

## A Change in Lifestyle Through The Mobile Financial Services Amid COVID-19: A Systematic Review in South-Asian Context

Amrita Nandy<sup>1\*</sup>, Mohona Biswas<sup>2</sup>, Dr. Shelina Akhter<sup>3</sup>

<sup>1</sup>*Faculty of Business Administration, BGC Trust University Bangladesh, Chattogram- 4000, Bangladesh*

<sup>2</sup>*Department of Management, Rangamati Science and Technology University, Rangamati-4500, Bangladesh*

<sup>3</sup>*Department of Management, University of Chittagong, Chattogram-4331, Bangladesh*

**Abstract:** Amid the adversity of COVID-19, mobile financial services have driven a fundamental part to sustaining business, to save lives and to harmonize the society. This paper takes into account the present scenario of mobile financial services with a connection to embellish this monetary service even after the pandemic. The analysis is based on qualitative approach. Thus, various secondary sources like private and public publications, newspapers, peer-reviewed journals, and web-based materials were reviewed to examine the situation. Outcomes of the assessment uncovered that a wide range of mobile financial services has increased during the COVID situation. The total number of accounts rose drastically from 7,96,53,748 to 11,14,98,669 respectively from the year 2019 (before the pandemic) to the year 2021 (during the pandemic). A similar upward trend continued in terms of male and female users. One significant finding is the establishment of “women empowerment” in Bangladesh, especially in rural communities during this epidemic session through this financial service. Moreover, it has identified a number of potential areas for further expansion of the business. As an implication, this research will assist individuals, experts and policymakers in comprehending the potentiality of the business and taking measures considering the policy recommendations. Finally, a pathway for future researchers has also been identified.

**Keywords:** *Mobile Financial Services; Change in Lifestyle; COVID-19; Bangladesh.*

**Introduction:** From foregoing many years, Bangladesh has been witnessing the transitory phase of the digital revolution, referred to as “Vision 2021” by its governmental mandate. Amidst these, the COVID-19 pandemic has ceased the country by trashing the economy and taking numerous lives. Due to the massive outbreak of corona virus worldwide 6,282,390 individuals passed on, whereas around 29,127 people expired till May 12, 2022, in Bangladesh [1]. In our country the 1st case of Corona virus was affirmed on March 8, 2020 [3], consequently, the Government imposed various restrictions like home isolation, social distancing, and nationwide lockdown by shutting all workplaces including the educational sector to protect people and its economy [2]. Surprisingly, after the rise of the disease, the expansion of the mobile financial services shortly known as MFSs has outperformed all expectations [4] due to movement restrictions for doing cash-related transactions. Consequently, from individual to the organization, from extremely rural to urban cities, the application of MFS has raised massively to meet the daily financial requirements of many Bangladeshis nowadays. Though digitalization was in-process before the pandemic, people were hesitant to utilize MFS (digital services that license an individual to perform contactless activities with mobile devices) which can add speed in people’s access to finance but failed to grab proper attention before COVID-19 [5].

During the pandemic, the utilization of MFS has expanded from paying educational expenses to dispense salaries. MFS sector plays a critical part to change conventional education to digital education as well to move benefits digitally rather than through cash payments [4]. By January 2022, Bangladesh has over 170 million mobile subscribers, over 112 people use the internet; and MFS has turned into “the popular mode of digital payments” [6]. All in all, the changing time pushed people to oblige a new lifestyle through MFS which was quite unthinkable for the majority before the virus out blast. While many studies have been undertaken to assess the drastic impact of COVID-19 over multiple industries, no study has yet focused on the MFS sector through which the financial cycle is taking a new shape. Moreover, the boom of MFS within the pandemic, compared with the pre-pandemic period, has not been examined too. Besides, prospects of MFS have not been adequately investigated in the context of any growing economies so far. To fulfill all the above stated gaps, current exploration will help to understand MFS and there applicability during and even after the COVID-19 pandemic. Accordingly, present inquiry will contribute to recommended actions from individual businesses to the public authority to arrange more financial inclusion in the economy.

