

# Service Quality and Customer Satisfaction of Mobile Banking during COVID-19 Lockdown; Evidence from Rural Area of Bangladesh

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## Abstract

The aim of this study is to capture the impact of different dimensions of services of mobile banking on customer satisfaction for the mobile banking users for rural areas of Bangladesh during the COVID-19 pandemic times. The study also finds out the affiliation between the customer satisfaction and loyalty of different types of mobile banking users during the pandemic times. The researchers designed a self-complete questionnaire that was used for data collection and received 180 questionnaires out of 250 questionnaires. This research conducted on the rural people in Bangladesh who are availing the service of mobile banking during the pandemic situation and for this reason, the results may not applicable to other times as well as other areas. The finding of the study indicated that reliability, responsiveness and efficiency dimensions of mobile banking service have significant influence on customer satisfaction during the COVID-19 lockdown times.

## Keywords

COVID-19, Customer Satisfaction, Customer Loyalty, Mobile Banking, Service Quality

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## 1. Introduction

It is a great challenge for the financial industry in Bangladesh during the COVID-19

pandemic times; however, these times increase the use of mobile banking both in rural and urban area for the necessity to meet up the requirement of the users of financial services. The study analyzes the impact of the customer satisfaction and customer loyalty of mobile banking service of the rural area in Bangladesh during the pandemic times. Because service sector is one of the most important sectors to contribute in the developments both in economic and societal all over the world (Yalley & Agyapong, 2017). The economic progress of a country depends on its effective banking system (Ayadi et al., 2015). However, researchers are faced with the question of smooth operation of business in the dynamic and competitive situation. E-banking unlocked various ways to meet up the expectations of customers such as Automated teller machine (ATM) service, Internet Banking and Mobile Banking. Innovative products and services, i.e., bill systems, loans and advance, deposit management, e-payment are possible to provide consumers through the electronic channel with the minimum cost (Samadi & Skandari, 2011). Mobile phones were the time demanded approach of banking sector for delivering the financial services and creating value for consumers in the banking transaction through different types of wireless communication channel (Taghavi-Fard & Torabi, 2011). Mobile banking is an obligatory thought that creates new streaming in the business field for the emerging global economy. The service quality is the most crucial precursor for surviving in a competitive environment and providing the best possible services able to achieve the sustainable competitive advantage. It is essential to deliver high quality services to consumer for the success of a dynamic and competitive business arena (Shankar et al., 2019). Improving the different dimension of service helps the service provider from their competitors in different ways such adding new customers, increasing profitability, reducing the cost, increasing the satisfaction of the stakeholders, retaining the existing customers and establishing the corporate image (Gounaris et al., 2003). Furthermore, it is easy to attract new customers with the help of positive word of mouth (Caruana, 2002). Customer satisfaction is directly related with the dimensions of service qualities (Spreng & MacKoy, 1996; Silvestri et al., 2017). In addition, customer satisfaction depends on enhancing dimensions of service. On the other hand, some behavioral impacts such as commitment, customer retention, building bonds, increasing customer tolerance and positive word of mouth influence on customer satisfaction (Berry et al., 1996; Gounaris et al., 2003; Oh & Kim, 2017). Özkan et al. (2020) conclude that quality of service is the most vital element for the progress in the mobile banking service industry. In essence, the service providing firms offer various dimensions of service which leads to the customer satisfaction and customer satisfaction influence to enhance customer loyalty (Heskett et al., 1997; Kashif et al., 2015; Kaur & Soch, 2018). For sustaining in the competitive environment, service quality acts as key success factor (Palmer, 2001). For this reason, different types of service dimensions are required to sustain the financial stability during the COVID-19 situations.

## 2. Objectives of the Study

In Bangladesh, mobile banking service has admired to all classes of people since 2012 and offering banking service to the unbanked inhabitants was the primary goal of mobile banking (Islam, 2012). A number of 28 banks in Bangladesh has got the permission for Mobile Financial Services (MFS), whereas 18 banks are active in operations for providing the service of MFS through different types of operators of mobile phones i.e., Grameen Phone, Bangla Link, Teletalk, Robi, City Cell (Bangladesh Bank Report, 2017). Moreover, the quality of mobile banking service and determining the customer satisfaction of mobile banking is fundamental to explore. Consumers prefer products or services after bearing in mind of their qualities. SERVQUAL model is one of the renowned models for determining the service qualities. The model has been used in various studies on the basis of different context such as service, cultural and geographical locations. For instance, Islam (2012) used the SERVQUAL model for determining the mobile operators' customer services. Zekiri (2011) also suggested using the SERVQUAL model for measuring the qualities of service of the customer satisfaction of mobile telecommunication systems in Macedonia. In the banking sector, some researchers have already applied the SERVQUAL model to measure the perception quality of the consumers (Newman, 2001; Kumar et al., 2009; Padhy, 2009; Agathe, 2012; Kumar et al., 2010; Ravichandran et al., 2010; Tsoukatos & Mastrogianni, 2010; Abdelghani, 2012; Rakesh, 2012; Seramandevi & Saravanaraj, 2012). Some researchers described the satisfaction of customer that is the result of the service quality in the banking sectors (Kazemi & Mohajer, 2010; Kumbhar, 2011; Samadi & Skandari, 2011; Aghdaie & Faghani, 2012; Rahman et al., 2017; Rouf et al., 2019; Afroz, 2019). But little research has done for the determining the mobile banking service quality and its effects on customer satisfaction and customer loyalty. Moreover, none has done their research on the basis of the result of rural people who are the mobile banking users in the COVID 19 situation, though a huge amount of people is staying in the rural area. The objectives of the study are:

- 1) To determine the mobile banking service quality dimensions during the COVID-19 times.
- 2) To understand the effects of mobile banking service quality on customer satisfaction and customer loyalty during the COVID-19 situation.
- 3) To study the affiliation between the customer satisfaction and the customer loyalty during the pandemic times.

