

# MOBILE BANKING IN BANGLADESH: A POLICY AND REGULATORY REVIEW



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## ABSTRACT

Policy and regulatory issues are indispensable for maintaining discipline and protecting the interests of all stakeholders in the mobile banking ecosystem. Bangladesh Bank has issued mobile banking policy guidelines (2011) and mobile financial services regulation (2018) to protect against abuse of these services like financial fraud, money laundering, and terrorist financing, as well as safeguard user funds. This article examined the role of mobile banking policy and the regulatory framework in creating a favourable regulatory environment for mobile banking in Bangladesh. For this purpose, twenty-three KIIs and one questionnaire survey were conducted on 400 respondents in the country's four districts. Many public and private documents and journal articles were also reviewed. A regulatory policy index for mobile banking with ten indicators was developed, and the overall regulatory index score was 0.85 out of 1. Multiple linear regression analysis has also been used in this study. Its regulatory index value, beta coefficient, and R-value, as well as expert opinions, asserted that mobile banking regulatory policy standards have positively influenced the creation of a favourable regulatory environment, even though they demand some modification in terms of account opening minimum age, service charge rate, product diversification, interoperability, and supervision of mobile banking activities. Since multiple agencies are involved in mobile banking policy and regulation, the government can play a vital role in coordination among the multiple agencies to ensure the protection of customers and financial steadiness through a suitable legal structure.

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## INTRODUCTION

Policy and regulation are essential drivers for expanding mobile banking products and services by establishing rules and standards that protect consumers, ensure the security of transactions, and promote fair competition among mobile banking markets. Customers want to use these products and services with explicit regulatory policy frameworks. Government protection in terms of policy and regulation affects consumers' attitudes, and it would have to increase confidence and trust in mobile banking transactions. The regulatory framework influences the customer's demand, develops a high-quality agent network, builds infrastructure, and designs products beyond actual payments (Osafu-Kwaako et al., 2018; Staschen and Meaghe, 2018).

Due to unauthorized financial transactions through mobile banking, the policy and regulatory frameworks have become more concerning at national and international levels. The Bangladesh Bank has made separate mobile financial policy guidelines to regulate the mobile financial market. Consequently, the policy guideline has become the name of the Bangladesh Mobile Financial Services Regulation 2018. This study examined the role of the present mobile banking regulatory policy in enabling an enabling regulatory environment for mobile banking transactions in Bangladesh. The study aims to review the mobile banking policy and regulatory framework. To evaluate the role of mobile banking policies and regulatory frameworks in generating an enabling regulatory environment for mobile banking transactions in Bangladesh.

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The study described the introduction, literature review, objectives, and methodology. Then review the mobile banking policy and regulations. Draw the mobile banking regulatory relative index and carry out the regression analysis. Lastly, it presents the conclusion, findings and suggestions.

### **LITERATURE REVIEW**

The regulatory policy framework is essential to customer protection and supports minimizing risk, essential to stabilizing financial inclusion. The National Financial Inclusion Strategy of Bangladesh (NFIS-B) has been reviewed and found that transformative power has been given to service providers for offering diversified products and services, including payments, savings, insurance and credit. Possible regulations will impose structural rigidities related to administrative, documentation, reporting, and auditing aspects of village savings and loans. They found from the survey results that the consumer lack preparation in terms of legal, accounting, and financial knowledge in terms of administrative skills to embrace, to adapt to any possible regulation (Chowdhury et al., 2021).

