenience, cost, and uncertainty, while perceptions of network problems and trustworthiness have no bearing on mobile banking adoption. Ramdhony and Munien (2013) found that customers are encouraged to use mobile banking because of convenience, cost effectiveness, and time though perceived security risk and reliability are still a barrier to its development. Hossain and Haque (2014), found that technical and security requirements, regulatory and supervisory concerns, and business and legal problems are the key factors that could curtail the implementation of mobile banking in Bangladesh. They also stated that mobile banking incorporation could be supported by connectivity, a highly secured platform, and authenticated communications. Akturan and Tezcan (2012) stated that perceived utility, perceived social danger, perceived performance risk, and perceived profit all influence customers' attitudes toward mobile banking, which contributes to adoption.

The above literatures review indicated that very few investigations have been performed to evaluate the relationship between mobile banking service quality and customer satisfaction, especially using the SERVQUAL

model from Bangladesh perspective. This paper attempted to fulfill the gap.

3. Theoretical Framework and Hypotheses Development:

This study has adopted the dimensions used in Parasuraman's SERVQUAL. The dependent variable in this study is overall satisfaction that is measured by the overall satisfaction with the mobile banking service. The independent variable in this study is service quality of mobile banking that is measured by some dimensions of service performance. The dimensions included in this variable are tangibility, reliability, responsiveness, assurance and empathy.

Description of the variable:

- Tangibility -Tangibility is the physical facilities, tools and staff outer shell. It involves- physical facilities of service providers, location of service agents.
- Reliability - Reliability is the ability to produce promised service consistently. It involves - error free service, availability of service point, proper notification of service, quick service delivery.
- Responsiveness - Responsiveness is the willingness to help customers when needed. It involves – providing proper response when the transaction is failed, helping quickly and effectively when mistake is occurred, and helping intension of the service agents.
- Assurance - Assurance is the confidence and trust of customers to the service. It involves -having trust on mobile banking operations, feeling confidence on providing personal information, feeling safety on mobile banking transaction.
- Empathy - Empathy is the attention and care of the organization to the customers. It involves – availability of service at all time, providing customized service by the agents.

From the analysis of literature review, the following hypothesis can be postulated.

H1: There is a positive relationship between tangibility and customers' satisfaction on mobile banking service quality.

H2: There is a positive relationship between reliability and customers' satisfaction on mobile banking service quality.

H3: There is a positive relationship between responsiveness and customers' satisfaction on mobile banking service quality.

H4: There is a positive relationship between assurance and customers' satisfaction on mobile banking service quality.

H5: There is a positive relationship between empathy and customers' satisfaction on mobile banking service quality.

4. Research Methodology

Data used in this study have been collected from primary sources. Considering the nature of the present study, personal interview survey was conducted by using structured interview schedule. These schedules were created to gather primary data on tangibility, reliability, responsiveness, assurance, and empathy. Data were collected from a sample of 170 respondents of different age group. A simple judgmental sampling technique is used to find the respondents from Chittagong city.

To evaluate the problem and test the hypothesis, we used frequency distribution, mean, standard deviation, Pearson's correlation, and regression analysis. Cronbach's reliability analysis was done to check the reliability of the instrument. The analysis provides a value of 0.72 which is greater than acceptable level in social science i.e. 0.6 and a value close to 1 provides more reliability in a range between 0 and 1 for the analysis of the data. SPSS 18.0 software has been used in this regard.

5. Model Formulation

In order to assess customers' satisfaction, a multiple linear regression model is proposed to establish the relationship measuring the impact of different dimensions of service quality of mobile banking on customers' satisfaction. The regression model is formulated as follows:

$$\text{Satisfaction} = \beta_0 + \beta_1(\text{TN}) + \beta_2(\text{RL}) + \beta_3(\text{RS}) + \beta_4(\text{AS}) + \beta_5(\text{EM}) + e_{it}$$

In the regression equation, β_0 denotes a constant numeric value. β_i ($i=1,2,3,4,5$) denotes regression coefficient of respective independent variable and e_{it} refers residual error.

