



Kabir, M.H., Sadrul Huda, S.S.M., & Faruq, O. (2020). Mobile Financial Services in the context of Bangladesh. Copernican Journal of Finance & Accounting, 9(3), 83–98. <http://dx.doi.org/10.12775/CJFA.2020.013>

**MD. HUMAYUN KABIR\***

East West University

**S. S. M. SADRUL HUDA\*\***

North South University

**OMAR FARUQ\*\*\***

East West University

## MOBILE FINANCIAL SERVICES IN THE CONTEXT OF BANGLADESH

**Keywords:** Financial services innovation, mobile financial services, mobile banking, internet banking, financial inclusion, financial technology.

**JEL Classification:** G20, G21, G23.

**Abstract:** Financial service is one of the significant finance areas, which can be regarded as the functions provided by organizations that operate in the finance industry. In this dynamic era of business, there has been notable progress in the innovation of

---

Date of submission: June 20, 2020; date of acceptance: August 18, 2020.

\* Contact information: humayun.kabir@ewubd.edu, Department of Business Administration, East West University, Dhaka, Bangladesh, phone: +8809666775577 ext. 406; ORCID ID: <https://orcid.org/0000-0002-5648-197X>.

\*\* Contact information: sadrul.huda@northsouth.edu, Department of Management, North South University, Dhaka, Bangladesh, phone: +880255668200 ext. 1730; ORCID ID: <https://orcid.org/0000-0002-6253-3043>.

\*\*\* Contact information: omar@ewubd.edu, Department of Business Administration, East West University, Dhaka, Bangladesh, phone: +8809666775577 ext. 168; ORCID ID: <https://orcid.org/0000-0002-0733-8691>.

various financial services. Financial services innovation can be termed as new ways and processes of providing financial services to customers. The recent development of mobile banking, short messaging service (SMS) banking, agent banking, internet banking, mobile money account are remarkable instances of financial services innovation in Bangladesh. This paper studies the present scenario of mobile financial services, regulatory framework, and prospects and challenges of Bangladesh. This study is a descriptive study where quantitative data has been collected from secondary sources. The study's findings suggest that mobile financial services are accelerating in Bangladesh, but diversification of services is required to attain sustainable long-term growth. The concerned policymakers and practitioners' can use the study to enhance mobile financial services in Bangladesh.

### ■■■ INTRODUCTION

Mobile Financial Service (MFS) in Bangladesh is growing at an increasing rate and becoming popular among the customers at faster rate. More and more un-banked population are coming under the umbrella of mobile financial services since the mass people can easily and conveniently avail those Bangladesh Bank (2018) services. Specified: "Mobile Financial Services (MFS) refers to electronic money (e-money) services provided against a particular mobile or cell phone number of a client (termed as mobile account), where the record of funds is stored on the electronic general ledger. These services can be draw-down through specific payment instructions to be issued from the bearer's mobile phone or through alternative digital process or device by ensuring the authenticity of the transaction. However, unlike e-money products, 'cash-in' and 'cash-out' and other services as permitted by Bangladesh Bank (BB) at agent locations are allowed for MFS accounts". Mention (2014) stated, "Financial services have been referred as facilities such as saving accounts, checking accounts, confirming, leasing, and money transfer, provided generally by banks, credit unions, and finance companies, whereas The concept of "financial innovation" can be defined as making and promoting new financial products and services, developing new processes to facilitate financial activities, to interact with customers and to design new structures for financial institutions".

As part of financial services innovation, the use of mobile and internet became one of the most common phenomena in today's financial sector. Mobile banking (m-banking) enables a customer to interact with a financial institution through digital devices, for example, mobile phone or personal digital assistant (PDA). Deutsche Bank introduced M-banking service in 1999. Initially, mobile banking was much centered on short messaging service (SMS) Bank-

ing. Currently, m-banking is offering almost all the e-banking services e.g. on-line service, credit/debit card operation by virtue of significant technological advancement in mobile technology. The cost of using mobile banking has been decreased gradually since its inception. Mobile banking also allows users to perform the basic banking functions, for example, checking balance, fund transfers, account transactions, utility bill deposit, plastic money management and so forth.