## 3. Hypothesis of the Study

### 3.1. Service Quality in Pandemic Situation

Service quality has identified as a competitive advantage within the increasing market condition and the supportive relationship of customer satisfactions (Zeithaml, 2000). It is impossible to survive in the competitive market without

the appropriate dimensions of service in COVID-19 situation. Because it is essential not only in the service industry but also in the financial service providers (Saghier & Nathan, 2013). In the marketing literature, research on service quality is very ordinary (Kaura et al., 2015). Moreover, it is also noteworthy that the literature review pays special attention to the term “Service Quality” (Nambiar et al., 2019). This idea can be imagined as an elaborative consumer assessment of selective benefit and the position to which it does fulfill customers’ known anticipation and service satisfaction level (Al-Jazzazi & Sultan, 2017). Expectations converse with customers’ forecasting approximately a benefit what they can meet during the process and it may change because of customer awareness regarding products or services (Kant & Jaiswal, 2017). Service quality acts as influential role for measuring customer satisfaction in the mobile banking sectors. For this reason, enhancing the qualities of service assist to implement strategies and investment decision (Choudrie et al., 2018). Moreover, Hassan et al. (2018) pointed out that dimensions of service (tangibility, reliability, responsiveness, empathy and assurance) have a positive influence on customer satisfaction. In the research arena, the dimensions of service quality were found in two ways (Ananda & Davesh, 2019). Firstly, Gronroos (1984) proposed the dimensions the service quality in two aspects i.e., technical and functional. Secondly, Parasuraman et al. (1988) measured the service quality in five aspects; tangibility, reliability, responsiveness, assurance and empathy that is known as “SERVQUAL” model to apply financial sector for examining the service quality (Narteh, 2018; Yilmaz et al., 2018). Several researchers used SERVQUAL model for measuring the service quality of different industries (Gaur & Agarwal, 2006; Aghdaie & Faghani, 2012; Saleem et al., 2016). However, some researchers recognized the experimental operation of SERVQUAL as probable problems (Arasli et al., 2005; Njau et al., 2019). Dimensions of service of SERVQUAL model used to determine the gap of service quality between expectation from the service and performance of the service (Pakurar et al., 2019).

### 3.2. Customer Satisfaction in COVID Situation

Satisfaction is concerned with the state of customers in conversation of certain expense which is compensated in a buying situation (Jeong et al., 2016). In the COVID situation, it is very difficult to satisfy the customer because customers want to get all the things from their home. The application of the satisfaction of the customer has become a critical and indispensable matter of business for progressing and fostering service-oriented business (Cheshin et al., 2018). Customers’ post purchase behavior measuring the assessment regarding the performance of a product or service (Özkan et al., 2020). Customer satisfaction as “a person’s feeling of pleasure or disappointment which resulted from comparing a product’s perceived performance or outcome against his or her expectations” (Kotler & Keller, 2013). In addition, customer satisfaction is between pre-purchase anticipation and post purchase performance (Ong et al., 2017). It depends on the

service providing performance (Asnawi et al., 2019). It is denoted that the customer's relative feelings are the difference between the customer's perceived expectation and actual performance (Boonlertvanich, 2019). Customers have become more sincere of their necessities and expect a high standard of service (Lovelock & Wirtz, 2007). Nonetheless, several researches pointed out that "SERVQUAL" model might not apply in every country, and due to cultural difference, service quality model would be multifaceted model (Teeroovengadum, 2020). Mobile banking help to retain the customer by expanding the service quality in such a way that it can satisfy and develop the satisfaction level (Aghdaie & Faghani, 2012). The repeat purchase of the customer from the existing sources is customer satisfaction (Eshghi et al., 2008). In Bangladesh, some researchers have discussed customer satisfaction on mobile banking (Rouf et al., 2019; Rahman et al., 2017; Parvin, 2013; Deb et al., 2011; Nupur, 2010).

### 3.3. Customer Loyalty in the Pandemic

Loyalty is a concept that includes various qualities (Zeithaml et al., 1996). Loyalty indicates to customers extended-stipulation custom for a stipulate for a bank over the period (Ladhari et al., 2011). In the pandemic situation, loyalty is very crucial for mobile company to survive in the competitive market. Loyalty is customer's conducts and posture which imply to be assessed to fix the customer loyalty (Boonlertvanich, 2019). Customers' loyalty is an intensely held obligation to re-buy or re-condescend a chosen product reliably in future (Baumann et al., 2011). Customer loyalty is the crucial element for business enterprises (Bhat et al., 2018), although it is a challenging task for a service firm to make and retain loyal customers (Mainardes et al., 2020). Many researchers pointed out that customer satisfaction influence positively on customer loyalty (Amin et al., 2013; Kashif et al., 2015; Ali & Naeem, 2019; Islam et al., 2020). Customer loyalty develops the customers in behavioral activity to buy the same products or services again and again (Fida et al., 2020). The study suggested that customers loyalty displayed favorable observation regarding the business firm such as regularly and frequently purchase and recommended other to buy (Levy & Hino, 2016). However, the loyal customer may not be customer satisfaction. For instance, sometimes customers purchase repeatedly the same product due to the absence of available alternatives. So, they are not loyal (Makanyeza & Chikazhe, 2017).

