Article

Understanding the Service Quality and Customer Satisfaction of Mobile Banking in Bangladesh: Using a Structural Equation Model

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Abstract

This article aims to understand the association between service quality and customer satisfaction to use mobile banking through structural equation model, because, Bangladesh is one of the fastest increasing mobile banking service providers in the world. A structured survey questionnaire was prepared to collect data from participants in Bangladesh. A convenience sampling method was used to select potential participants in this study. Out of the distributed questionnaires, 240, completed and usable, were selected for the analysis which employed partial least squares structural equation modeling (PLS-SEM). The results showed that there are positive and significant effects of all constructs of service quality, namely, tangibility, reliability, responsiveness, assurance and empathy on customer satisfaction for using mobile banking. Particularly, the responsiveness has a strong impact (β = 0.3165) on customer satisfaction. Furthermore, the tangibility has identified as less significant factor (β = 0.0770) on customer satisfaction. Findings also indicate that mobile banking service providers should concentrate on all dimensions of service quality, with special focus on responsiveness and reliability for improving their customer satisfaction. This study has several implications for researchers, banking authority, policymakers and financial agencies when rendering services to end users and customers of mobile banking. Furthermore, this implication also helps banks to understand and develop strategies as well as policies to improve the services of mobile banking of Bangladesh.

Keywords

Mobile banking, service quality, structural equation model, customer satisfaction, partial least square, SERVQUAL model, Bangladesh

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Introduction

The rapid modernization of information technology and increasing competition in the financial sector has changed the landscape of the financial industry in recent decades (Koksal, 2016; Lee & Chung, 2009; Leung & Matanda, 2013; Mortimer, Neale, Hasan, & Dunphy, 2015; Rajeswari, Srinivasulu, & Thiyagarajan, 2017). Specially, the technology used in mobile banking has increased competition among customers for choosing banking products and providers (George & Kumar, 2013). These changes not only impacted on the traditional banking channel but also forced the industry to reengineer its face-to-face encounter to customers and furthermore change the level of expectation of the customers (Rask & Dholakia, 2001). In most of the cases new technologies adopted in the financial industry gave the customers more freedom and convenience than ever (Kumar, Lall, & Mane, 2017). Customer self-service channels, such as ATMs, Internet banking and mobile banking services are getting popular among the masses, as the customers always want convenience, secure and full control over the required financial services (Thakur, 2014). Innovative technology-based services not only satisfy the customers but also enable the financial institutions to become more cost effective and sustainable (Kumar et al., 2017). Mobile banking (or m-banking) is an innovative technology which provides convenient, speedy, comfortable and efficient services to the customers (Nupur, 2010; Shankar & Datta, 2018) and ranked top among the clients in recent times (Rahman, Hasan, & Mia, 2017). The subscriptions of m-banking services are considered to have steadily increased due to rapidly increasing active users, nearly 20 million, from the inception year 2011 in Bangladesh (Bangladesh Bank, 2018). In the context of Bangladesh, m-banking services has a huge opportunity in terms of reducing the financial gap among different classes of people, improve service delivery, overcome development related challenges, enhance transparency and accountability, increase operational efficiencies and reduce costs of operation (Mujeri, 2017). Though Bangladesh witnesses a steady growth of m-banking, security concern remains the single biggest threat for the smooth development of the sector.

In the era of steep competition, the superior service quality is the vital, critical factor which can differentiate and improve organization's performance (Farooq, Salam, Fayolle, Jaafar, & Ayupp, 2018; Namukasa, 2013; Ong & Tan, 2010). Based on the subjective nature of service quality, the dimension and scaling issues of it have been widely researched in recent times which guide the researchers to investigate the effect of service quality for improving customer satisfaction (Farooq et al., 2018). In Bangladesh, banking sector is one of the biggest sectors and driving forces for the economy. Some researches have already been conducted regarding the overall customer satisfaction on banks (Karim & Chowdhury, 2014; Nupur, 2010; Rahaman, Abdullah, & Rahman, 2011; Rashid & Hassan, 2009; Siddiqi, 2011), but no rigorous research has been conducted specially on m-banking segment. Although, there exists some gap of service quality and its effect on customer satisfaction of m-banking in Bangladesh. Therefore, an initiative has been taken to address these issues by using the SERVQUAL model. So the SERVQUAL model is the instrument which is used to measure service quality. In various service settings, cultural contexts and geographical locations a number of studies adopted this model and got a significant outcome (Amiri Aghdaie & Faghani, 2012; Wikipedia, 2018). For a steady and sustainable growth in the m-banking sector, there is no other way but to ensure superior service quality for the customer to gain an overall satisfaction. For that reason, this study aims to address the relationship between service quality (i.e., tangibility, reliability, responsiveness, assurance and empathy) and customer satisfaction of m-banking in the context of Bangladesh, and also provide some better understanding and notable suggestions, how the service quality of m-banking made available through handheld devices to uplift the overall service quality of the m-banking sector of Bangladesh. Bank marketing, relationship marketing and service quality literatures will be contributed by this study. Furthermore, findings of the