Several features of mobile phones enables the mobile based banking functions. These are: SMS/MMS, Browsing options, and mobile apps. Through SMS options banking functions can be performed by connecting the client and the company through plain text messages; Mobile browsing options can be used to access the banks websites for doing banking function and m-apps can be used to complete financial transactions through mobile devices.

Another form of financial services innovation is agent banking that was introduced in Bangladesh recently. Agent banking is limited scale banking activity of banks to the underserved population of the society through an agent who has a legal agreement with the bank. Agent banking is considered to be one of the major developments to ensure maximum coverage of banking services even in the remotest area. The guidelines of agent banking by Bangladesh Bank Identified: “an agent is the owner of the outlet who conducts banking transactions on behalf of a bank”. The central bank of Bangladesh, has approved some activities that an agent banking outlet can perform. Those activities include deposits and withdrawals of cash in small amount, small amount loan disbursements and recovery of loan, remittance service, bill payment, small value fund transfer, account opening, debit and credit card application, payment of insurance premium and so forth.

These innovations in banking services have revolutionized the path of enriching financial inclusion. Financial inclusion is a challenging task in a country like Bangladesh. Gupta (2013) rightly pointed out that “mobile technology is transforming the global banking and payment industry by providing added convenience to existing bank customers in developed markets, and by offering new services to the unbanked customers in emerging markets”. Kabir (2020) examined the acceleration of financial inclusion due to technological advances called financial inclusion. The author found that many types of financial innovation help South Asian countries achieve significant financial inclusion at a higher rate.

In Bangladesh, there is a scope for diversification and innovation of mobile financial services, but only a few articles discussed this issue. In our analysis, we have proposed a model that will help the mobile financial services provider to diversify their product and services for the large number of customers. Customers of the country's MFS provider will be able to avail some traditional banking services through their mobile phone if our proposed model is being implemented. Huda, Kabir, Popy and Saha (2020) stated that financial services through mobile are increasing in Bangladesh, but it needs to increase at a higher rate to fulfill robust financial inclusion.

The objective of the paper is to present the current scenario of mobile financial services, regulatory framework, and prospects and challenges of Bangladesh.

#### LITERATURE REVIEW

Bangladesh achieved a tremendous growth in banking sector in the context of retail banking, viability, profitable operation, new service design and competitive mode by virtue of reformation of financial sector and adaptation of technology. Despite such progress, a vast majority of the people, particularly the poor and rural people still cannot enjoy different financial services due to their inaccessibility to traditional financial organizations, absence of appropriate financial programs, higher service charge and for inadequate information. Given this, Bangladesh has allowed banks to introduce mobile financial services (MFS) in Bangladesh in 2011 (Nabi, Sarder, Moula & Sarder, 2017). Mobile money account ownership in Bangladesh has a significant growth in the last few years because of the easy accessibility, availability of services, and ease of use of the mobile financial services provides by bKash, Nagad, Rocket, and others (Kabir, 2020).

Financial institutions have recognized the need for innovation for the long term and sustainable growth and profitability. Cutting cost and boosting efficiency approaches may lead to short term results but it won't drive the long term benefits for financial institutions (Wilkes, 2014). Mention (2014) suggested: "Innovation in financial services requires an interdisciplinary approach. Experts in innovation, management, marketing, economics, business, finance, technology, and law need to share their insights to fully foster an open innovation approach in financial services".

There has been a tremendous development of the arena of innovation in financial services in recent times. It hardly imaginable the current financial system without electronic fund transfers, automated teller machine (ATM), mobile banking, digital payment, and Internet Banking among many other innovative implementations (Fonseca, 2004). One of many innovations of financial services is the mobile banking facility provided by banks. Its' was found that the volume of mobile banking was increasing over the years with a significant percentage (43%) of bank account holders who have mobile phones opted for mobile financial services (Rubin, 2017).