### 3.4. Impact of Service Quality on Customer Satisfaction during COVID Situation

Service quality is one of the most important factors for customer satisfaction to gain competitiveness of a service organization (Raza et al., 2020). A number of previous researchers found the relations between service quality and customer satisfaction that indicates greater degree service quality leads to greater degree customer satisfaction (Pooya et al., 2020; Kant & Jaiswal, 2017; Vazifehdoost et

al., 2014; Islam et al., 2020). The following sections offer the development of the hypotheses based on interconnection between different dimensions of service quality and customer satisfaction in COVID-19 situation.

#### 3.4.1. Reliability

Reliability is important dimension of service of mobile banking during the COVID-19 times. Reliability is to stipulate exact and invariable service to the customers (Khan et al., 2018). Reliability is examined as one of the basic elements of service quality that significantly pretend customer satisfaction (Zhang et al., 2019). It is indispensable that business firms pronounce the service exactly in the first position. Thus, reliability ruminated the efficiency to deliver the covenant service which is the compliment by service precision (Ananda & Devesh, 2019). The exactness and perfection of service delivery at the first position have been examined as the main form of a trustworthy service (Blut, 2016). Without reliable service, customers might not cope with the service quality (Hamzah et al., 2017). For retaining the banking industry's customers, there are some fundamental elements of reliability. For instance, process the order timely, keep financial records safely, offer the financial information exactly and deliver the service certainly (Peng & Moghawemi, 2015). Reliability of banking industry service influences on customer satisfaction positively (Pakurar et al., 2019). Based on the above discussion it is proposed that:

H1. Reliability has positive impact on customer satisfaction in the mobile banking services during the COVID 19 situation.

#### 3.4.2. Responsiveness

According to Parasuraman et al. (1988) "Responsiveness is the willingness to help customers and provide prompt service". More broadly, responsiveness is eagerness or keenness of employees to offer services. Responsiveness is the feelings and capability of the organization to support the customers and offer the quick services (Othman & Owen, 2001). In addition, responsiveness exemplifies the rapidity of personnel to deliver the expected support in a reasonable and swift way (Endara et al., 2019). Responsiveness directly engaged with feedback session between customers and service providers. Staff's skills, closeness of service branch and ATM availability were the criteria as responsiveness of banking service (Janahi & Almubarak, 2017). Misbach et al. (2013) reported that to enhance the customer satisfaction in the service industry, responsiveness was the most crucial attributes and it was one the significant components for anticipating the customer satisfaction (Vencataya et al., 2019). Fida et al. (2020) conducted a research in the Sultanate of Oman on Islamic banking and found a positive relation between responsiveness and customer satisfaction. Islam et al. (2020) also found that responsiveness positively influences on customer satisfaction. Sardana and Bajpai (2020) opined that responsiveness has been the critical in gratifying the expectation of customers in the Indian e-banking service. Hence, this study hypothesizes that:

H2. Responsiveness has positive influence on customer satisfaction in the mobile banking services.

### 3.4.3. Visibility

Visibility is considered as firm's representatives, physical facilities, materials and equipment as well as communication materials. This dimension related to the reality of products and services (Mersha et al., 2012). It is related to tangible proof of physical components, depictions, properties, amenities and ingredients of the service firm (Othman & Owen, 2001). Service staff and staff's costumes, interior decoration and service instruments were fragment of this dimension (Endara et al., 2019). In the banking service sector, some elements also added with this visibility dimension impact on customer satisfaction such as the front-line outlook of a bank, different offer for smooth operation, reasonable banking hour and potential and swift service of banking (Kant & Jaiswal, 2017; Pakurar et al., 2019). (Islam et al., 2020) found a significant relationship between visibility and customer satisfaction. Tangibility is the mobile banking service affect the satisfaction of the customer at the time conducting research on mobile banking in Bangladesh (Khan et al., 2018). Therefore, it is hypothesized that:

H3. Visibility has positive influence on customer satisfaction in the mobile banking Services

### 3.4.4. Security and Trust

In the COVID-19 pandemic situations, security and trust are time demandable dimensions of service of Mobile Banking. Because these were enumerated to be the most momentous element within mark portion when determine to prefer mobile banking an issue cover the preliminary of confidence as a principal element in the analyst of m-banking /m-payment usage. Moreover, mobile banking companies provide the opportunity to transfer the money from the bank account to mobile banking account. Trust is several-faced conceptions, which must be handled carefully in any analysis of m-banking/m-payment (Jepleting et al., 2013). Studies recently reveal that all the banks offering SMS banking was depend on the password system and also SIM card enrollment where transactions can only be impelled out with records. Out with registered SIM cards. However, no bank had engaged one-time passwords where the customers are assumed once-off passwords which terminate once they are applied on one transaction (Thulani et al., 2011).