**Purpose of the Study:** The main purpose of this research is to examine the change of MFS market of Bangladesh in COVID-19 pandemic and how to sustain this advanced trend in the economy. To attain this, following individual objectives were set:

---

**Article history:**

*Received 14 May, 2022*

*Received in revised form 10 June, 2022*

*Accepted 14 October, 2022*

*Available online 02 November, 2022*

---

**Corresponding author details:** Amrita Nandy

*E-mail address:* [anandy2509@gmail.com](mailto:anandy2509@gmail.com)

*Tel:* +8801989122437

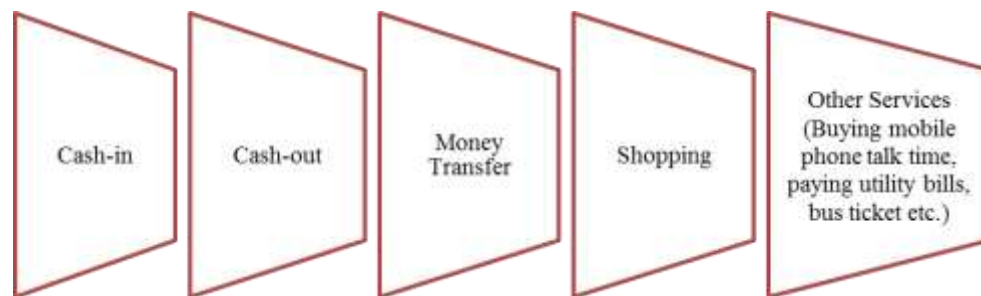
**Copyright © 2022 BAUET, all rights reserved**

1. To study the market of MFS before and during the pandemic in Bangladesh.
2. To evaluate the potentiality of the MFS market in the economy of Bangladesh.
3. To recommend some measures for the embellishment of this financial service in Bangladesh.

#### Literature Review:

**Mobile Financial Services (MFS):** In Bangladesh, various commercial banks and monetary institutions like MFS operators contribute at large to stimulate financial movements by protecting depositors' interests and ensuring monetary strength under the full oversight of Bangladesh Bank [7,8,9, 10, 11]. According to Section 7A(e) and section 82 of the Bangladesh Bank Order in 1972 and Section 26 (cha) of the Bank Companies Act, 1991, Bangladesh Bank gave a guideline named 'Bangladesh Mobile Financial Services Regulations, 2022' [12]. In the context of our country MFS initially began in the year 2011 by Dutch-Bangla Bank Limited, while as of now, 29 banks have the permit for offering this assistance in Bangladesh [6]. MFS is reforming the conventional cash exchange process and within a short timeframe, it was widely acknowledged as a secured medium of the transaction [4]. Bangladesh Bank permits commercial banks to provide MFS to "the banked and the unbanked" through mobile banking, mobile transfers, and mobile payments without taking care of cash. In a monthly total transaction value, just 5% of transactions led to utility bill payments and salary distribution whereas the rest 95% were cash-in/cash-out and P2P transactions [13]. Besides, the government is utilizing MFS to dispense various sorts of allowances. Therefore, consistent development in MFS operation is being witnessed.

In the USA, many banks launched MFS for their clients, and the utility of MFS rose by 85%; which is quite the same for many nations during the pandemic [14, 15]. Moreover, customers of many banks were moved to virtual banking, especially to the MFS [15]. In a recent examination, it was found that the moving of clients to the virtual platforms has risen from 10% to 20% in China and Italy [16]. Many banks are attempting to interface their services to the MFS by which customers can move their funds [15]. [17] reported a policy paper on MFS and acknowledged the growing importance of MFS to reduce poverty and gain economic gain in Bangladesh. [18] investigated mobile financial service quality and customer satisfaction and loyalty of Bangladeshi citizens and found that the service quality is the prime prerequisite of MFS quality to attain and retain the mobile banking clients in long run. Figure 1 shows the core services provided by MFS in the country.



**Fig. 1:** The services provided by MFS. (Source: Bangladesh Bank, 2021)

An analysis by [19] established liaison between mobile banking and commercial bank's performance and estimate its impact on the embracement of MFS in Kenya by analyzing client's attitudes toward MFS and commercial banks. They disclosed that the performance of commercial banks and MFS were positively related. They additionally found that clients' positive perception of the MFS depends on the positive performance of the commercial bank. [13] conducted collaborative exploration to inspect the effect of MFS on families and small and midsize businesses of Bangladesh. The survey was carried out in more than 36 districts in Bangladesh- 1065 households and 265 SMEs (small and medium-sized enterprises) were analyzed. It was found that 79% of dominant users of MFS were male participation and 21% were female (21%). Moreover, mobile money transfer was the most preferred service of MFS as it saves transaction times and expenses. BRAC University led a study on mobile banking and remittances in 2017 and reported that uneducated families, particularly ladies, can embrace and utilize mobile banking technology whenever given little motivation, incentive, and training. The study demonstrated positive impact of mobile money on the recurrence of remittance, well-being, and education outcomes for rural families as well as to reduce borrowing [13]. [20] explored on the variables influencing the acceptance and uses of MFS in Bangladesh by utilizing 400 mobile banking users as research sample. They tracked down security, trustworthiness, cost, network availability, and comfort for estimating people's attitude towards MFS. They found that demographic characteristics, network problems, and trustworthiness did not impact the adoption of MFS whereas security, cost, and convenience influenced the acceptance of MFS. Examination by [21] showed how some factors of mobile banking affect the organizational and banking industry performance in Kenya. The author's revealed that there was a positive relationship between MFS and the performance of banks. The authors concluded that the financial performance of the banking sector is being influenced by the MFS.

