

The Effect of Mobile Banking on the Financial Performance of Commercial Banks in Bangladesh

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DOI: <https://doi.org/10.51244/IJRSI.2024.1109045>

Received: 12 September 2024; Accepted: 24 September 2024; Published: 05 October 2024

ABSTRACT

The purpose of this study was to investigate the relationship between the growth of mobile banking and the financial performance of Bangladeshi commercial banks. The focus of the study was to clarify the mobile banking tactics used by commercial banks, evaluate their present financial situation, and identify how mobile banking impact their economic performance.

The research design for the study was a descriptive survey. A census of all 13 of the commercial banks registered at Bangladesh Bank was conducted. The Central Bank of Bangladesh's bulletins and financial statements covering the years 2018 through 2023 provided secondary data for the study. Using the statistical software for the social sciences (SPSS) version 26, descriptive statistics including mean, standard deviation, maximum, and minimum were utilized to examine the data and identify important patterns and sample features. After that, correlation analysis and a multiple regression model were used to evaluate the connections between the parameters.

The study comes to the conclusion that the quantity of transactions and the number of mobile banking users have grown to be significant factors in the financial performance of Bangladesh's commercial banks. Nevertheless, the quantity of transactions has no significant impact on the commercial bank's financial standing in Bangladesh.

The study leads to the execution that, despite a number of obstacles that must be overcome by cooperation amongst stakeholders, mobile banking is essential to improving the financial performance of commercial banks in Bangladesh.

Keywords: Mobile Banking, Financial Performance, Multiple Regression Model

BACKGROUND OF THE STUDY

Since the beginning of the 21st century, information and technological development has brought great changes in people's lives. The economy is constantly familiar with the terms E-Business, E-Commerce, E-Marketing, E-Banking internet banking, and agent banking (Tahura Pervin & Bipul Kumar Sarker, 2021) etc. due to this technology. One such term is Mobile Banking which is a new addition to modern banking. In 1999, the mobile banking system was introduced in European banks using the smartphone network through the Mobile Wap system. In this method, a customer completes financial transactions using a mobile or tab. This service with limited facilities was then known as SMS Banking. Later in 2010, with the creation of mobile banking applications (apps) for Apple's iPhone and Android based smartphones, the world of mobile banking services underwent a revolutionary change. With the flow of time, the quality and scope of mobile banking services is constantly increasing with the help of technology. Digital lifestyle has added a new dimension.

In 2010, Bangladesh Bank (BB Report, 2010) Bangladesh has permitted banks to launch Mobile Financial Services (MFS), the first mobile banking service in Bangladesh. In view of this, on March 31, 2011, private

bank Dutch-Bangla started providing mobile banking services and gradually other banks also introduced mobile banking services (Nabi, Sarder, Moula & Sarder, 2017). Currently 13 institutions (BB Report, 2024) are providing financial services (MFS) through mobile banking. Among these, Bikash, Cash, Rocket, Sure Cash, M Cash, Way, etc. are very well known names in the mobile banking sector of Bangladesh (Kabir, 2020).

The willingness for banks to offer mobile banking is one of the numerous developments in financial services. According to Rubin (2017), there has been a noticeable rise in the amount of mobile banking over the years, with 43% of bank account holders who own smartphones choosing to use mobile financial services. According to Kabir (2020), 70% of adults in South Asia have either a single or shared mobile money account. The new financial products and services offered by banks and mobile financial services providers are the primary reasons for the expansion of mobile money accounts in this region. The author discovered that Bangladesh is able to attain considerable financial inclusion at a faster pace because to a variety of financial innovation.

The government's National Financial Inclusion Strategy Paper published in 2021 mentions bringing 100 percent of the population under financial services by 2026. MFS is playing a significant role in financial inclusion. Through this, it has been possible to connect a large section of marginalized people who are out of banking services to the mainstream of the economy. Mobile banking has accelerated rural life and economic activities in terms of money transfer.

According to Bangladesh Bureau of Statistics (Census and Household Census 2022, BBS), at the national level, 25.35 percent of people in the country are doing financial transactions institutionally; while 31.26 percent of the urban (male 37.75%, female 24.60% and hijra 18.87%) and 22.51 percent of the rural (male 27.68 %, female 17.81% and hijra 14.53%) people are involved in economic activities i.e. they are transacting through bank, insurance, micro credit, post office, other mobile banking accounts besides cash or rocket. Mobile banking has accelerated rural life and economic activities in terms of money transfer. Therefore, it can be said that mobile banking services are contributing greatly to economic development.

LITERATURE REVIEW

The many factors influencing the efficiency and profitability of Indian banks were covered by Narwal and Pathneja (2015). They have examined the productivity and profitability of banks in the public and private sectors during two distinct time periods. Regression analysis was used to identify the factors that influence various bank groupings. The study's findings show that, over the course of the investigation, private sector banks were more productive than public sector banks. There was also no discernible difference in the profitability of the two bank groups.