H4. Security and Trust has positive influence on customer satisfaction in the mobile banking Services in COVID situations.

### 3.4.5. Efficiency

Most of the customers using mobile banking found it considerably competent. Because in the pandemic situation, customers expect efficient and hassle free service from the mobile banking companies such as easy transfer of money from bank to mobile, fund transfer and other services. Customers had to visit branches to reproof their transactions but by using mobile banking services they

can check the condition of their fixed deposits or checking account information (Saoji & Goel, 2013). The procedure of using mobile banking services is very tranquil that nation does not need any additional expertness to use the request just need to install the application in their mobile and begin the PIN; moreover, they can also reward electricity bills and credit bills through this (Sharma & Singh, 2013). Mobile commerce may help extend the productivity of the working staff by growing the effectiveness of their daily routine. Time-pressured consumers (employees) can use “dead spot “for example: checking account or current transaction (Dmoor, 2005).

H5. Efficiency has positive influence on customer satisfaction in the mobile banking Services in COVID-19 situation.

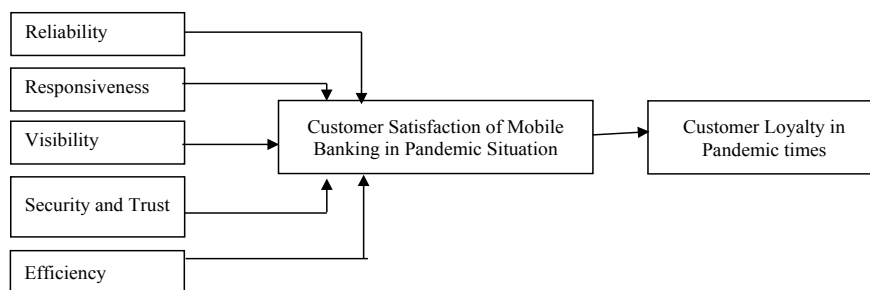
### 3.5. Impact of Customer Satisfaction on Customer Loyalty in the Pandemic Situation

Customer Satisfaction an interrelated and allied affiliation with customer loyalty (Leninkumar, 2017). However, in the pandemic situation it is very difficult to create loyal customer. A customer would be a loyal customer when he/she got favorable consumer experience and it is basic foundation for loyalty (Munari et al., 2013). Usually, customers straight rebuy the same products or services when they are satisfied by using that particular products or services. Satisfied customers tend to be more loyal and safer for purchase judgement. Moreover, they act as a role to create new customers and goodwill of the business (Teeroovengadum, 2020). For maintaining the sustainability of organization, the most vigorous strategy is to keep the satisfied customer for upholding the loyal customers. Some studies on the service industry have already proved that customer satisfaction is the significant component for customer loyalty (Slack et al., 2020; Aslam et al., 2019). On the other hand, several researchers have documented that customer satisfaction act as mediator to link between different dimension of service quality and loyalty in the service industry (Fida et al., 2020; Hamzah et al., 2017; Islam et al., 2020). That’s why, for creating the loyal customer in the mobile banking industry, the main task for the industry is to build strong relationship with the customers. If the customer’s expectation is match with the offerings of the mobile banking service, they will be more loyal about that particular organization. Therefore, the research hypothesizes that:

H6. Customer satisfaction has positive relationship with customer loyalty in the mobile banking services in pandemic situations.

### 3.6. Conceptual Model

**Figure 1** depicts the conceptual model of the present study that represents the effect of reliability, responsiveness, visibility, trust & Security and Trust and efficiency on customer satisfaction of mobile banking users of the rural area in Bangladesh during the COVID-19 situations and impact of customer satisfaction on customer loyalty.



**Figure 1.** Service quality dimension model in COVID-19 situation.

#### 4. Research Methodology

In this study, 35 items were used to measure the research variables discussed in the preceding section, and all the items were adapted from the previous studies and related with COVID-19 pandemic situation. The data collection period was from July 2020 to January 2021. The instrument of this research has four sections, namely A, B, C and D. Section A pertains to the respondents' demographic information such as gender, age, education, mobile banking users of present mobile banking service. Section B was developed based on the five dimensions of service quality (i.e., reliability, responsiveness, visibility, Security and Trust and efficiency) which are adapted from (Parasuraman et al., 1988; Chowdhury, 2014; Kumar et al., 2013; Allen & Grisaffe, 2001; Muhammad Awan et al., 2011; Islam et al., 2020). Section C pertains to customer satisfaction (Amin & Isa, 2008). Section D deals with customer loyalty, and corresponding items were adapted from (Gustafsson et al., 2005). From Sections B to D, all research variable items were measured using 5-point Likert scale (see summary of survey questionnaire in the **Appendix**). The present study handled the common method bias by keeping the survey questionnaire short, and all independent and dependent variables are placed in separate sections of the questionnaire according to Podsakoff et al. (2003) and Spector (2006) recommendations. In this study, 250 questionnaires were distributed to the respondents who are the customers of the mobile banking service and staying in rural area in Bangladesh. Out of 250 distributed questionnaires, authors received 180 responses that gave a response rate of 72 percent. According to Hair et al. (2010), the sample size for a research similar to the present one should be at least five times the number of items in the questionnaires. Since the present questionnaires had 35 items, therefore, minimum sample size should be 175. The sample size obtained in the present study fulfilled this minimum requirement. Researchers used simple random sampling for collecting the data. The research data were collected from rural areas of various places in Bangladesh namely, Gopalganj, Madaripur, Bagerhat, Narail, Faridpur, Khulna, Jessore, Satkhira, Pirojpur, Barisal, Shariatpur, Jhenaidah, Kushtia, Chuadanga, Magura and Rajbari District. The survey data were analyzed based on Pearson correlation analysis, regression analysis by using SPSS-22 version. In addition, the purpose of applying ANOVA and logistic regression is to obtain

additional findings that may have some important managerial implications. Details of the judgement have been provided in the discussion part.