In Bangladesh, 57% of its 150 million inhabitants have a mobile phone, but only 13% have a bank account (Gupta, 2013). This statistics clearly reflect the drastic increase of mobile banking user for the last several years all over the world which opens a door of far-reaching impact financial services through mobile devices. Moreover, there has been a report that mobile banking continues to disrupt more traditional banking channels. Mobile financial service has the taken third place (replacing the branch teller machine) though its' still lagging behind ATM and online banking services as the most preferred way of interacting with bank of the customers' (Rubin, 2017).

Mobile banking is becoming popular in developing areas of the world. Between 2000 and 2010, according to the World Bank (2013), developing countries saw mobile usages jump from 29 to 77 percent, more than in developed nations. Mobile money accounts worldwide have jumped from 155 million in 2012 to 299 million by the end of 2014, much of them in the poorest parts of the world. The SAARC countries, like Pakistan, India and, Nepal, have already introduced mobile banking and a massive portion of their population is using this service as a substitute of traditional banking operation.

Dutch Bangla Bank opened the first mobile banking service in Bangladesh in 2011. At the time only about 13 percent of the country's 160 million citizens had bank accounts, but close to half of its mostly rural population used mobile phones. Realizing the global thrives and significance of mobile financial services, the country's central bank has adopted Guidelines for Mobile Financial Services (MFS) in 2011 and revised in July 2015. Mobile financial services are availed by customers by using their cell phone or personal digital assistance. MFS can be ranged from mobile banking to different types of payment (Cheney, 2008). "Some of the first commercial applications of mobile internet involve wireless or mobile banking. These developments build on earlier ideas

of customer channel extension through telephone banking and online banking (Barnes & Corbitt, 2003).

Mobile banking services aim to provide mobile financial services to a broad range of customers not to destroy the branch banking system. There is a huge prospect of mobile financial services in Bangladesh and it can align with the vision of digital Bangladesh. "Through mobile banking (m-banking) one can avail various services i.e.; utility bill payment, fund transfer, shopping, cash withdrawn from selected ATM or Cash point and many more exciting facilities" (Islam, 2013). Siddiquie (2014) pointed out: "banks alone cannot provide this service; telecom operators are one of the key important factors to start the operation. Most of the operators understood this at a very primary stage of MFS operation, that's why they forced the banks to get into a contract that facilitates the telecom operators significantly".

The surge of availing mobile financial services can be attributed to various rationales. Mattila (2003) identified that: "the most important attribute in encouraging the use of mobile banking was related to the costs of conducting banking". Moreover, "perceived risks (except social risk), trust, convenience, and comparative advantages are the factors affecting the behavioral intention of mobile users to adopt mobile banking services in Bangladesh" (Kabir, 2013).

Again, mobile banking facility works as a competitive edge for the institutions that are providing this service to their customers. In the face of increasing competition, mobile technologies can provide competitive advantages for financial institutions to retain their customers and to provide better services to them (Barnes & Corbitt, 2003). Considering these factors, being competitive and attracting and retaining more customers, banks of Bangladesh is devoting into adaptation of mobile financial service. There has been a remarkable improvement in adopting electronic banking services by Bangladeshi banks for the last one decade. These activities include telebanking, online corporate banking, electronic fund transfer, ATM, credit card, debit card, merchant account service and internet banking (Amin & Rahman, 2010). The banking industry has already been in the mature stage of these services. So, it needed to innovate and implement new financial services in addition to traditional banking services.

Kabir (2020) identified that 70 percent adult of the South Asian region has the individual or joint mobile money account. The growth of mobile money accounts in this region is especially for banks and mobile financial services providers' innovative financial products and services. According to Sarma (2008),

“In the financial inclusion index Bangladesh ranked 69th, India ranked 50th, Pakistan ranked 67th, and Sri Lanka ranked 63rd among 100 countries as per the dimension of Ease of availability and usage of financial systems.”