The major constraints of Bangladesh's mobile banking regulatory policy include excessive service fees, regulation of transaction ceiling, fraudulent practices, lack of interoperability facilities, and monopoly of service providers. Therefore, policymakers and regulators, including the Bangladesh Bank, should consider the above findings to improve mobile banking services in Bangladesh (Amin, 2021). The authorities should anticipate the risks associated with mobile banking and concentrate on preserving the sector's expansion by preventing unauthorized groups from subverting their restrictions (Weber & Darbellay, 2010). Ondiege (2015) conducted a study to understand better how the regulatory environment affects the expansion of financial inclusion through digital techniques like mobile phone payments in African nations, including Kenya, Nigeria, Tanzania, and Uganda. It then examines the various laws that have impacted the expansion of financial inclusion through mobile financial services in the four countries. Regulators must address concerns, including enhancing helpful regulatory frameworks, creating financial infrastructure, and running financial literacy initiatives. Developed and developing countries understand the importance of these issues and have made separate mobile banking regulations to monitor and control their activity. Many countries have made separate m-banking regulations, namely Afghanistan, Brazil, Cambodia, India, Indonesia, Kenya, Malaysia, Philippines, South Africa, and UEMOA, which has emphasized AML, CFT, and KYC issues in its transaction process (Lyman et al., 2008, Tarazi & Breloff, 2010). Policy regarding mobile money is now being addressed in Latin American countries. This policy emphasizes to develop of a legal framework from three main mobile banking concerning issues: first, the financial risk associated with these kinds of operational processes; second, to regulate the adherence of legislation concerning money laundering and terrorism financing; and finally, to protect consumers from fraud on behalf of the system administration, as well as to protect personal private data (Groppa & Curi, 2012). While Kenya chose a liberal policy structure that encourages the proliferation of m-payments in a non-banking system, Ecuador adopted a State-controlled framework, while Brazil is defining its mobile money system within the banking system (Groppa & Curi, 2012).

Regulatory decisions and their implications influence the total mobile financial ecosystem. A favorable regulatory policy and an efficient monitoring system would help to expand mobile financial services among marginalized people. The regulation has a positive impact on financial inclusiveness if this regulation is well-managed, properly utilized, and monitored. There is some evidence from the study report of some countries that regulations allowing a more straightforward account opening process for new mobile banking accounts enhanced the more extensive adoption of mobile money and increased financial inclusion in India, Sri Lanka, Pakistan, and Bangladesh (Di Castri, 2013; Sultana, 2014). Moreover, other scholars stated that the increase in m-banking in Kenya is due to a friendly regulatory policy (Gichuru et al., 2021; Mas & Radcliffe, 2010, Omwansa, 2009, Porteous, 2006). ITU adds that M-Pesa's early uptake results from the regulatory framework's flexible openness. It is limpid that the regulatory framework is a vital factor for the success of mobile banking. The empirical research has been done on 22 nations and found that the legal framework is important to the success of mobile banking (Evans & Pirchio, 2014).

On the other hand, the lack of proper implementation and strictness of mobile banking regulations have created barriers to the financial inclusion of MBS. The inappropriate regulation stands for constraints for the development of m-banking in any context (Porteous, 2009). Other evidence from studies report that strict identification requirements for opening new mobile bank account led to the exclusion of financially excluded individuals from the market, such as low-income or migrant workers, and impeded the expansion of mobile banking services in several countries like African countries, including South Africa as well as in Indonesia and the Philippines, (Makulilo, 2015; Stapleton, 2013, Prochaska, & Brix, 2008, Anarfo, 2020). The lack of coordination among multiple stakeholders of MBS and regulators has created one of the biggest barriers to the progress of mobile banking (Porteous, 2009). Porteous mentioned that a standard-enabling legal and regulatory environment is one where there is a high degree of openness and certainty. Porteous has developed a mobile banking regulatory index of 35 countries, and Bangladesh has taken the 32nd position among the 35 countries; Bangladesh has a low-level degree of openness and certainty in the regulatory environment (Porteous, 2006).

The GSMA also has introduced another mobile money regulatory index by reviewing more than 80 countries prevailing mobile banking regulations, based on six broad enabling dimensions of mobile banking regulations like Authorization, Consumer Protection, Transaction Limits, KYC, Agent Network and Infrastructure, and Investment environment. Bangladesh's mobile banking regulatory index score stood at 70.70, which is relatively lower than many other countries. Even among eight South Asian countries, Bangladesh has ranked seventh on the index score (Bahia et al., 2022). Since some social groups could not keep up with the pace of fintech, introducing new technology-based financial inclusion policies could not alleviate financial exclusion. The "more technology, more financial inclusion" strategy has not always worked well, so financial inclusion policies must be changed to incorporate the ideas of digital literacy and access to mobile financial services as well (Dostov et al., 2019).

## MATERIALS AND METHODS

### Population

The populations in this study are all active users of mobile banking services scattered all over the country. According to the Bangladesh Bank payment department, there are 5,737,400,000 mobile banking service active users (Bangladesh Bank 2022).