## 5. Result and Discussion

### 5.1. Demographic Description

As earlier mentioned, the main aim of the current study is to examine the impact of service quality dimension on the customer satisfaction and customer loyalty for mobile banking users of rural area in Bangladesh during the pandemic situation. For achieving the objectives of this study, researchers designed a self-administered questionnaire and directed a simple random sampling of the users of mobile banking in the rural area of Bangladesh during COVID 19 times.

According to **Table 1**, in the survey participation of male was greater than female. Out of 180 samples, 123 males participated that denoted 68.33 percent of the overall participants, whereas 57 females responded that epitomized 31.67 percent. On the other hand participants' age categories were diverse in this research. The categorization of age were 16 - 20 years (19.44%), 21 - 25 years (45%), 26 - 30 years (15.56%), 26 - 30 years (11.67%) and 35 years (8.33%). It

**Table 1.** Demographic Profile of the respondent.

	Particulars	Frequency	Percent	Valid Percent	Cumulative Percent
Age	16 - 20	35	19.44	19.44	19.44
	21 - 25	81	45.00	45.00	64.44
	26 - 30	28	15.56	15.56	80.00
	31 - 35	21	11.67	11.67	91.67
	Above 35	15	8.33	8.33	100.0
Gender	Male	123	68.33	68.33	68.33
	Female	57	31.67	31.67	100.0
Education	Below SSC	25	13.89	13.89	13.89
	SSC	29	16.11	16.11	30.00
	HSC	43	23.89	23.89	53.89
	Graduate	57	31.67	31.67	85.56
	Masters	17	9.44	9.44	95.00
	Others	9	5.00	5.00	100.0
Mobile Banking User	Bkash	76	42.22	42.22	42.22
	Rocket (DBBL)	43	23.89	23.89	66.11
	Ucash	8	4.44	4.44	70.55
	M-Cash	13	7.22	7.22	77.77
	Sure Cash	11	6.11	6.11	83.88
	Nagad	23	12.78	12.78	96.66
	My Cash	6	3.33	3.34	100.0

was observed that 57 (31.67%) respondents have bachelor degree, 43 (23.89%) respondents have completed HSC and 29 (16.11%) respondents have SSC pass, whereas 25 (13.89%) and 17 (9.44%) respondents had below SSC and master's degree, respectively and only 9(5%) respondents have other qualifications. In relation to different types of mobile banking user 76 subjects (42.22%) used BKash (A Brac Bank Limited mobile banking services) whereas 43 subjects (23.89%) used Rocket (Dutch Bangla Bank mobile banking services) and others are 23 subjects used Nagad (A mobile banking service of Post office), 8 subjects used Ucash, 13 used M cash, 11 used Sure cash and 6 used My cash.

## 5.2. Reliability Analysis

**Table 2** represented the reliability analysis test for the both variables (dependent and independent) which is used to measure the correctness of research methods and design (Cooper & Schindler, 2008). Newman (2006) found that if the research result is same in different conditions, research result will be reliable. Moreover, for appraising the uniformity of intra scale, Cronbach alpha coefficient was used. The coefficient value is observing internal consistence of items for measuring latent variables between 0 (very low) to 1 (very high). According to Creswell (2008), Cronbach alpha value will be acceptable if it is 0.60 or higher. In this research, the overall scale is reliable with a value of 0.901 of the total value which represents that the survey items tied together which indicates that most of the people in the COVID situation wanted to make transaction with the help of mobile banking. So, it is to be said that all the questions both independent and dependent variables are uniformed and that can be acknowledged as mentioning the rules of thumb about Cronbach's alpha coefficient (Nunnally & Bernstein, 1994). The highest cronbach's alpha value of this research is customer satisfaction which was 0.917 with 07 items and customer loyalty's value was 0.883 with 07 items which was the second highest position. On the other hand, the lowest for determining the value of efficiency is 0.613 (2 items). The cronbach value of other constructs is Reliability (Item no.4) of 0.851, Responsibility (Item no. 3) of 0.688, Visibility (Item no. 2) of 0.632 and Security and Trust (Item no. 2) of 0.617.

**Table 2.** Reliability analysis test for dependent and independent variables.

Variables	No of Items	Cronbach Alpha
All	35	0.901
Reliability	4	0.851
Responsiveness	3	0.688
Visibility	2	0.632
Security and Trust	2	0.627
Efficiency	2	0.613
Customer Satisfaction	7	0.917
Customer Loyalty	7	0.883

### 5.3. Kaiser-Meyer-Olkin (KMO) Test for Sampling Adequacy

**Table 3**, with the value of Kaiser-Meyer-Olkin (KMO) indicates that the study does not have any issue with sample adequacy. It is noted that the KMO value is more than 0.60 and the significant value of Bartlett's test of sphericity is good enough for the study to proceed for factor analysis.