### **RESEARCH METHODOLOGY AND THE COURSE OF RESEARCH PROCESS**

This study is a descriptive study where quantitative data has been collected from secondary sources to examine the mobile financial services in Bangladesh by presenting the growth of different mobile financial services accounts over the years. The data was collected from the central bank's database, articles, and reviewing numerous literature. The mobile financial services data of the year 2014 and 2019 were collected from the central bank's database to analyze the growth of transactions of eighteen distinct mobile financial services accounts. The comparative summary statement of Bangladesh's current mobile financial services scenario has also developed from the collected data set.

### **EXISTING FINANCIAL SERVICE INNOVATIONS OF BANGLADESH**

The 7 billion people in the world have 6 billion mobile phones but only 2 billion bank accounts. Mobile financial services could be a good option for financial inclusion in those societies where people have fewer bank account but more mobile phones. It is clearly noteworthy that the use of mobile in banking can ensure a large extent of financial inclusion rather than mere bank account based banking service. This idea has led to implementing mobile banking services in Bangladesh's banking sector along with traditional banking services. The response is outstanding and the number of users of mobile banking in the country has stood at 67.54 million at the end of March 2019. In the last five years, the number of clients increased by 168.16%. Mobile banking includes two other aspects: SMS banking and MFS provider. Out of the total 59 scheduled banks, 16 banks are currently providing mobile banking services to their clients. Among the 16 banks, BRAC Bank's bKash is in the leading position. The other banks platforms are Nagad, Rocket, UCash, mCash, SureCash, MYcash and so forth. “According to guidelines issued in 2011, Bangladesh Bank permits the following Mobile Financial Services (in broad categories):(i) Disbursement of inward foreign remittances;(ii) Cash in /out using mobile account through agents/ Bank branches/ ATM's/ Mobile Operator's outlets; (iii) Person to Busi-

ness Payments (e.g. utility bills payment); (iv) Business to Person Payments (e.g. salary disbursement by corporate bodies/industries/offices etc.); (v) Government to Person Payments (e.g. elderly allowances, freedom-fighter allowances, subsidies, etc.); (vi) Person to Government Payments e.g. tax, levy payments; (vii) Person to Person Payments (among registered account holders of the same bank) and (viii) Other payments like microfinance, overdrawn facility, insurance premium, DPS and so forth”.

### COMPARATIVE SUMMARY STATEMENT OF MFS

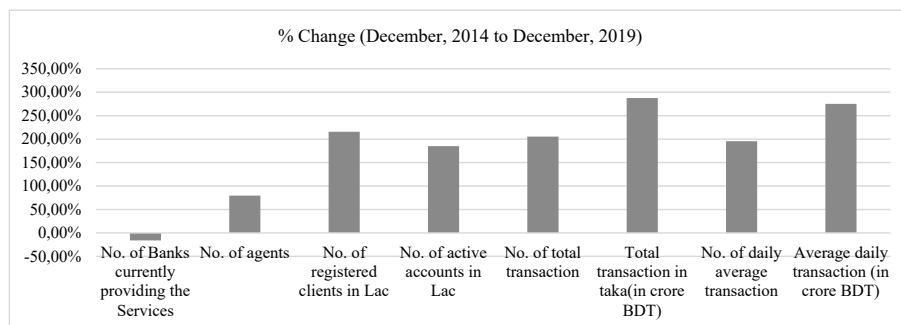
**Table 1.** Key Information on Mobile Financial Services in Bangladesh from December, 2014 to December, 2019

SL	Description	Amount in December, 2014	Amount in December, 2019	% Change
1	No. of Approved Banks	28	-	-
2	No. of Banks currently providing the Services	19	16	-15.79%
3	No. of agents	540,984	971,620	79.60%
4	No. of registered clients in Lac	251.86	795.08	215.68%
5	No. of active accounts in Lac	121.54	346.46	185.06%
6	No. of total transaction	74,473,558	227,422,938	205.37%
7	Total transaction in taka (in crore BDT)	10,483.04	40,647.64	287.75%
8	No. of daily average transaction	2,482,452	7,336,224	195.52%
9	Average daily transaction (in crore BDT)	349.43	1,311.21	275.24%

[1 lac = 0.10 million and 1 crore = 10 million]

Source: Payment System Department, Bangladesh bank, 2019.