6. Findings and Analysis

6.1 Demographic Information of Respondents

Demographic information of respondents is shown in table 1. Highest portion (38.82%) of respondents was in the age level of 26-33 years, followed by age level of 18-25 years (27.06%). 17.06 percent of respondents was of 34-41 years, 10.59 percent of respondents was of 42-49 years. The lowest 2.35 percent of the respondents came from

below 18 years. Generally young and middle age people are more engaged with financial transaction and they can adopt new technology easily for receiving different services.

Table 1: Demographic information of respondents

Particulars	Frequency	Percentage
Age of respondents		
Below 18	4	2.35
18-25	46	27.06
26-33	66	38.82
34-41	29	17.06
42-49	18	10.59
50- above	7	4.12
Academic qualification of respondent		
Below S.S.C.	17	10.00
S.S.C.	35	20.59
H.S.C.	42	24.71
Graduation	48	28.23
Above graduation	28	16.47
Gander of respondent		
Male	129	75.88
Female	41	24.12
Profession of respondents		
Student	21	12.35
Businessman	48	28.24
Service holder	62	36.47
Others	39	22.94

The highest portion of respondents (28.23%) completed graduation. 24.71 percent completed H.S.C. and 20.59 percent completed S.S.C. in the selected respondents. Below S.S.C. hold the minimum percentage in the table. Generally literate people feel comfort to handle their financial operation through electronic devices.

75.88 percent of respondents were male and the rest (24.12%) was female. In Bangladesh, participation of male in income generating activities and family maintenance is greater than female. Thus they engage more in financial transaction and use mobile banking and some related system for the purpose.

Majority of the respondents were service holders (36.47%) and businessman (28.24%) respectively. Students' participation was 12.35 percent where participants from others were 22.94 percent. Others covered farmer, day labor, house wife etc.

6.2 Mean and Standard Deviation Result

Table 2 presents mean value and standard deviation of service quality dimensions and customers' satisfaction. Mean score shows that customers are satisfied (M=3.6118) on the overall service quality dimensions. The mean value of assurance is highest (M=4.1765) followed by reliability (M= 3.8471). Customers' are comparatively less satisfied on empathy (M= 2.9765) and tangibility (M=3.1412). The value of standard deviation of the variables indicates a greater consistency in the response to the variables.

Table 2: Mean and standard deviation of variables

	N	Mean	Std. Deviation
Tangibility	170	3.1412	.80902
Reliability	170	3.8471	.68812
Responsiveness	170	3.4353	.82055
Assurance	170	4.1765	.64682
Empathy	170	2.9765	.82097
Satisfaction	170	3.6118	.51243
Valid N (list wise)	170		

6.3 Analysis of Correlation Result

Table 3: Pearson's Correlation among service quality dimensions and customers' satisfaction

Correlation						
	Tangibility	Reliability	Responsiveness	Assurance	Empathy	Satisfaction
Tangibility	1					
Reliability	.156*	1				
Responsiveness	-.031	.045	1			
Assurance	-.003	.606**	.133	1		
Empathy	.058	.025	.156*	-.059	1	
Satisfaction	.147	.485**	.320**	.386**	.358**	1
N	170	170	170	170	170	170

*. Correlation is significant at the 0.05 level (2-tailed)

** . Correlation is significant at the 0.01 level (2-tailed)

Table 3 shows correlation between the five service quality dimensions and customers' satisfaction. There is a positive correlation among all the dimensions with the customers' satisfaction. Out of the five, four variables namely reliability, responsiveness, assurance and empathy has a significant correlation with the customers' satisfaction. Among the relationships, the highest correlation is between reliability and customers' satisfaction ($r=0.485$) followed by the correlation between assurance and customers' satisfaction ($r=0.386$). Another variable, tangibility does not have significant relationship with customers' satisfaction.

6.4 Model Summary and ANOVA Findings

Model summary depicted in the table 4 and this table measures the amount of total variation in dependent variable due to independent variable. The value of R^2 indicates that 43.5 of variance of dependent variable is explained by independent variable in the model. It means that 1 unit change in independent variable i.e. tangibility, reliability, responsiveness, assurance, empathy changes 0.435 units in customers' satisfaction on mobile banking service quality. As the value of R^2 is below 0.80, it suggests that dependent variables are moderately associated with independent variable.