Cleveland (2016) assessed the relationship between customer's willingness to utilize mobile banking and performance. The study was a correlation study, meaning that the adoption of mobile banking in Nigeria was correlated with bank performance among other variables. The study used OLS regression, and the results demonstrate that mobile banking improves banks' ability to retain customers while also strengthening their balance sheet. Additionally, labor expenses and investment in physical banking were decreased as a result of mobile banking. Bagudu, Mohd, and Roslan (2017) examined how mobile banking affects financial performance in a study of commercial banks in Nigeria. Twenty-two commercial banks were chosen at random to take part in the study, and two people were chosen from each bank to complete questionnaires used to gather data. The investigation ultimately came to the conclusion that mobile banking had a positive impact on the investigated institutions' financial performance. Bagudu, Mohd, and Roslan (2017) were only able to conduct their research in Nigeria, which has a distinct operating environment than Kenya. Kithaka (2014) conducted a survey among commercial banks in Kenya with the aim of assessing the impact of mobile banking on the financial performance of the companies. Cross-sectional surveys were used in the study to gather and evaluate data from commercial banks that provided mobile banking. Based on a panel data regression model, the study found that mobile banking has a significant direct impact on financial performance. Even if the activities of commercial banks at various regions varies, Kithaka (2014) was also based on all commercial banks in Kenya. Harelimana (2017) assessed how the use of mobile banking affected financial performance. Both primary and secondary data gathering methods were used in the investigation. Data were gathered and analyzed utilizing a hybrid approach that included quantitative and qualitative methods. The results demonstrated that mobile

banking use increased businesses' revenues. Harelimana (2017) is neither applicable nor generalizable to other banks because it was a case study of a single bank in Rwanda. Owusu Osei-Wusu and Amanor (2020) assessed the combined impact of internet and mobile banking on performance among commercial banks in Ghana. Panel data from twenty banks that were active between 2016 and 2019 was used in the study. The study used data envelopment analysis, and the results demonstrated a considerable improvement in financial performance when internet and mobile banking were used together. Owusu Osei-Wusu and Amanor (2020) were headquartered in Ghana, which has a distinct banking environment than Kenya. A research conducted in Kenya will make the findings more applicable there.

Financial performance measures include net interest margin (NIM), return on equity (ROE), and return on assets (ROA). These metrics act as stand-ins for determining the profitability, effectiveness, and general well-being of Kenya's commercial banks (Mwenda and Munyoki, 2018; Kiptui & Kangogo, 2021; Pandya, 2015; Alam, 2011; Guisse, 2012; Milhem and Istaiteyeh, 2015; Haque, 2014; Karim & Alam, 2013; Nataraga et al., 2018; Kablay & Gumbo, 2021). Understanding how the implementation of mobile banking will affect the operational effectiveness, profitability, and long-term sustainability of Kenya's commercial banks is a crucial area of research interest (Kamau & Kihara, 2020). Resolving this issue is critical to business administration policy development and strategic decision-making because it directly affects the long-term sustainability and competitiveness of financial institutions operating in Kenya's dynamic market environment.

In their paper "Determinants of Mobile Banking Adoption in Kenya: A Structural Equation Modeling Approach", (Kamau and Kihara, 2019) used a quantitative methodology with 500 Kenyan bank customers as participants. Structured questionnaires were used for data collection, and structural equation modeling (SEM) was used for analysis. With a p-value of less than 0.05, the study indicated that perceived utility and perceived simplicity of use had a significant impact on the uptake of mobile banking. Future research is necessary to examine how demographic characteristics modify the association between mobile banking use and financial success, as the study did not examine differences in adoption rates of mobile banking among demographic groups. There are theoretical analyses of the adoption of mobile banking (Ngugi et al., 2019), but there are few empirical research that specifically look at how mobile banking affects Kenyan commercial banks' financial performance.

In their study, "The Impact of Mobile Banking on the Return on Assets of Commercial Banks in Kenya", (Mwenda and Munyoki, 2020) applied a quantitative methodology by utilizing a five-year longitudinal examination of financial data from 10 commercial banks in Kenya. Regression analysis was used to examine the data, which were taken from annual financial reports. A p-value of 0.07 corroborated the study's finding that there was a positive but statistically insignificant link between the use of mobile banking and return on assets (ROA). There is a conceptual vacuum, though, as the study did not look at how various commercial banks define and quantify ROA. Subsequent investigations have to go into the methodological ramifications of assessing the influence of mobile banking on financial performance using a variety of ROA metrics. Moreover, there is a clear chronological discrepancy in the literature, with the majority of research carried out prior to the present explosion in mobile banking usage, highlighting the need for updated empirical knowledge (Mwangi & Odongo, 2020).