### Sample area selection

A multi-stage random sampling method has been incorporated into this study for selecting the sample area. Four districts (Dhaka, Sylhet, Kurigram, and Pirojpur) from four greater divisions (Dhaka, Chittagong, Rajshahi, and Khulna) have been randomly selected. Then, at randomly four Upazilas (Keranigonj, South Surma, Ulipur, and Nojirpur) from four districts and randomly four unions (Rohiatpur, Borakandhi, Durghapur, and Mativhanga ) from four upazilas were selected.

### Sample Unit Selection

The respondents were first divided according to the homogeneity of each occupation: small business owners, marginal farmers, garment workers, domestic workers, tea labourers, homemakers, and students. The ultimate individual respondent has been selected based on a systematic random sampling method. Additionally, twenty-three key informant interviews (KII) have been undertaken by judgment sampling.

### Sample Size

The sample size for over a million individuals should be at least 384 with a 5% margin of error (Saunders et al., 2009). Moreover, the sample size should be at least 300, with 500 being very good and 1000 being great (Tabachnick & Fidell, 2007). The participants in this study were mobile banking account holders who use mobile banking services. The researcher targeted a sample size of 384 to 450 participants for this study, and based on the explanation above, the sample size acquired in the current study is 400.

### Data Collection Tools

Primary data have been used in this study. A questionnaire survey, Key informant interview, and document review have been used in this study. Side by side, reviewing many mobile banking public and private documents.

### Data Analysis

The data has been analyzed using Statistical Package for Social Science (SPSS) version 22. Descriptive analyses (DA) have been carried out to understand better the sample overview, the data and its distribution, the missing variables, and the data outliers. Moreover, statistical tools like mean, standard deviation, t-test, and multiple linear regression models have been incorporated to test the hypothesis.

### Hypothesis Development

Properly implementing its policy and regulation would make a favorable regulatory environment for mobile banking transactions. The favorable regulatory environment ensures security and increased customer trust, influencing users to adopt mobile banking transactions. An empirical study shows the link between a positive regulatory environment and a thriving mobile banking industry. The 2017 World Bank Global Findex Survey stated that a favorable regulatory environment, as assessed by the MMRI, is strongly associated with higher mobile banking adoption (Kalvin et al., 2022). It has also been found that mobile banking regulation and usage are highly correlated (Kalvin et al., 2022). The adequate legal and regulatory framework mitigate the security risk of mobile banking transactions (FinCoNet, 2018).

*H<sub>0</sub>: There is no positive association between mobile banking regulatory policy and enabling regulatory environment for mobile banking transactions.*

*H<sub>1</sub>: There is a positive association between mobile banking regulatory policy and enabling regulatory environment for mobile banking transactions.*

## RESULTS AND DISCUSSIONS

### Respondents Demographic Analysis

Appendix 2 contains the demographic data of the respondents. There were 53% rural and 47% urban respondents, with 68.75% men and 31.25% women. The age group of 26–35, which accounted for 39.50% of all respondents, was followed by that of 18–25, which accounted for 27.25%, and that of 36–45, which accounted for 21.75%. Twenty per cent of respondents who used mobile banking were illiterate. Illiterate to HSC-passed users account for 86.5%. 39% of those polled made between 1,000 and 20,000 taka per month. The respective income ranges stated by 25% and 19% of respondents were Tk 1000–10000 and Tk 21000–30000. Respondents are divided into twelve occupational groups

### Mobile Banking Regulatory Policy Relative Index by using user's perception

This section presents the user's perceptions regarding these services' policies and regulations in Bangladesh. The five-point Likert scale measurement has been used to conceptualize the mobile financial user's perception of this issue. A questionnaire survey in four districts was used to collect information from 400 users of mobile financial services. During the survey, respondents were asked to assess their degree of agreement with the following mobile financial services regulatory policy statement by indicating: (5) strongly agree (SA), (4) agree (A), (3) not agree or not disagree (NDA/NA), and (2) disagree (DA) (1) strongly disagree (SDA). The results are tabulated below using the following relative index model.

$$MBRPRI = \frac{\sum W}{AN}$$

$$MBRPRI = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{A * N}$$

Where MBRPRI= Mobile Banking Regulatory Policy Relative Index

n<sub>5</sub> = Number of respondents of strongly agree.

n<sub>4</sub> = Number of respondents of agree.

n<sub>3</sub> = Number of respondents neither agree nor disagree.

n<sub>2</sub> = Number of respondents of disagree.

n<sub>1</sub> = Number of respondents of strongly disagree.