study will help financial institutions to have a better strategy for the sustainability of the m-banking services.

This study is organized as follows: the next section provides the related literature review which is followed by research objectives and research methodology. The subsequent sections present the empirical analysis, discussion and findings. The article concludes with recommendations, limitations and future research directions.

Review of Literature

The SERVQUAL model is one of the most underlying used tools to evaluate service quality. SERVQUAL comprises a rundown of 10 measurements (reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding the customer and tangibility) to gauge service quality. Later in 1988, these 10 dimensions were cut down to five: tangibility, reliability, responsiveness, assurance and empathy. According to Parasuraman, Zeithaml, and Berry (1985, 1988a, p. 23) five principal dimensions that customers use to judge service quality include tangibility, reliability, responsiveness, assurance and empathy as shown below:

1. *Tangibility* alludes to physical facilities, equipment, representatives and specialized instruments.
2. *Reliability* alludes to the capacity to satisfy the promises effectively and without a doubt.
3. *Responsiveness* alludes to the specialist co-op's aim and eagerness to help the clients and to diagram the prompt administrations.
4. *Assurance* alludes to the workers' learning and humbleness and capacity to pass on trust and earnestness.
5. *Empathy* alludes to accommodating individual care and thoughtfulness regarding the client.

Service Quality and Customer Satisfaction

Service quality is predominantly for financial service providers who typically offer items that are homogeneous in nature (Royne Stafford, Stafford, & Wells, 1998). Customer satisfaction is the feeling that clients get when they encounter benefit that satisfies or outperforms their desire. Primarily in marketing, satisfaction is characterized as the worldwide assessment of relationship fulfilment by a firm (Dwyer & Oh, 1987) or the decidedly influenced state coming about because of the evaluation of firm's working relationship (Farrelly & Quester, 2005; Gaski & Nevin, 1985). Satisfaction is likewise a standout among the most imperative components to clarify any kind of relationship among members and a purchaser's satisfaction reaction (Oliver, 1997). Customer satisfaction is known as a result of service quality, which implies that it is identified with the nature of the items or administrations gave to the client in a positive way (Yeo, Thai, & Roh, 2015, p. 439).

Amiri Aghdaie and Faghani (2012) used the SERVQUAL model for measuring the customer satisfaction in m-banking services in Iran. The results showed that the four variables, tangibility, reliability, responsiveness and empathy, would correlate with satisfaction significantly. Though, the assurance factor would have no relationship with customer satisfaction. The ANOVA test of the study found that there exists a high correlation between m-banking services and customer satisfaction.

Hai and Rahman (2016) revealed that the overall satisfaction level of clients of mobile financial services (MFS) in Bangladesh is somewhat satisfactory. The outcomes likewise demonstrate that there

are critical contrasts in fulfilment levels among the MFS client bunches as far as specialist organizations' dedication, speed and truthfulness are concerned, and these distinctions are inconsequential as far as administration of clients' pay and comfort are concerned.

Laforet and Li (2005) conducted a study aiming to investigate the market status for online/m-banking in China. The outcomes demonstrated that the clients of web and m-banking of whole china were dominant by males, not really youthful and instructed, compared with e-banking clients in the west. There were no mindfulness and comprehension of the advantages to manage the obstructions of m-banking account appropriation which was given by portable keeping money.

Mortimer et al. (2015) led a research aiming empirically to examine the motivators that influence a consumer's goals to utilize m-banking. The discoveries demonstrate that for Australian buyers, perceived easiness, perceived usefulness (PU) and perceived risk (PR) were the primary elements of accepting m-banking. For Thai buyers, the principle factors were PU, PR and social impact. National culture was found to affect key predecessors that prompt selection of m-banking account.