This study is important because it aims to fill up current knowledge gaps and provide stakeholders in the banking sector with useful information. It aims to clarify the relationship between mobile banking and financial performance so that commercial banks, regulators, and policymakers may make well-informed strategic decisions. A banking service that is both financially sustainable and provides consumers with user-friendly offerings may thrive in the market. In light of this, the current papers seek to analyze the financial performance of commercial banks for the 2019–20 fiscal year using consolidated balance sheets and income and expense data (Paramasivan & Ravichandiran, 2022).

Although these studies offer insightful information about the connection between mobile banking and the financial performance of Bangladeshi commercial banks, they also highlight methodological, contextual, and empirical shortcomings in the body of previous research. To further this field's understanding and support evidence-based decision-making in the banking industry, these gaps must be filled.

Conceptual Framework:

The conceptual framework provides an example of how the studies predicted and predictor variables are related. The study was guided financial performance as the dependent variable whereas the study independent variables were: yearly value moved through mobile banking, number of transactions, and number of users.

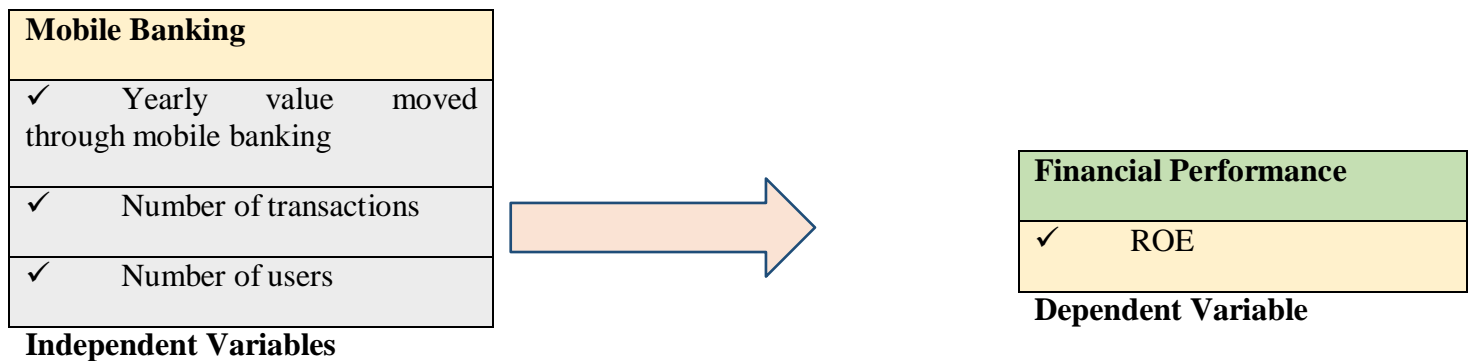


Figure 01: Conceptual Framework

Problem Statement:

Because of the financial sector's reform and technological adaption, Bangladesh's banking industry has experienced remarkable growth in terms of retail banking, viability, profitable operation, innovative service design, and competitive mode. Even with these advancements, the vast majority of people—especially the impoverished and those living in rural areas—remain unable to access various financial services because traditional financial institutions are closed to them, there are no suitable financial programs, service fees are excessive, and information is insufficient. In this aspect, the banking sector in Bangladesh has experienced significant growth in the mobile banking sector, which is expected to continue at an explosive rate due to the entry of a few telecommunication companies that have drawn a large number of users. Mobile banking has revolutionized the way people in developing countries transfer money and is now positioned to provide more sophisticated banking services that could significantly improve people's lives. Despite its benefits, the contribution of mobile banking to the financial performance of commercial banks remains uncertain. Therefore, the goal of this research is to determine how mobile banking and commercial banks' financial performance are related.

Significance of the study:

Bangladesh is depicted as the fastest growing mobile communications country in Asia. Currently, the banking industry in Bangladesh has employed the use of Information and Communication Technology (ICT) as an effective and efficient means of conducting financial transactions. As a result, the number of mobile banking users in Bangladesh is increasing day by day. As money can be sent quickly from one end to another within a very short period of time, this banking facility is being rapidly adopted by many people in urban and peripheral areas.

As a result, the number of mobile banking users in Bangladesh is increasing day by day (Huda et al., 2020). As money can be sent quickly from one end to another within a very short period of time, this banking facility is being rapidly adopted by many people in urban and peripheral areas. Since, this service is operated through mobile operation, users do not have to go to the bank separately, do not have to stand in queues, do not have to wait at any office. Money can be transacted by agents of certain operators wherever you are. Mobile banking is not only limited to the convenience of bringing and withdrawing money. Through this, various transactions can be done starting from payment of electricity bill, gas bill, water bill, internet bill, school-college fee in one click. On the one hand, as time wastage is reduced, on the other hand, it has become possible to take banking services to the marginalized people.