### 5.4. Factor Extraction

The intent of factor extraction is to figure a cluster or clubbing of variables in distinguishing constituent. Eigenvalue has used as a standard method to choose the appropriate number of factors. Latent root value or Eigenvalue 1 or greater determine the expected number of factors in a study (Malhotra, 2010). **Table 4** has shown below where a total of seven factors have extracted. A total of more than 68.32 percent of variance has explained.

### 5.5. Rotated Component Matrix

In the unrotated component matrix, most of the variables have loaded in the first factor. Many of the items were also cross-loaded to more than one construct. The loading of the unrotated factor matrix defies the possibility of deriving the significant factors. A factor loading of the correlation coefficient is based on the Varimax rotation of factors influencing entrepreneurship development and success. **Table 5** represented the rotated component matrix.

### 5.6. Multiple Regression Model Analysis

The study included the use of multiple regression analysis to identify a line of

**Table 3.** KMO and Bartlett's test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.840
Approx. Chi-Square		2097.580
Bartlett's Test of Sphericity	df	351
	Sig.	0.000

**Table 4.** Total variance explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.358	27.252	27.252	7.358	27.252	27.252	4.953	18.343	18.343
2	4.106	15.209	42.461	4.106	15.209	42.461	4.139	15.331	33.674
3	1.762	6.527	48.988	1.762	6.527	48.988	2.894	10.718	44.392
4	1.463	5.417	54.405	1.463	5.417	54.405	1.841	6.818	51.210
5	1.438	5.325	59.730	1.438	5.325	59.730	1.701	6.299	57.509
6	1.242	4.601	64.331	1.242	4.601	64.331	1.485	5.499	63.008
7	1.079	3.995	68.327	1.079	3.995	68.327	1.436	5.319	68.327

**Table 5.** Rotated component matrix.

	Component						
	CL	CS	REL	RES	VIS	ST	EFF
CL1	0.871						
CL2	0.849						
CL3	0.846						
CL4	0.841						
CL5	0.806						
CL6	0.751						
CL7	0.579						
CS1		0.772					
CS2		0.738					
CS3		0.735					
CS4		0.705					
CS5		0.703					
CS6		0.664					
CS7		0.653					
REL1			0.828				
REL2			0.795				
REL3			0.779				
REL4			0.733				
RES1				0.722			
RES2				0.679			
RES3				0.627			
VIS1					0.811		
VIS2					0.671		
ST1						0.828	
ST2						0.709	
EFF1							0.764
EFF2							0.684

<sup>a</sup>Rotation converged in 7 iterations.

“best fit” (Creswell, 2008) for more than one independent variable in predicting or explaining a dependent variable. This analysis is necessary for attempting to answer the study’s research question. Multiple regression analysis has used in an attempt to demonstrate the impact of dimensions of service quality on customer satisfaction and customer loyalty in pandemic situations.

Multiple regressions are a statistical procedure that examines the combined

impact of several variables to predict or explain a dependent variable. The researcher used SPSS Version 22 to assess the calculation. Specifically, linear multiple regression analysis with a stepwise method has used. The stepwise method has used because it uses the best predictors in estimating the regression model. The following sections report an analysis of the findings of the multiple regressions.

The multiple regression analysis indicated that mobile banking service quality of the rural people of Bangladesh during the pandemic situation i.e., reliability, responsiveness, visibility, security and trust, efficiency (independent variables) influence on customer loyalty (dependent variable) with the help of measuring customer satisfaction (mediating variable) with  $r = 0.665$ ,  $r^2 = 0.442$ , and adjusted  $r^2 = 0.419$  (Table 6). The regression model fits the data with an F test = 18.893 that was significant at the  $p < 0.001$  level. Table 7 includes the beta weights (slopes) of each variable and a constant enterprise success. The table includes both no standardized and standardized coefficients along with t value and significance level. The independent variables in combination can predict rigorous dimensions of service quality of mobile banking for the mobile users in the rural area during the pandemic situations.

### 5.7. Linearity Test

For testing linearity, the study had run here the multiple regressions and scanned the significance values for identifying the variables for which the majority of the values are less than 0.05 (Table 8). The correlation matrix Table 9 helped to identify such variables which excluded later on. For observing the linearity issue the study then checked whether or not there exists any correlation among the variables more than 0.80. The result showed that the highest correlation coefficient was 0.811. So, no items have the linearity problem.

**Table 6.** Model summary<sup>b</sup>.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	0.665 <sup>a</sup>	0.442	0.419	0.79216	0.442	18.893	6	143	0.000	1.595

<sup>a</sup>Predictors: (Constant), Security and Trust, Visibility, Reliability, Responsibility, Efficiency and customer satisfaction. <sup>b</sup>Dependent Variable: Customer Loyalty.

**Table 7.** ANOVA.

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	71.135	6	11.856	18.893	0.000 <sup>b</sup>
1 Residual	89.736	143	0.628		
Total	160.871	149			

<sup>a</sup>Dependent Variable: Customer Loyalty. <sup>b</sup>Predictors: (Constant), Security and Trust, Efficiency, Reliability, Responsibility, Visibility and customer satisfaction.