Rahman et al. (2017) conducted a study on SERVQUAL dimensions and its influence on customer satisfaction of m-banking in Bangladesh. The results revealed that there are four variables, that is, tangibility, reliability, responsiveness and empathy that have significant positive impact on customer satisfaction. Furthermore, the assurance has no significant influence on customer satisfaction. Therefore, these findings also suggested that firms should improve tangibility, reliability, responsiveness and empathy to increase customer satisfaction of m-banking.

Based on the above literature review, no research works have been found which analyse directly customer satisfaction of m-banking using the SERVQUAL model in Bangladesh. Therefore, an initiative has been taken to address the issue which will furthermore support the decision-makers to take decision on the basis of these research findings.

Research Questions

1. How do service qualities affect customer satisfaction of the customers who are taking services of m-banking in Bangladesh?
2. How can service qualities be improved?

Objectives of the Study

The objectives of this empirical study are twofold. First, this study was conducted to examine the relationship between the constructs of service quality and overall satisfactions of customers of m-banking in Bangladesh. Second, this study was developed to provide some remarkable suggestions to raise service quality of m-banking.

Theoretical Framework

Quality has arisen to be established as a strategic means for attaining operative efficiency and developed business execution (Jain & Gupta, 2004). This is not only true for the goods sector but also for service sectors at the same time. The increasing market share and rapid development of the service sector lead the competitors to rethink about the existing service delivery framework which forced the service providers to check out the gaps in the marketplace not only for retaining customers but also

Table 1. The Definition of the SERVQUAL Dimensions

Dimension	Definition
Tangibility	The presence of physical offices, hardware, work force and correspondence materials
Reliability	The capacity to play out the guaranteed benefit constantly and precisely
Responsiveness	The eagerness to encourage clients and to give provoke benefit
Assurance	The information and cordiality of workers and their capacity to pass on trust and certainty
Empathy	The arrangement of minding individualized consideration regarding client.

Source: Prepared by the authors for the purpose of study.

for improving the service provision (Morrison Coulthard, 2004). For determining service quality, different academicians and managers in the service industry uses different models. Among different models, the SERVQUAL model is dominant, fit and widely accepted model for evaluating service quality in the service industry (Lam & Woo, 1997; Morrison Coulthard, 2004). All over the world in different industries, both the academicians as well as the industry practitioners use SERVQUAL scale for measuring the operational efficiency and effectiveness especially in the service sector (Lam & Woo, 1997; Monica & Ramanaiah, 2018). In 1980s, Parasuraman et al. (1985) developed the SERVQUAL model and methodology which is used to achieve maximum expectations and perceptions score (Monica & Ramanaiah, 2018; Morrison Coulthard, 2004). The higher level of service quality leads to achieve highest satisfaction of the customers.

Based on the above literature review, the five dimensions of SERVQUAL model of m-banking are given in Table 1—tangibility, reliability, responsiveness, assurance and empathy. Service quality has enhanced the customer satisfaction of m-banking which developed hypothesis through reviewing literature.

Tangibility: Customer Overall Satisfaction

Tangibility concern to the appearance of the establishments, physical facilities, equipment and personnel (Lee & Johnson, 1997; Wilson, Zeithaml, Bitner, & Gremler, 2016). Thus, tangibles are used by service providers to provide best services as well as to communicate by their equipment, personnel and other facilities to customers. On the other hand, intangibles of m-banking services are difficult to measure. Finally, it can measure the degree of customer satisfaction.

Reliability: Customer Overall Satisfaction

Reliability involves to the capability of service provider to offer committed service dependably and accurately. In general sense, reliability means that an organization delivers on its promises, such as promises about service provision, pricing, delivery and problem solving (Jordaan & Prinsloo, 2001; Lee & Johnson, 1997; Wilson et al., 2016). There is a certain effect of service quality on customer satisfaction.

Responsiveness: Customer Overall Satisfaction

Responsiveness refers to the willingness of the service holders to help clients and to give instant service. This measurement accentuates mindfulness and instantaneousness in managing client questions, solicitations, issues and protests (Lee & Johnson, 1997; Wilson et al., 2016). Responsiveness is imparted to clients by the length of time they have to wait for assistance, answers to inquiries or thoughtfulness regarding issues. In other words, this service quality might be improved through responsiveness (Zeithaml & Bitner, 2003).