Mobile Financial Services (MFSs) in Bangladesh:

As previously indicated, Dutch-Bangla Bank Limited (DBBL) initiated MFSs in Bangladesh in 2011, but it required an additional two years for the full-fledged operation to begin. At the moment, 28 banks are licensed to offer MFS, while several other institutions are awaiting approval. Eighteen of the 28 institutions that hold licenses are actually offering the services. The following are the services that these organizations offer:

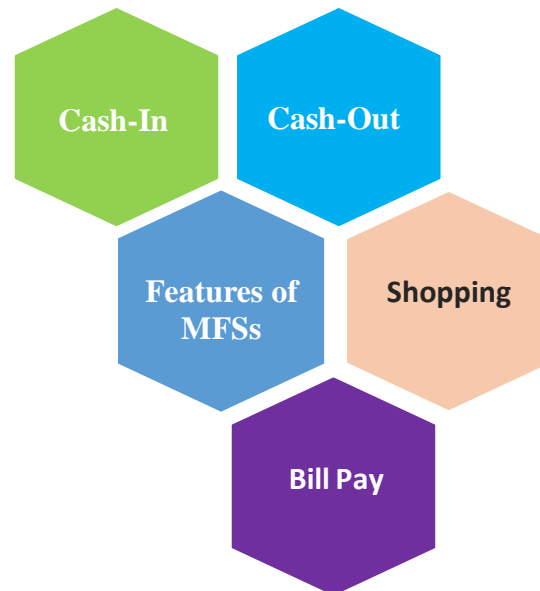


Figure 02: Current Services Offered in Bangladesh by MFS Providers

The following services are currently offered by Bangladesh's commercial bank: cash-in, cash-out, send money, pay bills, add money, and domestic shopping. The MFS services are used for utility bill payments, salary disbursements, merchant payments, government payments, and inward remittances in addition to cash-in, cash-out, and transfer money functions.

Objectives of the Study:

The primary objective of this research is to address the knowledge gap regarding mobile banking's consequence for Bangladeshi commercial banks' financial performance. From that point of view, specific objectives of this research are as follows:

- i. To identify the mobile banking features provided by commercial banks in Bangladesh.
- ii. To determine the association mobile banking and financial performance.
- iii. To understand the present scenario of mobile banking of commercial bank in Bangladesh.
- iv. To determine how mobile banking has impacting Bangladesh's commercial banks' financial performance.

RESEARCH METHODOLOGY

Based on secondary data from publications, research papers, articles, newspapers, magazines, journals, reports, and websites of regulatory bodies, the study used a descriptive research design. This approach is favored since it demonstrated how changes in one variable in the study affect changes in other variables. It was centered on how mobile banking explains financial performance: the amount transferred annually via mobile banking, the volume of transactions, and the number of users. The 13 listed commercial banks that were active between 4th quarters 2018 and 2nd quarter 2023 were the focus of the study. Without conducting any sample, a census was employed. The current investigation used annual panel data sets that ran from December 2023 to December 2016. The number of transactions, value of transactions, number of users, and ROE for mobile banking were obtained from Bangladesh bank annual reports and published audited annual reports of banks. Microsoft Excel and SPSS version 26.0 were used for the analysis of the panel data that was gathered between 2018 and 2023.

Return on Equity (ROE) was used in the study as an indicator of financial performance, while the number of users, value of transactions, and number of transactions were considered independent variables. The researcher used a multiple regression analysis with the following regression model to determine the impact of mobile banking on the financial performance of commercial banks in Bangladesh. Equation (1) made the panel regression model that served as the structure for the research.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$$

Where,

Y = Financial Performance of Commercial Banks (ROE)

X₁ = Yearly value moved through mobile banking

X₂ = Number of Transaction , **X₃** = Number of Users

ε = Error Term, β_0 = Constant,

β_1 = Coefficient of X₁, β_2 = Coefficient of X₂, β_3 = Coefficient of X₃

The researcher used an Analysis of Variance (ANOVA) to evaluate the model's validity and the impact of mobile banking on the financial performance of Bangladeshi commercial banks. The significance value was examined by the researcher after obtaining the ANOVA statistics. A 95% confidence level and a 5% significance level were used to test the study.

RESULTS AND FINDINGS

Table 01: Frequency Distribution of MFSs by Gender, Residence, Users and Transactions

Year	Gender		Region		No. of Users (In Million)	All Transactions	
	Male (%)	Female (%)	Urban (%)	Rural (%)		Number (In Million)	Amount (In Million)
2024*	58.1	41.7	43.9	56.1	299.9	607.7	1409520.9
2023	57.9	41.8	43.2	56.8	220.5	550.9	1245484.6
2022	57.8	41.9	44.5	55.5	191.1	428.3	961328.6
2021	57.1	42.7	42.8	57.2	169.7	391.6	810991.3
2020	53.2	46.6	38.1	61.9	122.9	315.1	617575
2019	51.5	48.3	37.8	62.2	87.4	235.8	427536.5
2018	53.3	46.7	34.8	65.2	67.7	210.2	321161

Data Source: Payment Systems Department (PSD), Bangladesh Bank (BB)

Accounts are being opened in mobile banking services without any hassle at home. As a result the number of customers is increasing day by day. According to Bangladesh Bank's MFS updated (BB Report, 2024) statistics, the number of customers registered in mobile banking till May 2024 is 299.9 million; Out of this, the number of registered customers in Urban area is 100982649 (**43.9%**), while rural area is 128936264 (**56.1%**). The volume of transactions in the mobile banking sector is increasing with the number of customers. In May 2024, customers transacted TK 1409520.9 million through mobile banking. Which was TK 1083551.9 million in May 2023. Compare to the last year, the volume of transactions in the mobile banking sector has increased by 30.08%. This huge amount of money transactions is contributing to the overall development of the country. Per capita income is also increasing.