**Table 8.** Coefficients.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.113	0.496		-0.229	0.819
Reliability	0.282	0.059	0.337	4.766	0.000
Responsiveness	0.245	0.102	0.161	2.395	0.018
Visibility	0.069	0.070	0.065	0.980	0.329
Security and Trust	0.018	0.075	0.016	0.240	0.811
Efficiency	0.165	0.064	0.183	2.579	0.011
Customer satisfaction	0.287	0.060	0.336	4.794	0.000

\*Dependent Variable: Customer Loyalty.

**Table 9.** Correlations.

	CL	CS	REL	RES	VIS	SEC	EFF
Customer Loyalty	1						
Customer Satisfaction	0.405**	1					
Reliability	0.067	0.486**	1				
Responsiveness	0.099	0.356**	0.324**	1			
Visibility	-0.135	0.085	0.052	0.153	1		
Security and Trust	-0.316**	-0.060	0.114	-0.001	-0.112	1	
Efficiency	0.244**	0.439**	0.381**	0.231**	0.141	-0.007	1

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

## 6. Suggestions

From the findings, in the mobile banking sectors of Bangladesh, reliability, responsiveness and efficiency (Table 10) have influence on customer satisfaction positively and visibility and security and trust have insignificant relationship with customer satisfaction in the rural people who are using mobile banking during the COVID-19 situations. The findings also indicate that customer satisfaction impact on customer loyalty positively (see Table 8 and Table 10). This might happen because, people feel fear to go to bank during the pandemic situations. That's why they want to make their banking transactions with the mobile banking. Moreover, mobile banking companies have already made mobile banking apps for simple use and opened different windows such as electricity payment, gas bill payment, online payment, mobile recharge etc for the people making banking transaction from their home. Furthermore, mobile banking companies communicated to different types of commercial bank for transferring the money from the bank to mobile banking for overcoming the loading the money from the shops never share the pin code of the mobile banking to any other person and need to ensure a high level of Security and Trust in the banking transactions which will increase customers' confidence as well as satisfaction and loyalty (Kumar et al., 2010).

**Table 10.** Result of the hypothesis.

Hypothesized paths		Standardized Coefficients	t	Sig.	
H1	Reliability-Customer Satisfaction	0.337	4.766	0.000	Supported
H2	Responsiveness-Customer Satisfaction	0.161	2.395	0.018	Supported
H3	Visibility-Customer Satisfaction	0.065	0.980	0.329	Not supported
H4	Security and Trust-Customer Satisfaction	0.016	0.240	0.811	Not supported
H5	Efficiency-Customer Satisfaction	0.183	2.579	0.011	Supported
H1	Customer Satisfaction-Customer Loyalty	0.336	4.794	0.000	Supported

<sup>a</sup>Dependent Variable: Customer Loyalty.

**Table 11.** Rank of the supported factors.

Factors	Standardized Coefficients Beta ( $\beta$ )	t	Rank	
H1	Reliability	0.337	4.766	1
H5	Efficiency	0.183	2.579	2
H2	Responsiveness	0.161	4.291	3

## 7. Managerial Implications and Scope for Future Research

In this study, reliability, responsiveness and efficiency among the five variables of service quality influence on customer satisfaction in this pandemic situation that led to customer loyalty. Every mobile banking organization will implement these variables to fulfill the expectation of the customer during this pandemic situation for the development of the company. Since reliability (Table 11) is found to be the most critical determination of the customer satisfaction of mobile banking in COVID-19 situations, mobile banking companies has an intention to provide the reliable service to the customer in such a way that customer operate their mobile banking transaction in a safe way in this pandemic times. The organization should make the operating system of the app of mobile banking in such a way that rural people understand all the functions in an easy and prompt service because responsiveness influence customer satisfaction in the context of rural people of mobile banking service. If the employee of mobile banking meets up the expectation of the mobile banking users in the rural area in this pandemic situation, the users will be more loyal about the organization. Moreover, every mobile banking company needs to focus on the efficient service towards the problem of customers as because efficiency influence on customer satisfaction in this time. At present, every customer needs to transfer the money from any bank account to mobile banking account to avoid the hassle of loading in a customer point. Finally, mobile banking company should train their staff in such way that they will be reliable, will provide efficient service and will able response the customer prompt service.

## 8. Conclusion

A lot of studies have already done for determining the customer satisfaction and customer loyalty of service industry and they found that service quality influence on customer satisfaction and loyalty positively. The current study has also done in the context of mobile banking service sectors on the rural people in Bangladesh during the COVID situations. In particular, in this study reliability, responsibility and efficiency among the five dimensions of service quality influence on customer satisfaction leads to customer loyalty in this pandemic times. At present, mobile banking is a time demanded concept and most of the customers want to operate their banking from the home especially in the COVID-19 periods and purchase all the daily necessary things such as vegetables, meat, fish, pizza, others foods from different types of apps by using the mobile banking. Hence mobile banking sectors of Bangladesh have provided sufficient attention to their officials and train them in such way that they are able to fulfill the expectation of the customers of the rural areas.