Table 4: Model summary

Model Summary				
	R	R Square	Adjusted R Square	Std. Error of the Estimate
Model	.660 ^a	.435	.418	.39090

a. Predictors: (Constant), Empathy, Reliability, Responsiveness, Tangibility, Assurance

Table 5: ANOVA Result

ANOVA ^b					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	19.316	5	3.863	25.282	.000 ^a
Residual	25.060	164	.153		
Total	44.376	169			

a. Predictors: (Constant), Empathy, Reliability, Responsiveness, Tangibility, Assurance

b. Dependent Variable: Satisfaction

In table 5, the output of ANOVA shows that the value of F is 25.282 which is significant as it is greater than 5. The significance level is also acceptable at $p=0.000$.

6.5 Coefficient Analysis

For tangibility, the standardized beta coefficient is 0.080 at 0.182 significance level. It can be interpreted as 1 unit change in tangibility brings 0.080 unit change in customers' satisfaction. It shows a positive relationship between independent variable tangibility and dependent variable customers' satisfaction though the relationship is not significant. Thus, the hypothesis H1 is accepted.

Table 6: Coefficient analysis

		Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients		T	Sig.
		B	Std. Error	Beta			
1	(Constant)	.811	.273			2.976	.003
	Tangibility	.051	.038	.080		1.341	.182
	Reliability	.268	.056	.359		4.757	.000
	Responsiveness	.147	.038	.236		3.921	.000
	Assurance	.124	.060	.156		2.071	.040
	Empathy	.198	.037	.317		5.287	.000

a. Dependent Variable: Satisfaction

For reliability, the standardized beta coefficient is 0.359 at 0.000 significance level. It means 0.359 units changes in customers' satisfaction due to 1 unit change in reliability. It shows a strong positive relationship between independent variable reliability and dependent variable customers' satisfaction and this independent variable is an important determinant of customers' satisfaction. This result leads to the acceptance of hypothesis H2.

For responsiveness, based on standardized beta coefficient (0.236) and significance level (0.000) it can be concluded that there is a significant positive relationship between independent variable responsiveness and dependent variable customers' satisfaction. This suggested that responsiveness is an important determinant to detect customers' satisfaction. Hence the hypothesis H3 is accepted.

For assurance, the standardized beta coefficient is found a small one (0.156) at 0.04 significance level. It shows 15.6% influence of independent variable assurance on dependent variable customers' satisfaction and suggests a positive relationship. So, hypothesis H4 is accepted.

For empathy, the standardized beta coefficient is found second highest value (0.317) at 0.000 significance level among the other variables and shows a strong positive relationship between independent variable empathy and dependent variable customers' satisfaction. As a consequence, hypothesis H5 is accepted.

7. Conclusion and Limitation

Technology becomes the integral part of our personal and social life. The use of technology has extended rapidly in the last few years across the country and people are adopting new technology easily. Mobile banking gives banks to offer different financial services through using existing technology to a large number of people including remote areas without having any branch of the bank. Customers are receiving mobile banking technology expecting fast, convenient and safe service. Thus ensuring the customer satisfaction is the most important challenge of the bank financial institutions. The present study mainly focused on assessing the relationship between service quality dimensions of mobile banking (tangibles, reliability, responsiveness, assurance, empathy) and customers' satisfaction. It is observed that all the dimensions of service quality are relevant and have positive relation with customers' satisfaction. Among the dimensions reliability, responsiveness, assurance, empathy have significant influence to measure customers' satisfaction and tangibles has insignificant impact to assess customers' satisfaction on mobile banking.

There are a number of limitations which might influence the result of the study. Since samples were taken from Chittagong district, the study's sample size was not exactly representative of the country's population as a whole and ignored the other region of the country. The sample size is very limited which might restrict the findings of the research. Besides convenience sampling technique light limit the generalizability of the findings. It highly recommends future research to address all these concerns.

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