Total Users of Mobile Banking:

Table 02: Frequency Distribution of Mobile Banking Users Year wise (in million)

Period	2018	2019	2020	2021	2022	2023	2024*
No. of Mobile banking Users	67.7	87.4	122.9	169.7	191.1	220.5	229.9

Data Source: Payment Systems Department (PSD), Bangladesh Bank (BB), May 2024*

The desired outcome of the study was to determine how the number of mobile banking customers has changed over time across all commercial banks. The results are displayed in Figure 03

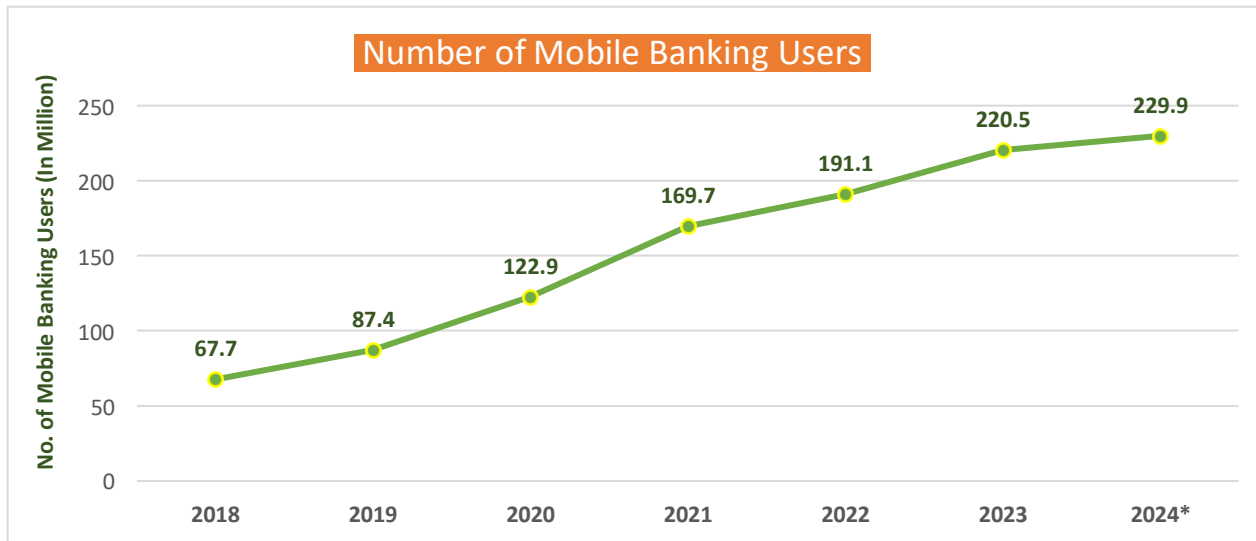


Figure 03: Number of Mobile Banking Users

At the beginning of the year, the number of mobile banking users was 67.7 million. Return on asset increased gradually to 169.7 million in 2021 and then it continued its upward trend in the next four years to reach a peak at 229.9 million in 2023.

Total Transaction Volume via Mobile Banking:

During the study period, the study aimed to determine the monthly value transferred through mobile banking. The results are shown in figure 04 below:

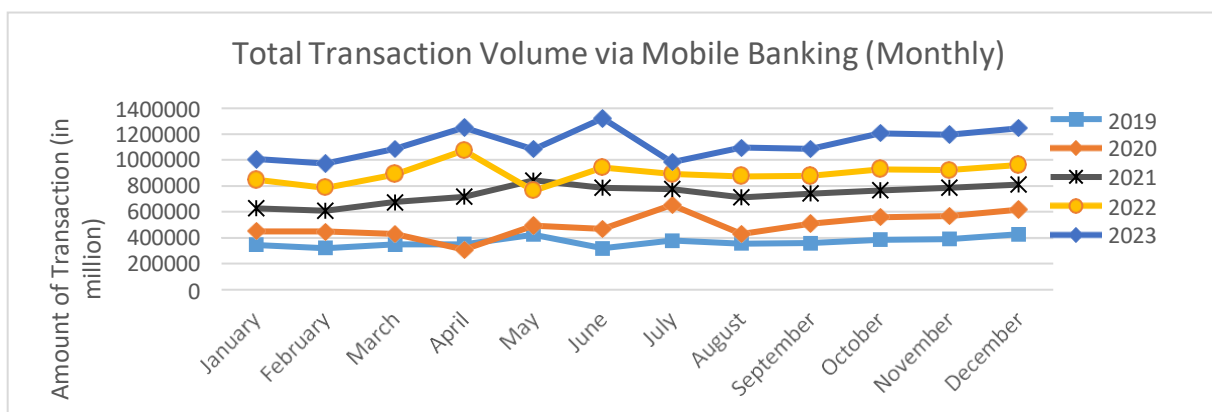


Figure 04: Quantity of Transactions of Commercial Bank in Bangladesh through MFSs