**MFS During COVID-19 Pandemic in Bangladesh:** The corona virus disease 2019 is a mysterious respiratory infection caused by the "severe acute syndrome virus-2" (SARS-CoV-2) [3]. It was first recognized toward the end of December 19, 2019, in Wuhan city, China, and within a short time frame, it distressed almost every nation [3]. On March 11, 2020, WHO reported the

disease as a pandemic. With time, people around the world, witnessed the extensive effects of corona virus which forced fundamental changes in society, working attitude, shopping style, mode of payments, transactions with the bank, and international relations [2]. Therefore, the government is battling hard to defeat this emergency and to support its economy by embracing a contactless, unique mode of business-like MFS. In Hong Kong, using rate of MFS expanded [22] and it contributed remarkably to transforming conventional education into digital education by using MFS to pay tuition expenses and salaries during the pandemic, [4]. Though MFS is getting tremendous fame among the enormous population of Bangladesh due to its easy accessibility, and swiftness, and for the majority of different reasons, the industry is not stable [13]. Countless new MFS clients emerged during this pandemic circumstance and the number of enrolled MFS clients arrived at 10,270,000 million in July 2021. According to Bangladesh Bank, month wise exchange volume developed more than 50% year-on-year to 62,230 million Taka in August 2021, which was Taka 41,403 million in 2020 [4]. Perhaps the significant application is taking place in terms of the "Primary Education Stipend Program" nearly thirteen million primary-level students got government stipends amounting a sum of Taka 4,000 million through MFS [4]. Throughout the course of recent years, internal remittance through MFS expanded by 3,569% [4]. Digital bill payments through MFS are becoming famous, therefore merchant payment rose multiple times to 3,465 million Taka in August, 2021 which was 1,062 million Taka in 2020, and salary payment through the MFS system nearly multiplied to 1,903 million Taka from 1,063 million Taka in August 2021 [4].

A recent survey directed by FIS [23] on over 1,000 American clients reported that COVID has improved digital banking, installments, payments, and MFS. The study likewise revealed that more than 45 percent of their clients changed their banking connections forever since Corona virus, around 45 percent of participants used the MFS platform in the last one month, and around 31 percent of participants will move to mobile banking [24]. [25] studied how corona virus pandemic circumstance affects the different sorts of a digital transaction system in India. They demonstrated buying and payment behavior of customers during the lockdown period and pre-lockdown period. They exhibited that there was a massive distinction between the method of payment during the lockdown period and the pre-lockdown time frame. Study by [15] signified the performance of MFS during the pandemic by contrasting it with the pre-pandemic time of Corona virus. They utilized descriptive statistics to explore the function of MFS by analyzing data from 2014 to August 2020 and uncovered that the average number of monthly active accounts and enlisted clients have expanded during the pandemic. They were additionally stated that all types of transactions including cash in and cash out services rose during the pandemic. The authorities of Social Islami Bank Ltd in Bangladesh mentioned their clients for utilizing mobile apps to top up their balance or pay to the various areas like Desco, utility bill payments of Titas, Wasa, etc. instead of regularly visiting branch due to the pandemic situation [26]. Research of [5] highlighted MFS's boom during corona virus pandemic in Bangladesh. The study revealed that the quantity of enlisted mobile banking clients has expanded during the pandemic era. Furthermore, irrespective of MFS's utility, individuals are confronting unforeseen issues like fraud, mismanagement, weak networks, mobile set are not viable, high charges, etc. The other difficulties of MFS are poor network systems, unlawful cash transfers from abroad, abuse of MFS by the miscreants, high service fees, etc. If these difficulties and issues are tended to right away, the MFS industry will get a major lift.

**Methodology:** A qualitative approach has been adopted to carry the research converging on secondary data. Pandemic conditions are the influential factor to implement such a method of study. Hence, data were accumulated from numerous internal and external sources like website of Bangladesh bank, World Health Organization (WHO), various commercial banks, and governmental periodicals of Bangladesh were analyzed year-wise to capture the detailed scenario of MFS during and after the COVID-19 pandemic (2021 to 2022) by following proper documentation technique. Furthermore, many secondary data sources like newspapers, national and international journals, conference papers, and private publications were reviewed to conclude the analysis.