A= Higher value

N= Total number of respondents

Table 2. Mobile Banking Regulatory Policy Relative Index

	SDA score	DA score	NDA/NA score	A score	SA score	Total score	Index score
The present MB regulatory policy allowed the diversified banking products and services.	7	4	66	952	655	1684	0.84
The present mobile banking policy and regulation has digitized and simplified the KYC process for opening a mobile bank account.	2	4	27	976	715	1724	0.86
The present MB regulatory policy simplify the agent requirement process and ensure the agent availability.	3	4	36	1016	645	1704	0.85
The present mobile banking regulation ensure supervision and control of this services and agents activities.	5	2	24	904	800	1735	0.86
Transaction limit policy for individual users reduced the abuse of this services.	12	16	69	920	635	1652	0.82
The mobile banking Regulation 2018 and Digital security law 2018 properly address the AML issues which secure the mobile banking transaction by curving money laundering and terrorist financing and digital money fraud of mobile banking.	15	16	36	900	705	1672	0.83
The present regulation encourage to the victims for taking legal action against the money fraud	11	2	105	808	755	1681	0.84
Digital security law 2018 and ICT security Act 2013, have a provision of punishment for MB illegal transaction, this punishment provision reduce the abuse of MF activity.	3	4	24	868	850	1749	0.87
The present mobile banking regulation increases the customer confidence level about mobile banking transactions.	1	2	45	832	875	1755	0.87
Proper implementation of MBS policy and regulation 2018 in generating the enable regulatory environment for mobile banking transactions.	11	6	39	828	780	1664	0.83
Average index score							0.847

Sources: Field Survey 2019-2020

Table 2 shows the regulatory index indicators value regarding the regulatory environment for mobile banking transactions is examined by using user's perceptions. This index had ten indicators, each with a value greater than 0.82 out of 1. These score values implied that policy and regulation have made for well-diversified mobile banking products and services, simplified the KYC process, made available agent networks, protected consumer transactions, and ensured the privacy of users' financial information. These services' overall average regulatory index value was 0.847, indicating that this regulatory policy has created a robust enablement regulatory environment for mobile banking transactions.

**Explanation of the Correlation**

Correlation analysis assists in determining the link between the dependent variable and each independent variable. This study's dependent variable, "mobile banking regulatory environment," has a positive relationship with the independent factors of mobile banking regulatory policy. This finding suggests that these factors are more likely to influence the dependent variable. The correlation value for all variables is less than 0.7. It means that the variable set has no multicollinearity, and all variables have separate effects and significance.

Table 3. Pearson Correlation

	MBPR1	MBPR2	MBPR3	MBPR4	MBPR5	MBPR6	MBPR7	MBPR8	MBPR9	MBPR10
MBPR1	1	0.095	0.277	0.260	0.618	0.058	0.066	0.011	0.101	0.229
MBPR2	0.095	1	0.514	0.36	0.154	0.284	0.247	0.142	0.235	0.133
MBPR3	0.272	0.514	1	0.525	0.356	0.253	0.394	0.175	0.276	0.187
MBPR4	0.26	0.36	0.525	1	0.311	0.223	0.261	0.181	0.24	0.252
MBPR5	0.618	0.154	0.356	0.311	1	0.117	0.089	0.013	0.106	0.284
MBPR6	0.058	0.286	0.253	0.223	0.117	1	0.515	0.365	0.272	0.099
MBPR7	0.066	0.247	0.394	0.261	0.089	0.515	1	0.336	0.277	0.123
MBPR8	0.011	0.142	0.175	0.181	0.013	0.365	0.336	1	0.167	0.094
MBPR9	0.101	0.235	0.276	0.24	0.106	0.272	0.227	0.167	1	0.261
MBPR10	0.229	0.133	0.187	0.252	0.284	0.099	0.123	0.094	0.261	1

### Report of the Model Summary

$R = 0.626$  implies a substantial positive association between the independent and dependent variables.  $R^2 = 0.392$  indicates that the regression model can account for 39.2% of the variation in the dependent variables. The adjusted  $R^2$  value of 0.37, or 37.8%, shows that adding the other independent variables would not significantly explain the dependent variable's variance.