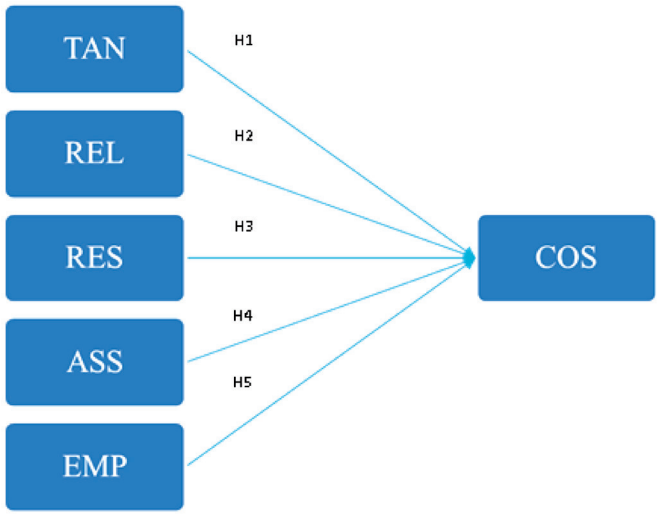

Figure 1. Proposed Research Model

Source: Prepared by the authors.
Note: TAN = tangibility, REL = reliability, RES = responsiveness, ASS = assurance, EM = empathy, COS = customer overall satisfaction.

Assurance: Customer Overall Satisfaction

Assurance includes to the information and cordiality of employees and furthermore their capacity to express certainty and trust. This measurement winds up imperative when benefactors feel dubious about administration contributions of a particular restaurant (Wilson et al., 2016). Assurance ensures for service provider if patrons are able to develop trust and confident about m-banking services without fear of rudeness or recrimination. Customers can also be satisfied by this assurance dimensions.

Empathy: Customer Overall Satisfaction

Empathy is caring for developing individualized attention to provide its customers. The essence of empathy is conveying through personalized service so that customers are special and unique (Wilson et al., 2016). Clients need to feel critical and comprehended by the associations that give services to them. Employees working in the m-banking industry may show empathy to customers by sound behaviour, sympathetic and politely.

Finally, the hypothesis of five constructs are based on the synthesis of review literature (Amin & Isa, 2008), Figure 1 depicts the dimensions of the SERVQUAL model. Table 1 defines the SERVQUAL dimensions identified by Parasuraman et al. (1988b).

Methodology

Research Setting

Most of the services of m-banking covered urban to rural areas in Bangladesh. Nowadays, businessmen and rural peoples are mostly using m-banking services. The data used in this study were collected from

the users of m-banking in Bangladesh. Since the majority users of m-banking are residing in Dhaka and their neighboring districts because most of the business organization are located in Dhaka which is the capital city of Bangladesh. Due to its cost effectiveness a convenience sampling method was used to select potential participants in this study. In this study, two districts, namely, Dhaka and Tangail were randomly selected for collecting data from potential respondents.

Questionnaire Design and Data Collection

The structured survey questionnaire method (refer to appendix) was used to collect the relevant data for evaluating the latent constructs in the developed model. The questionnaire was divided into two parts. Part A contains the demographic information, which was sought to represent the characteristics of the respondents. The respondents were requested to give information regarding their gender, age, educational qualifications, income level, transactions time and frequently used service. Part B includes questions regarding the five independent SERVQUAL dimensions and one dependent variable in developed research model using a 5-point Likert scale that is from (1) 'strongly disagree' to (5) 'strongly agree.' The questionnaire was initially developed in English and the valid questionnaire was translated into Bengali by an expert translator. Then, a pilot study was conducted for testing effectiveness to justify the final questionnaire by experts. A total of 300 self-administered questionnaires were distributed out of which 252 were returned and the resulting response rate was calculated to be 84 per cent. Twelve unfinished questionnaires were omitted from the analysis. Finally, 240 questionnaires were selected for final analysis.

Statistical Analysis

The analysis of 'partial least square-structural equation modeling (PLS-SEM)' utilizing SPSS-20 and Smart-PLS 2.0 software was performed to test frequency analysis, reliability as well as validity and hypothesis.