**Figure 1.** Key Information on Mobile Financial Services in Bangladesh from December, 2014 to December, 2019

Source: Payment System Department, Bangladesh bank, 2019.

It is found from the aforementioned analysis that Bangladesh Bank has provided the approval to 28 banks for running mobile banking services as on December 2014; out of 28 banks, 19 banks have already launched mobile financial services in December 2014. Currently, 16 banks are providing mobile banking services. The number of clients stood at 79.51 million at the end of December 2019, it was 25.19 million in December 2014. Out of the 79.51 million registered clients, only 34.65 million accounts are active, which is less than half of the registered clients. The number of total transactions and the amount of total transaction stood at 227.42 million and BDT 406,476.40 million in December 2019.

**Table 2.** Product-wise information on Mobile Financial Services in Bangladesh December, 2014 to December, 2019 (amount in crore taka)

SL	Product wise information	Amount in December, 2014	Amount in December, 2019	% Change
a.	Inward Remittance	3	30.95	931.67%
b.	Cash In Transaction	4,376.37	14,562.70	232.76%
c.	Cash Out Transaction	3,887.17	13,473.97	246.63%
d.	P2P Transaction	1,975.07	9,851.50	398.79%
e.	Salary Disbursement (B2P)	64.7	1004.68	1452.83%
f.	Utility Bill Payment (P2B)	50.08	312.84	524.68%
g.	Merchant Payment (July 2017)	100.16	600.21	499.25%

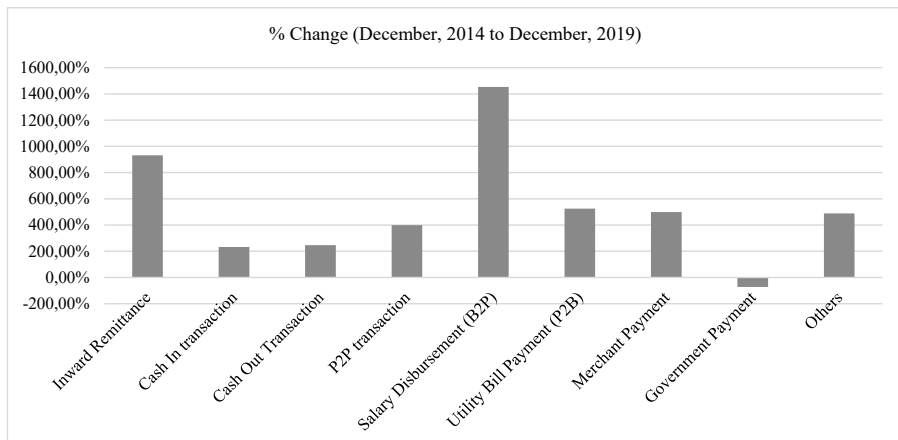
**Table 2.** Product-wise...

SL	Product wise information	Amount in December, 2014	Amount in December, 2019	% Change
h.	Government Payment (July 2017)	237.49	65.32	-72.50%
i.	Others	126.64	745.47	488.65%

[1 lac = 0.10 million and 1 crore = 10 million]

Source: Payment System Department, Bangladesh bank, 2019.

**Figure 2.** Product-wise information on Mobile Financial Services in Bangladesh December, 2014 to December, 2019 (amount in crore taka)

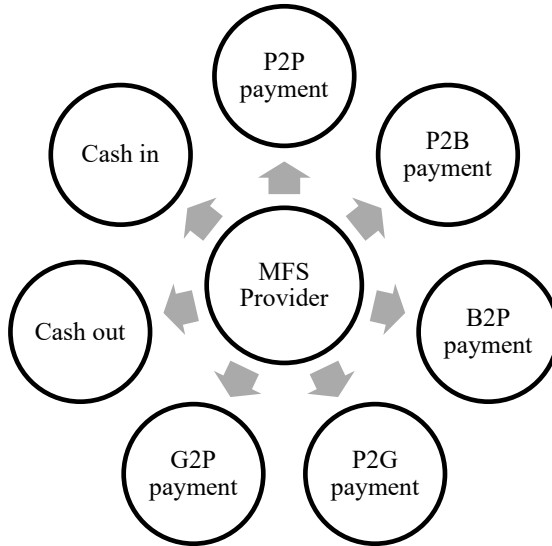


Source: Payment System Department, Bangladesh bank, 2019.