According to the study's conclusions, which are shown in figure 04 above, the total amount transferred through mobile banking in the study's first month was TK 346769 million. This sum increased month over month in

2019 to reach TK 427536.5 million at the end of December. In 2019, the yearly mean was TK 3675582.3 million. In January 2020, TK 450608.4 million was the total amount transferred by mobile banking; this sum continued to rise quickly throughout the year, ending in December at TK 617575 million. 2020 had an annual average of TK 494889.71 million.

The total money transferred by the end of January for the year 2021 was Tk 626892.4 million. Over the year, this sum increased gradually to conclude at TK 810991.3 million. 2020 had an annual average of TK 737574.87 million. The sums that were exchanged through these services in 2022 remained well over 1074603.1 million. This year was notable for the typical fluctuations in transactions. By the end of the year, from a low of TK 763119.7 million in May 2022 to TK 961328.6 million. The amount of money that were exchanged through these services in 2023 remained well over 847834.1 million. During this year, there was a notable variance in transactions with the 1321753 characteristic. Over the conclusion of the research period, from a low of TK 983068.5 million in May 2023 to TK 1245484.6 million.

Number of Transaction Year wise:

During the study period, the study aimed to determine the number of transaction through mobile banking. The results are shown in figure 05 below:

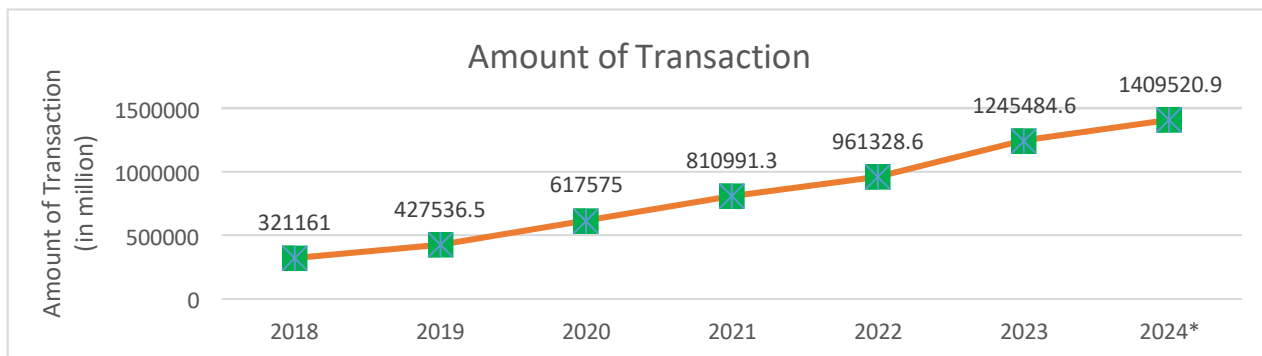


Figure 05: Number of Transactions of Commercial Bank in Bangladesh though MFSs

Financial Performance of Commercial Banks in Bangladesh:

Return on Equity:

During the research period, the banking sector's consolidated financial performance was examined. The results are displayed in figure 05 below:

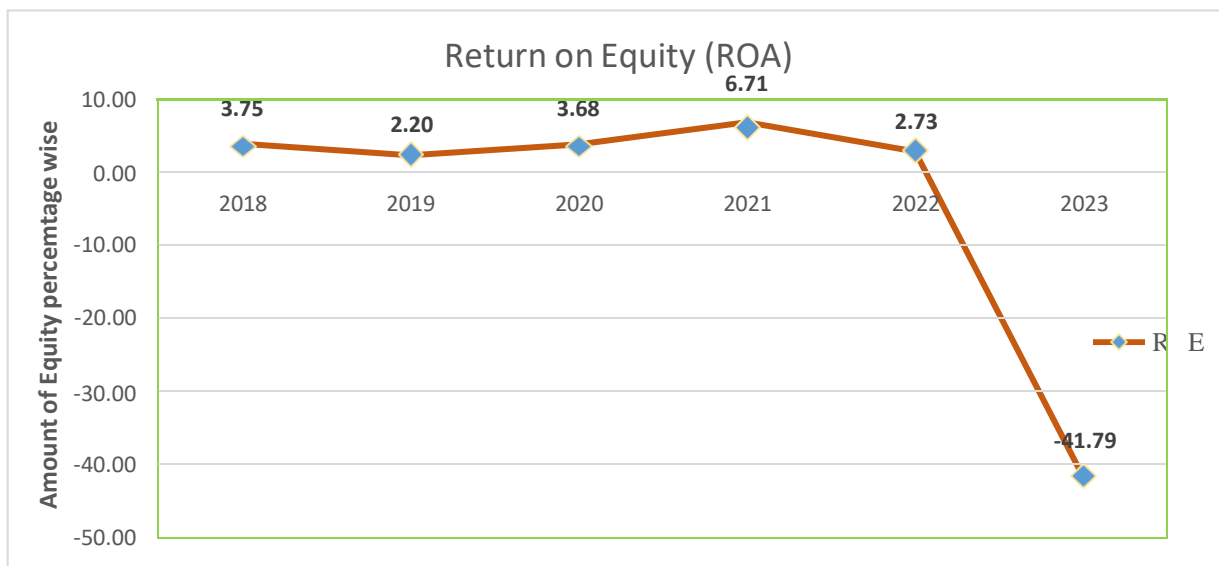


Figure 06: Return on Equity Year wise

In the year 2018, the ROE started at 3.75%. The results indicate a small decline in the banking sector's financial performance in the next year, there was a fall of around 2.20%. There was a sharp increase in Return on Equity (ROE) of commercial bank of Bangladesh from 2019 to 2021 until it reached a high of almost 6.71 in 2021; However, Return on Equity began to decrease enormously to -41.79% in 2023.

Regression Analysis on ROE:

Descriptive Statistics:

The mean and standard deviation of the descriptive analysis results serve as an indicator for the level of quality of the study data. Thus, the different factors that this study took into account. These include bank financial performance (ROE) and mobile banking (number of users, number of transactions, and amount of transactions). Better data quality is typically indicated by a greater mean when compared to the standard deviation. There were 19 observations in all, according to the descriptive data in table 4.2.

Table 03: Frequency Distribution of Descriptive Statistics

	N	Min	Max	Mean	Std. Deviation
Mobile Banking					
Number of Mobile Banking Users	19.0	67.7	207.3	135.6	47.8
Number of Transactions	19.0	200.5	572.6	339.4	108.5
Amount of Total Transaction (Quarter Basis)	19.0	319521.8	1321753.0	678554.0	290197.4
Financial Performance					
Return on Equity	19.00	-104.70	19.30	-3.14	25.90

Data Source: Research Data, 2024

A substantial amount of variance was seen in the number of mobile banking users, with an average of 135.6 million users, the greatest number being 207.3 with a standard deviation of 47.8, and the lowest number being 67.7. When measured by the quantity of transactions made using mobile devices, mobile banking has a mean value of 339.4 million and a standard deviation of 18.5 million. The number of transactions has two minimum and maximum values: 200.5 million and 572.6 million, respectively. With 1321753.0, an average of TK 678554.0 million in mobile banking transactions were reported. With a standard deviation of 290197.4, this value is the largest and suggests a significant variance in the total number of transactions.

Based on ROE, the average financial performance of Bangladesh's commercial banks is -3.14 percent, with a standard deviation of 25.90. Given that the standard deviation is higher than the mean, this implies that the distribution of the data is skewed. The ROE has a minimum of -104.70 and a maximum of 19.30 values.

Financial Performance and Mobile Banking:

The study examined the association between the financial performance of commercial banks registered at Bangladesh Bank in Bangladesh and mobile banking.

Table 04: Analysis of Correlation

		Return on Equity	Number of Mobile Banking Users	Number of Transactions	Amount of Total Transactions
Return on Equity	Pearson Correlation	1	-0.389	-.553*	-.566*
	Sig. (2-tailed)		0.099	0.014	0.011
	N	19	19	19	19

Number of Mobile Banking Users	Pearson Correlation	-0.389	1	.970**	.970**
	Sig. (2-tailed)	0.099		0	0
	N	19	19	19	19
Number of Transactions	Pearson Correlation	-.553*	.970**	1	.996**
	Sig. (2-tailed)	0.014	0		0
	N	19	19	19	19
Amount of Total Transaction (Quarter Basis)	Pearson Correlation	-.566*	.970**	.996**	1
	Sig. (2-tailed)	0.011	0	0	
	N	19	19	19	19

* Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).

There was a -0.389 negative association between the number of mobile banking customers and the commercial banks' financial performance. Additionally, there was a -0.553 negative link between the number of transactions and the commercial banks' financial performance. Comparably, there was a statistically significant negative correlation -0.566 between the quantity of transactions and the financial performance of commercial banks at Sig. = 0.05 and 01.