Analysis

Demographic Information

The demographic characteristics are shown in Table 2. From the survey analysed, 76.3 per cent were male and 23.7 per cent were female respondents. The majority ages of the respondents were 20–30 (72.6% of the respondents) and the majorities' educational qualification was bachelor's degree (59.8%). On the other hand, the income levels of the respondents were less than BDT 5,000, half of the respondents. The majority transactions times and used services were monthly (55.2%) and cash out (66%).

Reliability and Validity Analysis

Table 3 and Figure 2 show a measurement model which was evaluated by calculating indicator reliability, internal consistent reliability, convergent validity and discriminant validity (Hair, Hult, Ringle, & Sarstedt, 2016). The indicator reliability was examined by squaring each of outer loading

Table 2. Demographic Characteristics of Respondents

Characteristics and Its Category		Frequency	Valid %
Gender	Male	184	76.3
	Female	57	23.7
Age	Less than 20	21	8.7
	20–30	175	72.6
	30–40	21	8.7
	40–50	14	5.8
	More than 50	10	4.1
Educational qualification	Illiterate	5	2.1
	Below secondary	12	5.0
	Secondary	18	7.5
	Higher secondary	31	12.9
	Bachelor's degree	144	59.8
	Master's degree	31	12.9
Income level (BDT)	Less than BDT 5,000	121	50.2
	5,000–10,000	62	25.7
	10,000–20,000	35	14.5
	20,000–30,000	13	5.4
	30,000 above	10	4.1
Transaction time of m-banking	Every day	29	12.0
	Weekly	62	25.7
	Monthly	133	55.2
	Quarterly	17	7.1
Frequently used services of m-banking	Cash in	60	24.9
	Cash out	159	66.0
	Send money	8	3.3
	Buy airtime	14	5.8

Source: Authors' own findings.

and its threshold is 0.5 or higher (Hulland, 1999). The internal consistent reliability was determined by analysing Cronbach's alpha and composite reliability by fulfilling the threshold value of 0.70 to gain internal consistence (Hair, Anderson, Tatham, & William, 1995). The value of average variance extracted (AVE) of constructs can be assumed to present convergent validity by achieving at least 0.50 (Hulland, 1999). Table 3 shows the indicators loading, indicators reliability, composite reliability, Cronbach's alpha and AVE. Thus, the value of indicator loadings, composite reliability and Cronbach's alpha were greater than threshold value 0.70 except the value of TAN and REL due to limitations. As per results, each of the constructs supports reliability. Furthermore, Table 3 also displays the calculated AVE ranges (0.61–0.72) which are greater than the threshold value of 0.50 (Hulland, 1999). Thus, the prerequisites for convergent validity are fulfilled in this study. The model highlights 72.5 per cent variance in overall satisfaction to different m-banking service providers.

The discriminant validity were found with the aid of correlation matrix and the square root of the AVE, as well as cross loading. For achieving acceptable discriminant validity, the value of square root of AVE should be greater than the correlation of its row and column (Henseler, Ringle, & Sinkovics, 2009). On the other hand, outer loading of a construct should be larger than its others corresponding loadings. However, the calculated cross loading from Table 4 exhibits that all outer loading is larger than

Table 3. Measurement Model

Constructs	Items	Indicators Loading	Indicators Reliability	AVE[b]	Composite[a] Reliability	Cronbachs Alpha (α)	R^2
Tangibility	TAN1	0.8982	0.81	0.7229	0.8387	0.6244	0
	TAN2	0.7994	0.64				
Reliability	REL1	0.8189	0.67	0.6263	0.7700	0.4047	0
	REL2	0.7629	0.58				
Responsiveness	RES1	0.7683	0.59	0.6130	0.8261	0.7000	0
	RES2	0.7932	0.63				
	RES3	0.7872	0.62				
Assurance	ASS1	0.8029	0.64	0.6511	0.8484	0.7330	0
	ASS2	0.8271	0.68				
	ASS3	0.7903	0.62				
Empathy	EMP1	0.7844	0.62	0.6337	0.8384	0.7108	0
	EMP2	0.7884	0.62				
	EMP3	0.8151	0.66				
Customer overall satisfaction	OS	1.00	1.00				0.7254

Source: Authors' own findings.