It can state that among different services, cash in and out cash services dominate in the mobile financial services market. The amount of cash in and cash out transactions stood at BDT 145,627.00 million and BDT 134,739.70 million in December 2019. The percentage change in cash in and cash out services from December 2014 to December 2019 is respectively 232.76% and 246.63%. The other mentionable services include P2P transaction, salary disbursement, utility bill payment, and inward remittances. Additionally, the merchant payment and government payment services launched in July 2017 and the mer-

merchant payment increases notably on the other hand government payment declines sharply.

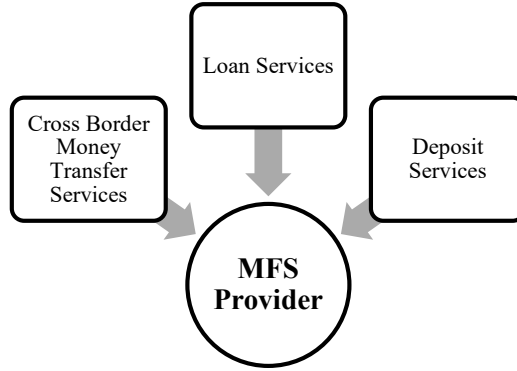
**Figure 3.** Existing services provided by MFS providers in Bangladesh



Source: Bangladesh Bank, 2019.

Currently, the central bank of Bangladesh permits Cash in, Cash out, Person to Person (P2P), Person to Business (P2B), Business to Person (B2P), Person to Government (P2G), and Government to Person (G2P) payment services through MFS domestically. Apart from cash-in, cash-out, and person-to-person transactions, the MFS services are also being utilized for utility bill payments, salary disbursements, merchant payments, government payments and inward remittances.

**Figure 4.** Proposed services in addition to existing services for MFS providers in Bangladesh



Source: authors' developed model, 2019.

In the proposed model three services are suggested that the Mobile Financial Services provider can provide to their clients. Those three services are cross border money transfer, loan, and deposit services. The cross border money transfer will help the migrant workers to send money to Bangladesh easily and conveniently. Additionally, many foreign nationals are working in Bangladesh and they will be able to send money to their home country as well. On the other hand, MFS providers can include retail banking services for their active clients such as loan and advances and different types of deposit schemes. If the MFS provider can provide different types of saving schemes for their clients then more money will come to our financial system because investors will be able to save via their mobile phones. Besides, a borrower can apply for a quick credit to the MFS provider, this will make the process easy and convenient.

#### **REGULATORY FRAMEWORK OF MOBILE FINANCIAL SERVICES IN BANGLADESH**

In September 2011, Central Bank added the structure for MFS applications and their holding over emitting a direction on MFS for banks. This was pursued by corrected guidance in December 2011 and then regulatory guidelines in July 2015. The current guidance circulated in July 2018. MFS providers will be managed by barely the anticipated commercial, which is stated in the recent bank rules. Earlier the banks operating MFS operations have been permitted to car-

ry on to their current license or build up a subsidiary for the intent, whereas, the recent aspirants shall have to comprise a subsidiary. The procedures also require that the parent banks have to hold a minimum 51 percent of the subsidiary's equity; but they are allowed to get equity partners from alternative banks and non-bank financial institutions, NGOs, investment and fin-tech corporations. The mobile network operators (MNOs) have been retained out of the record of granted partners, but have been permitted to develop into distributors or super-agents including NGOs and the postal branch. This is nearly justified as the BTRC, and not Bangladesh Bank, is the controlling authority of MNOs. On the other hand, Mobile operators are not welcome in mobile financial services but in the draft Bangladesh Mobile Financial Services Regulations, 2018 the central bank permitted mobile operators to obtain a maximum of 49 percent shares in MFS providers.