Model Summary:

Multiple regression analysis was done to determine how mobile banking services affected Bangladeshi commercial banks' financial performance. Regression coefficients were obtained for the study using SPSS Version 26, which was then utilized to determine the strength and direction of the association. Table 2 displays the summary of the regression analysis model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.870 ^a	0.757	0.708	13.99907
a. Predictors: (Constant), Amount of Total Transactions, Number of Mobile Banking Users, Number of Transactions				
b. Dependent Variable: Return on Equity (ROE)				

Table 05 shows the study results. The Coefficient of Multiple Determination (R²) is 0.757, indicating that the regression model has a "high goodness of fit" and can be responsible for up to 75.7% of the variation in the financial performance of commercial banks. The remaining 24.3% of the variation was attributed to variables not included in the study. The analysis of variance (ANOVA) was used in the study to ascertain the total impact of the independent factors on the dependent variable. The results of the investigation are shown in Table 06.

Table 06: Mobile Banking's Significance for Financial Performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9133.133	3	3044.378	15.535	.000 ^b
	Residual	2939.611	15	195.974		
	Total	12072.744	18			
a. Dependent Variable: Return on Equity						
b. Predictors: (Constant), Amount of Total Transaction (Quarter Basis), Number of Mobile Banking Users, Number of Transactions						

As highlighted by Table 06, which contains the findings from the research, with a p-value of 0.000, the F static is 15.535. This means that since the p-value is less than 0.05, the cumulative impact of mobile banking services on the financial performance of commercial banks in Bangladesh is statistically significant.

Table 07: Regression Model Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-11.545	30.643		-0.377	0.712
	Number of Mobile Banking Users	1.471	0.289	2.715	5.086	0.000
	Number of Transactions	0.031	0.344	0.128	0.089	0.931
	Amount of Total Transaction	0.372	0.987	0.456	4.290	0.036

a. Dependent Variable: Return on Equity (ROE)

The researcher conducted a regression analysis so as to determine the relationship between mobile banking and financial performance of banking industry in Bangladesh. The regression equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$) was:

$$Y = -11.545 + 1.471 X_1 + 0.031 X_2 + 0.372 X_3 + \epsilon$$

Y = Financial Performance of Commercial Banks (ROE)

X₁ = Yearly value moved through mobile banking

X₂ = Number of Transaction

X₃ = Number of Users

This indicates that since the p-value is less than 0.05, the relationship between the quantity of transactions and the number of mobile banking users and the financial performance of commercial banks in Bangladesh is statistically significant. The number of transactions, however, did not reach statistical significance.

As indicated by the above-established regression line, the financial performance of commercial banks in Bangladesh will be -11.545 when all other independent variables are held constant. According to the data results evaluated, an increase of one unit in the number of users would result in a 1.471 ($t = 5.086$; $p < 0.000$) rise in the financial performance of the banking sector when all other independent variables are set to zero. The financial performance of the banking industry will rise by 0.031 ($t = 0.089$; $p < 0.931$) for every unit increase in transactions made through mobile banking, however this difference is statistically insignificant. Additionally, the financial performance of the banking industry will rise by 0.372 ($t = 4.290$; $p < 0.036$) for every unit increase in the quantity of money transferred through mobile banking.

CONCLUSION

It frequently becomes apparent that mobile phones offer enormous potential for completing financial transactions, which will drive financial growth at a significantly lower cost and with more efficiency. Benefits from mobile banking should be reachable to the average citizen even in the most faraway regions within the country in order to promote inclusive growth. To achieve this, efforts must be made by every stakeholder involved, including regulators, the government, telecom service providers, manufacturers of mobile devices,

and bankers, to ensure that mobile banking is adopted by a wider range of consumers, from high-end to low-end, and from metro regions to middle-class and rural areas.

RECOMMENDATIONS

To improve the strength of the internet and network coverage across the nation, the banking industry must form partnerships with the telecommunication service providers. According to the survey, commercial banks should start assessing the efficacy of the customer service provided by mobile banking instead of only concentrating on improving accessibility.

The study recommends commercial banks spend money educating customers about new services and products designed specifically for mobile banking. It is recommended that commercial banks allocate sufficient resources towards doing research aimed at facilitating product innovation on current mobile banking systems. The study suggests that in order to preserve the finances of mobile banking customers, the government and the banking industry should come to an agreement on the suggestion, evaluation, and adoption of the most efficient and user-friendly mobile banking model. This is due to consumer concerns alleging that certain commercial banks' digital lending practices have strict credit collection rules and processes. Finally, banks must create ways to assist clients in understanding terms and conditions and be open and honest about pricing, fees, and other charges.

It's clear that regularly system attacks negatively impacts mobile banking. Banks should put in place measures to ensure that the person using the mobile banking service is the client in order to reduce this risk. The Bangladesh Central Bank should see to it that the Cyber security Guidance Note is implemented appropriately. Moreover, access to the mobile banking application shouldn't be granted only by having the mobile device. Users wishing to access the mobile banking service should, at the absolute least, be required to undergo robust verification and have their device password secured. It also recommends that researchers and academic institutions carry out more studies to investigate the long-term impacts of mobile banking on social development, economic growth, and financial performance in Bangladesh.

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