Notes: [a]Composite Reliability = (Σfactor loading)2/(Σfactor loading)2 + Σ(variance of error), [b]AVE = Σ(factor loading)2/(Σ(factor loading)2 + Σ(variance of error), AVE = average variance extracted, TAN = Tangibility, REL = Reliability, RES = Responsiveness, ASS = Assurance, EMP = Empathy, OS = Overall Satisfaction.

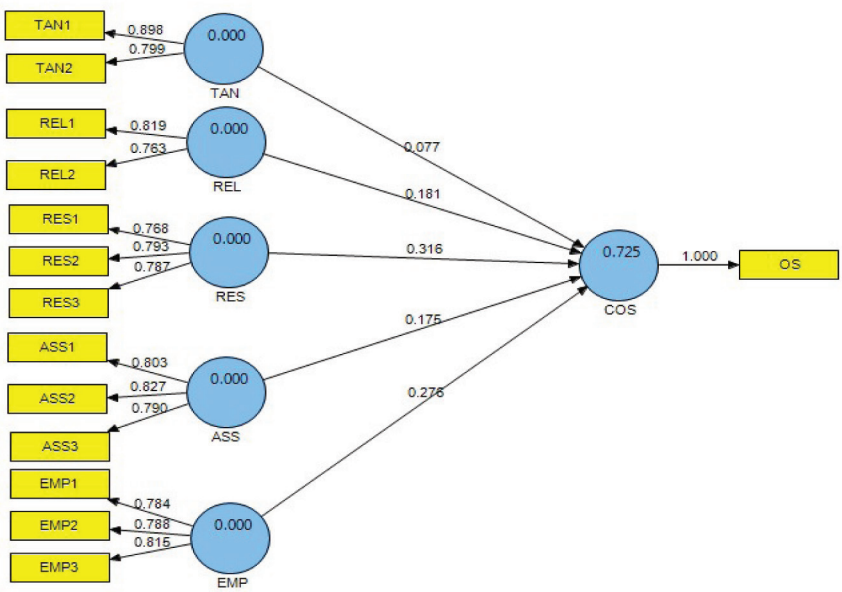

Figure 2. Proposed Research Model Validation with Path Efficient

Source: SmartPLS 2 output.

Table 4. Cross Loading for Discriminant Validity Analysis

	TAN	REL	RES	ASS	EMP	COS
TAN1	**0.8982**	0.1840	0.2628	0.3220	0.3695	0.3609
TAN2	**0.7994**	0.2325	0.2036	0.2014	0.3036	0.2640
REL1	0.1946	**0.8189**	0.6535	0.5806	0.5569	0.5714
REL2	0.1831	**0.7629**	0.3849	0.3775	0.3830	0.5072
RES1	0.2296	0.5230	**0.7683**	0.4967	0.4453	0.6015
RES2	0.2543	0.5079	**0.7932**	0.6538	0.6177	0.6344
RES3	0.1624	0.5330	**0.7872**	0.482	0.5155	0.5612
ASS1	0.2639	0.5161	0.5032	**0.8029**	0.5217	0.6208
ASS2	0.2262	0.525	0.6597	**0.8271**	0.5398	0.5792
ASS3	0.2782	0.4331	0.5318	**0.7903**	0.5324	0.5178
EMP1	0.3018	0.4806	0.5498	0.5405	**0.7844**	0.5857
EMP2	0.2950	0.4728	0.5544	0.49	**0.7884**	0.6015
EMP3	0.3562	0.4783	0.5059	0.541	**0.8151**	0.5888
OS	0.3736	0.6828	0.7670	0.7132	0.7439	**1.0000**

Source: Authors' own findings.

Note: TAN = tangibility, REL = reliability, RES = responsiveness, ASS = assurance, EM = empathy, COS = OS = customer satisfaction. Bold value indicates the indicator loadings of each construct variables.

its corresponding loadings. The calculated square root of AVE, which is shown in Table 5, was greater than the corresponding correlation, confirming the discriminant validity of the data. So, the validity of the data has been fulfilled and satisfied for further analysis.