#### **PROSPECT AND CHALLENGES OF MOBILE FINANCIAL SERVICES IN BANGLADESH**

Financial services institutions have allowed more subscribers to their services around the years. Still, recently greater than 35 million people in Bangladesh don't have a bank account and their economic operations are not part of the formal economy of the nation. Financial technology (FinTech) can improve this scenario if enhanced with the appropriate regulatory structure and technological assistance. FinTech targets to challenge traditional financial systems in the delivery of financial services. It is a recent enterprise that evolves the technology to grow activities in finance by decreasing cycle time and costs of services and by developing the quality of services. FinTech aims to build up and enhance financial inclusion in developing nations as Bangladesh. Financial institutions in other developing nations such as India have earlier adopted more features of FinTech and are reaping its advantages.

Bangladesh has a greater amount of potentials in offering financial inclusion which obtains more than 100 million mobile phone operators, growing green banking, huge existence of young people, more involvement of corporate and government sector in offering staff wages through MFS and over 10 million national remitters. Although, there are targets to attain benefits of MFS which involves more usage of OTC channel without using a personal account, agent's insecurity in controlling the huge sum of fund and addressing ML and TF issues.

High transaction cost is keeping more than half of Bangladesh's micro and small enterprises (MSEs) away from operating mobile financial services for business purposes. On the other hand, telecommunication firms are not welcome to mobile financial services. If mobile operators get the opportunity to offer mobile financial services the scenario could be different. In the latest regulation, Bangladesh Bank's restriction on day to day ceiling of mobile cash-in to Taka 15,000, lower from Taka 25,000, and the maximum cash-out limit to Taka 10,000 from Taka 25,000 may affect transactions. The low limit of MFS is the main reason behind the downfall of mobile banking transactions (i.e., mobile banking transactions dropped by Tk. 3113.6 crore (9.0%) to Tk. 31512.6 crore in February'19 as compared to January'19) in recent times, which ultimately might hit financial inclusion.

Mobile Financial Services provider is not liable if the sender sends money to any wrong number. In case of any kind of incorrect transaction, the customer is liable because of customer inputs the receiver phone number and the customer's personal identification number (PIN). In the event of a wrong transaction, MFS provider does not reimburse the amount to their customers and they do not take any liability. Since there is no central regulation for receiving back the money from the wrong transaction the central bank can set policy guidelines for this issue. Customers of MFS providers are often victims of fraud and harassment and are losing their money to scammers who send masked SMSs to done fraudulent activities. By sending masked anonymous SMSs scammers are able to influence customers to send money in their account. It seems that the provider of mobile financial services, for now, has no solution to handle this kind of fraud. The Ministry of Home Affairs of Bangladesh states in their report that the money transfer platform has become a safe haven for fraudsters. Bangladesh bank can take help from concerning authority for this kind of cybercrime.

## ■■■ CONCLUSION

In Bangladesh, developing financial inclusion is a necessary element of the advancement plan, since a simple approach to finance develops expansion and mitigates the deficit. As an initiation, the act of mobile financial services (MFS) is promising in Bangladesh. Nevertheless, enough exertion requires extending the MFS chain and system to add the leftover unbanked population. In forging

and resolving legitimate procedures on mobile financial services (MFS), a field scrutiny located analysis can be initiated for assimilating essential intuition. However, more than half of the listed banks in Bangladesh are operating MFS services, only three players – bKash of BRAC Bank, Nagad of Bangladesh Post Office, and Rocket of Dutch-Bangla Bank Limited and are operating in full scale. Each has the most coverage in charge of the region of the nation. Still few banks are fixating on ‘banking’, whereas rest is at ‘Money Transfer’. Barely ‘Money Transfer’ can’t benefit and support financial inclusion. In a single wallet (account) the provider of mobile financial services should provide different types of services. Mobile financial service providers should give more focus on offering credit and savings schemes. For actual financial inclusion and economic development, MFS providers need to engage rural population cause there is a large sum of fund persists idle. If those idle funds come to banking channel then economic development of Bangladesh will be noticeable. In our proposed model we have recommended three new services. The MFS provider can take into account those services especially the retail banking services we recommended. The Bangladesh bank can take initiative to launch those services by MFS provider so that the growth in MFS will continue to increase and will sustain in the long term.