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.626a	.392	.378	.60133

a. Predictors: (Constant), MBPR1, MBPR2, MBPR3, MBPR4, MBPR5, MBPR6, MBPR7, MBPR8 and MBPR9

### Hypothesis Testing

The ANOVA table gives us a significance level of .000. Because the calculated F value (27.936) is higher than the critical F value at a 5% significance level. This conclusion suggests a substantial link between the dependent and independent variables. As a result, mobile banking promotes a positive regulatory environment impacted mainly by independent factors. This observation lends credence to the rejection of the null hypothesis. The acceptance of the alternative hypothesis shows the rejection of the null hypothesis.

Table 5. ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	90.914	9	10.102	27.936	.000b
Residual	141.024	390	.362		
Total	231.938	399			

a. Dependent Variable: (MBPR10) Proper implementation MBS policy and regulation 2018 would ensure the enable environment for mobile banking transaction.

### Regression of Coefficient

Among the nine independent variables regarding mobile banking policy and regulation, it found from the below coefficient table 3 that MBPR1 (.00), MBPR4 (.00), MBPR9 (.008), and MBPR3 are highly significant than the other five independent variables. It has been clear from the above analyses that the mobile banking regulatory policy is highly responsible for creating enable regulatory environment for secure mobile banking transactions.

Table 6. Beta Coefficients

Model		Beta Coefficients				
		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	1.413	.358		3.951	.000
MBPR1	The mobile financial services offered diversified banking products and services.	0.46	.050	0.43	9.11	.000
MBPR2	The present mobile banking policy and regulation has digitized and simplified the KYC process for opening a mobile bank account	.067	.069	.054	.976	.330
MBPR3	The present MB regulatory policy simplify the agent requirement process and ensure the agent availability.	.072	.056	.062	2.274	.203
MBPR4	The present mobile banking regulation ensure supervision and control of this services and agents activities.	.573	.044	.575	12.994	.000
MBPR5	Transaction limit policy for individual users reduced the abuse of this services.	- .037	.061	-.030	-.606	.545
MBPR6	The mobile banking Regulation 2018 and Digital security law 2018 properly address the AML issues	-.007	.063	-.005	-.106	.915
MBPR7	The present regulation encourage to the victims for taking legal action against the money fraud.	.008	.056	-.006	-.142	.887
MBPR8	The provision of punishment for MB illegal transaction reduce the abuse of MB activity	.026	.056	.020	.459	.646
MBPR9	The present mobile banking regulation increases the customer confidence level about mobile banking transactions.	0.40	0.39	0.45	4.042	.008

a. Dependent Variable: (MBPR10) Proper implementation MBS policy and regulation 2018 would ensure the enable favorable environment for mobile banking transaction.

### CONCLUSIONS

A supportive policy and regulatory system are essential for propelling these services. Consistent with national financial inclusion strategies, the country has developed mobile banking policy guidelines and regulations to ensure a favorable legal

environment to attain the sustainable financial inclusion goal. The mobile banking regulatory policy balances the mobile money market by ensuring the safety, security, availability, and accessibility of these services to all users. The mobile banking regulatory index value, regression analysis results, and expert opinions supported the idea that the present regulatory policy can create an enabling regulatory environment for mobile banking transactions. The present regulatory policy implementation increased customer confidence levels and made mobile banking transactions more stable, which led to financial inclusion in Bangladesh. However, this study has some limitations regarding the sample size, data collection methods, and analysis. The 400 sample respondents did not represent all occupational groupings. In-depth interviews and focused group discussions were not utilized in this study.

Additionally, quantitative analysis was performed using solely user perceptions. These limitations open the door for future research. Therefore, future research can include more research areas, a larger sample from more occupational groups, and use FGD and IDI as data collection tools to obtain reliable and accurate results.

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