Hypothesis Testing

The study used a structural equation model to ascertain the associations among different constructs of this study. These hypotheses were assessed by using structural model after confirming reliability and validity of constructs. Using PLS algorithm and bootstrapping, the path coefficients and *t*-values were appraised through 5 per cent and 1 per cent level of significance. Table 6 shows the findings among construct variables relationship. The findings showed that the relationship between tangibility and

Table 5. Latent Constructs Correlation Matrix and Square Root of the AVE

Construct Variables	Tangibility	Reliability	Responsiveness	Assurance	Empathy	Customer Overall Satisfaction
Tangibility	**0.8500**					
Reliability	0.2387	**0.7900**				
Responsiveness	0.2776	0.6651	**0.7800**			
Assurance	0.3165	0.6120	0.6994	**0.8100**		
Empathy	0.3989	0.5995	0.6744	0.6578	**0.8000**	
Customer overall satisfaction	0.3736	0.6828	0.7670	0.7132	0.7439	Single item construct

Source: Authors' own findings.

Note: Bold value indicates the square root of average variance extracted of each construct variables.

customer satisfaction ($t = 2.098$, $\beta = 0.077$, $p > 0.05$), reliability and customer satisfaction ($t = 3.741$, $\beta = 0.1815$, $p < 0.01$), responsiveness and customer satisfaction ($t = 5.914$, $\beta = 0.3165$, $p > 0.01$), assurance and customer satisfaction ($t = 3.359$, $\beta = 0.175$, $p > 0.01$), empathy and customer satisfaction ($t = 5.532$, $\beta = 0.2758$, $p > 0.01$) were found positive and significant. Thus, the entire hypotheses were found supported in this research. Furthermore, Figure 3 portrays the hypothesis testing among the constructs validation.

Table 6. Structural Model

Hypothesis	Paths	β	*T*-Value	Decisions
H1	Tangibility → customer overall satisfaction	0.0770	2.098*	Supported
H2	Reliability → customer overall satisfaction	0.1815	3.741**	Supported
H3	Responsiveness → customer overall satisfaction	0.3165	5.914**	Supported
H4	Assurance → customer overall satisfaction	0.1750	3.359**	Supported
H5	Empathy → customer overall satisfaction	0.2758	5.532**	Supported

Source: Authors' own findings.
Notes: **P-value < 0.01, *p-value < 0.05.

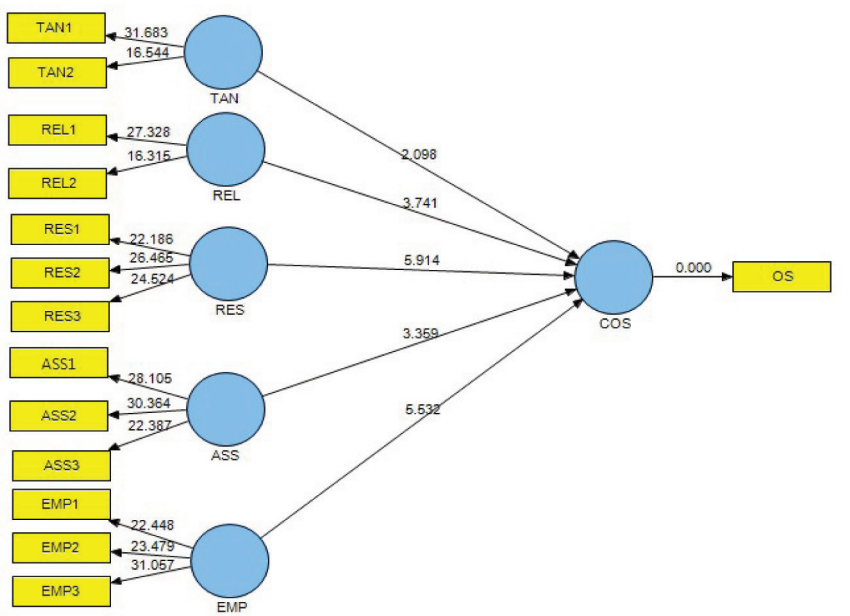

Figure 3. Boostrapping Results of the Proposed Research Model for Hypothesis Testing Validation

Source: SmartPLS 2 output.