Geographical area is the major limitation for this study to collect the data during the pandemic situation. Though the data has collected from the rural areas of Bangladesh namely, Gopalganj, Madaripur, Bagerhat, Narail, Faridpur, Khulna, Jessore, Satkhira, Pirojpur, Barisal, Shariatpur, Jhenaidah, Kushtia, Chuadanga, Magura and Rajbari district but not cover all districts, these findings may not apply in the normal time as well as all over the countries. Some new techniques should be added in the mobile banking for retaining the customers in the new normal situations. Only five dimensions have selected for determining the service quality which influence on customer satisfaction during this pandemic situation. Some other dimensions of service quality influence customer satisfaction, i.e., privacy, accessibility, easy to navigation etc. Future research might conduct on more dimensions of service quality and the model can be used to measure customer satisfaction and customer loyalty of internet banking, ATM, sub branch of branch banking service of cross-country context.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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## Appendix

### Questionnaire

Dear User,

Service quality and customer satisfaction of Mobile Banking in Bangladesh during Lockdown is very important. We are eager to learn about your own experience during time. We are eager to learn about your own experience during this time. In particular, we seek information on what you consider the factors depend on the customer satisfaction and customer loyalty.

### Instructions

- Please complete this questionnaire accurately and objectively.
- Most questions can be answered simply by ticking a box.
- All of the answers you provide in this questionnaire **WILL BE KEPT CONFIDENTIAL**. All information given will be used for the purpose of this research only.
- If you want a copy of the results of the study, please fill out your name, address or e-mail in the last page of the questionnaire.

**Thank you very much for your cooperation**

**Tapas Bala**

Assistant Professor  
 Department of Marketing  
 BSMRSTU, Gopalganj

### Demographic Information

- 1) Name:
- 2) Age: **16 - 20**  **21 - 25**  **26 - 30**  **31 - 35**  **Above 35**
- 3) Gender: **Male (1)**  **Female (2)**
- 4) Education: **Below SSC (1)**  **SSC (2)**  **HSC (3)**  **Graduate (4)**  **Masters (5)**  **Others (6)**

- 5) What types of mobile banking service you use:  
**Bkash (1)**  **Rocket (DBBL) (2)**  **Ucash (3)**  **M-Cash (4)**  **Sure Cash (5)**  **Nagad (6)**  **My Cash (7)**

*(Please select the appropriate answer by ticking the appropriate box)*

**(NVI = Not very important; NI = Not important; I = Important; VI = Very important; N = No opinion)**

1) You can complete transaction quickly and speedy.

**VI                      I                      N                      NI                      NVI**

2) You believe on mobile banking agents.

**VI                      I                      N                      NI                      NVI**

**Continued**

3) You believe on mobile banking customer Service.

**VI I N NI NVI**

4) Do you think You use mobile banking service is error free?

**VI I N NI NVI**

5) Do you believe your used mobile banking company and agents serve better?

**VI I N NI NVI**

6) Mobile banking “customer care” serve you well.

**VI I N NI NVI**

7) Mobile banking agents are eager to serve you.

**VI I N NI NVI**

8) Does Mobile banking company try to solve your problem quickly?

**VI I N NI NVI**

9) Does mobile banking agent try to response to you promptly?

**VI I N NI NVI**

10) Do you think company or agent perform their responsibility well?

**VI I N NI NVI**

11) Customer care or agents have enough knowledge for solving your problem.

**VI I N NI NVI**

12) Customer care or agents behave with you well.

**VI I N NI NVI**

13) Do you think you are getting safety in performing mobile banking transactions?

**VI I N NI NVI**

14) Do you believe that the agents or mobile banking company will not misuse your given personal information on transaction information?

**VI I N NI NVI**

**Continued**

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15) Do you believe that you get enough attention from company agents or mobile banking company?	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
16) Do you think that the mobile banking service provider think you valuable?	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
17) Do you think that they feel your problem as their own?	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
18) There is enough mobile banking service outlets in your area.	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
19) There are available mobile banking agents in your area.	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
20) There are available customer service cares for solving your problem in your area.	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
21) Are the physical conditions of layout of agents better for your sitting on taking a place when you transact from there?	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
22) You are quite happy with your mobile banking.	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
23) You easily understand your mobile banking service used language.	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
24) You can easily conduct financial transactions with the help of your mobile banking.	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
25) You feel secure when performing financial transaction by using your mobile banking service.	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>
26) You can easily make payment (service bill, current bill, gas bill) through your mobile banking.	<b>VI</b>	<b>I</b>	<b>N</b>	<b>NI</b>	<b>NVI</b>

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**Continued**


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27) You can easily make payment (service bill, current bill, gas bill) through your mobile banking.

**VI**                      **I**                      **N**                      **NI**                      **NVI**

28) Are you satisfied with your mobile banking service facilities?

**VI**                      **I**                      **N**                      **NI**                      **NVI**

29) Do you feel your used mobile banking service is dependable?

**VI**                      **I**                      **N**                      **NI**                      **NVI**

30) It is easy for transferring money.

**VI**                      **I**                      **N**                      **NI**                      **NVI**

31) You can easily understand your mobile banking service menu.

**VI**                      **I**                      **N**                      **NI**                      **NVI**

32) It saves your time.

**VI**                      **I**                      **N**                      **NI**                      **NVI**

33) It costs little service fee.

**VI**                      **I**                      **N**                      **NI**                      **NVI**

34) It provides saving facility in secure.

**VI**                      **I**                      **N**                      **NI**                      **NVI**

35) Do you recommend your mobile banking service to others?

**VI**                      **I**                      **N**                      **NI**                      **NVI**

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