## ■■■ REFERENCES

- Al-Amin, S., & Rahman, S. S. (2010). Application of electronic banking in Bangladesh: an overview. *Bangladesh Res. Pub. J*, 4(2), 172-184.
- Bangladesh Bank (2018). Bangladesh Mobile Financial Services (MFS) Regulations.
- Bangladesh Bank (2019). Approved Mobile Financial Services, <https://www.bb.org.bd/fnansys/paymentsys/mobilefin.php> (accessed: 23.08.2020).
- Bangladesh Bank (2019). Mobile Financial Services (MFS) comparative summary statement, <https://www.bb.org.bd/fnansys/paymentsys/mfsdata.php> (accessed: 29.05.2019).
- Barnes, S. J., & Corbitt, B. J. (2003). Mobile banking: Concept and potential. *IJMC*, 1(3), 273-288.
- Cheney, J. S. (2008). An examination of mobile banking and mobile payments: building adoption as experience goods? *FRB of Philadelphia-Payment Cards Center Discussion Paper*, (08-07).
- Gupta, S. (2013). The mobile banking and payment revolution. *European Financial Review*, 2(36), 215254.

- Huda, S. S., Kabir, M. H., Popy, N. N., & Saha, S. (2020). Innovation in Financial Services: the Case of Bangladesh. *Copernican Journal of Finance & Accounting*, 9(1), 31-56. <http://dx.doi.org/10.12775/CJFA.2020.002>
- Islam, M. S. (2013). Mobile banking: An emerging issue in Bangladesh. *ASA University Review*, 7(1), 123-130.
- Kabir, M. H. (2020). Financial Innovation: Accelerating Financial Inclusion in South Asia. In I.A. Boitan, K. Marchewka-Bartkowiak (Eds.). *Fostering Innovation and Competitiveness with FinTech, RegTech, and SupTech*. Pennsylvania: IGI Global.
- Kabir, M. R. (2013). Factors influencing the usage of mobile banking: Incident from a developing country. *World Review of Business Research*, 3(3), 96-114.
- Mattila, M. (2003). Factors affecting the adoption of mobile banking services. *The Journal of Internet Banking and Commerce*, 8(1).
- Mention, A. L. (2014). *Innovation in financial services: a dual ambiguity*. Cambridge: Cambridge Scholars Publishing.
- Nabi, M. G., Sarder, M. M. R., Moula, M. G., & Sarder, M. W. (2017). Do Mobile Financial Services Promote Ethical Banking in Bangladesh. *Bangladesh Economic Association*, 1-17.
- Payment System Department, Bangladesh Bank (2019). Mobile Financial Services (MFS) comparative summary statement, <https://www.bb.org.bd/fnansys/paymentsys/mfsdata.php> (accessed: 11.09.2020).
- Roxo da Fonseca, G. J. C. (2004). Technology innovation in financial services industry (Doctoral dissertation, Massachusetts Institute of Technology).
- Rubin, R. E. (2017). *Foundations of library and information science*. Chicago, Washington: American Library Association.
- Sarma, M. (2008). Index of financial inclusion. *Working Paper Indian Council for Research on International Economic Relations (ICRIER)*, 215, 1–20.
- Siddiquie, M. R. (2014). Scopes and threats of Mobile Financial services in Bangladesh. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 4(4), 36-39.
- Wilkes, B. (2014). U.S. Patent No. 8,630,951. Washington, DC: U.S. Patent and Trademark Office.
- World Bank Group. (2013). *Global financial development report 2014: Financial inclusion*. Washington: The World Bank.