Discussions

This study applied the SERVQUAL model for understanding the relationship between service quality and customer satisfaction of m-banking in Bangladesh. Our empirical finding may provide information regarding service quality and customer satisfactions of m-banking in Bangladesh. The finding is unique through structural equation model, because it introduces and validates the measurement and structural model. Theoretically, this model will help the policymakers of banks, government agencies and researchers, since this study confirmed that the all dimensions of service quality have significant impact on overall customer services. Specifically, RES and EMP are the strongest significant impact factors for customer satisfaction, whereas the TAN ($\beta = 0.007$) has lowest impact of service quality of m-banking in Bangladesh. In addition, REL and ASS have a positive significant impact of service quality. Most of the customers are expecting to get highest services in RES, EMP, REL and ASS. All the dimensions of service quality have significant relationship with customer satisfaction except TAN with 99 per cent confidence level. TAN has also significant relation with 95 per cent confidence level. Practically, these results will be beneficial for banks especially IT departments, marketing departments and government authority to make business policy for the related sectors also to the implementation and development of m-banking services. Moreover, the service provider should pay concentration on corporate social responsibility and environmental management related activities so that this could help to improve goodwill of m-banking. Besides these m-banking services, bank policymakers can take effective risk-reducing strategies through including money back guarantees so that consumers feel more security and safe with the system. Both m-banking service provider and users can take financial advantage from these services.

Conclusion and Recommendations

The current study makes some contributions to understand key dimensions of service quality of m-banking in Bangladesh. The structural equation model is used to arrive at SERVQUAL dimensions relevant to Bangladeshi consumers. The important dimensions, such as, respondents perceived tangibility, reliability, responsiveness, empathy and assurance of respondents are affecting overall customer satisfaction by service quality in m-banking. In conclusion, this study reveals that all the variables of service quality of m-banking have significant positive relationships with customer satisfaction. In addition, it has shown that most of the variables have sufficient impact on customer satisfaction except tangibility. In this case tangibility has slight effect on customer satisfaction. Moreover, a tangibility dimension is not important for the customers because it involves technological and other infrastructural materials (i.e., physical facilities and equipment, etc.). The researcher suggests that reliability and responsiveness are the vital dimensions in this service quality which will mostly affect the perception of Bangladeshi customers. Consequently, service provider needs to provide more attention to raise reliability of services of m-banking among consumers. Thus, the service provider should ensure the security and promptness of services. On other hand, all of the customers are feeling problem with high costs. The service provider also should take some initiative to reach at reasonable cost. The results also found that most of the male, 20–30 years of age, low income respondents are using these services. Thus, the improvement of service quality may influence to increase customer satisfaction. Furthermore, this study also suggests a number of implications to m-banking service providers in Bangladesh. Hence, this study provides some directions for further research in these sectors.

Limitations and Future Research Directions

The current study is found to have some limitations. First, this study was done on a small sample from Tangail and Dhaka districts in Bangladesh. So the findings may not be representing in favour of the entire population. The future research should emphasis on generalization of service quality and customer satisfaction. Second, different demographic conditions can also strengthen the effect of service quality on customer satisfaction. A potential future research can be done by moderating effects of demographic variables, culture and socio-economic conditions between service quality and customer satisfaction.

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Appendix

Table A1. Measurement Items

	Constructs	Items	Questions Description
Parasuraman et al. (1988a, p. 23)	Tangibility	TAN1	Does m-banking have modern looking and high-tech equipment?
		TAN2	Does m-banking have visually appealing physical facilities?
	Reliability	REL1	Do m-banking agents show a sincere interest in solving problems when you face it?
		REL2	Does m-banking assure you an error-free transaction?
	Responsiveness	RES1	Do m-banking agents provide prompt and accurate service?
		RES2	Are m-banking agents always willing to help you?
		RES3	Do m-banking agents take more time (more than your expectation) to respond to your request?
	Assurance	ASS1	Does the behaviour of the m-banking agent/s give confidence to you?
		ASS2	Are m-banking agents friendly and courteous with you?
		ASS3	Do the m-banking agents have that much knowledge to answer your questions?

(Table A1 continued)

(Table A1 continued)

	Constructs	Items	Questions Description
	Empathy	EMP1	Does the m-banking agent give you individual attention?
		EMP2	Does the m-banking have convenient operation hours (call centre, query or other services)?
		EMP3	Do the m-banking agents understand your specific needs?
	Customer Overall Satisfaction	OS	Are you satisfied with the overall service quality of the m-banking service in Bangladesh?

Source: Developed by authors on the basis of literature survey.

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