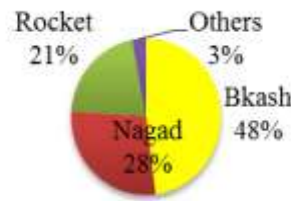
**Results and Discussion:** By the end of the year 2021, registered clients for MFS reached around 12 million [12]. As this process requires only a registered mobile phone number, by using MFS the government disbursed cash aids (around USD 142 million) directly to almost 5 million families and other beneficiaries during the crisis period of the covid-19 pandemic (Adapting Digital Payment). Table 1 enlisted the top nine companies operating in Bangladesh.

**Table 1.** Top 9 MFS Companies in Bangladesh.

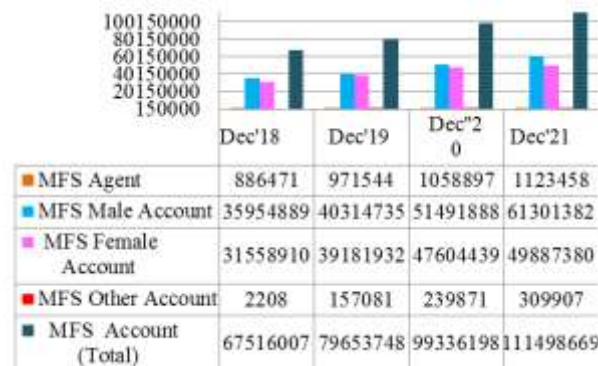
Serial No.	Name of MFS	Name of the Associated Bank	Founding Year
1	Rocket	Dutch Bangla Bank Ltd.	2011
2	Bkash	Brac Bank Ltd.	2011
3	My Cash	Mercantile Bank Ltd.	2012
4	Upay	United Commercial Bank Ltd.	2013
5	M-cash	Islami Bank Bangladesh Ltd.	2014
6	Sure Cash	Progoti Systems Ltd.	2014
7	Nagad	Bangladesh Post Office	2018
8	Ok-wallet	One Bank Ltd.	2018
9	TAP	Trust Bank Ltd.	2021

Source: (Akanda 2021; Hasan, 2021)

Irrespective of 29 operators, 61% of the total MFS market is yet untapped [29] Figure 2, shows the present condition where Bkash is leading the market (holding 48% share) being the pioneer of this service in Bangladesh. Nagad, run by Bangladesh post office has 28% market share, for being a governmental organization and due to its few attractive facilities. Rest 26 MFS operators serve only 3% of the existing market.

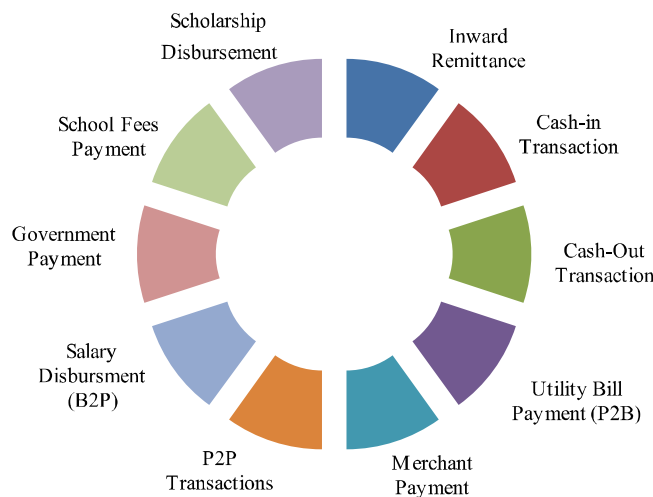


**Fig. 2:** Market Share of MFS operators in Bangladesh. (Source: Mohiuddin, 2021)



**Fig. 3:** Yearly MFS users in Bangladesh. (Source: Bangladesh Bank, 2021)

On the way to protect people and the economy, worldwide, governments implied many measures like national lockdown, home isolation, social distancing, and mobility restrictions [3] which instigated the MFS business to expand faster than the previous years. Figure 3 illustrated a comparison between the prior time (the year 2018 and year 2019) and during the pandemic (the year 2020 to the year 2021) of the market growth of this service. The total number of MFS accounts rose drastically from the year 2019 (7,96,53,748) to the year 2021 (11,14,98,669) while an upward trend also continued in the total numbers of male and female users. Similarly, the number of MFS agents rose as many people joined the business as sole proprietors amid the pandemic.



**Fig. 4:** Key services offered by MFSs during COVID in Bangladesh. (Source: Khatun, Mitra, & Sarker, 2021)

MFS contributed largely to economic survival after the emergence of covid-19. In figure 4, key attributes of MFS are recorded at that time. Along with cash in & out facilities, MFS offered fresh services like online education (ensuring tuition fees and stipend payment, teachers' salary disbursement), governmental aid distribution, utility bill payment, etc. Besides banks, few MFS also

facilitated inward remittance during covid-19 than early years in Bangladesh. All of these kept the economy moving even in complete lockdown span.

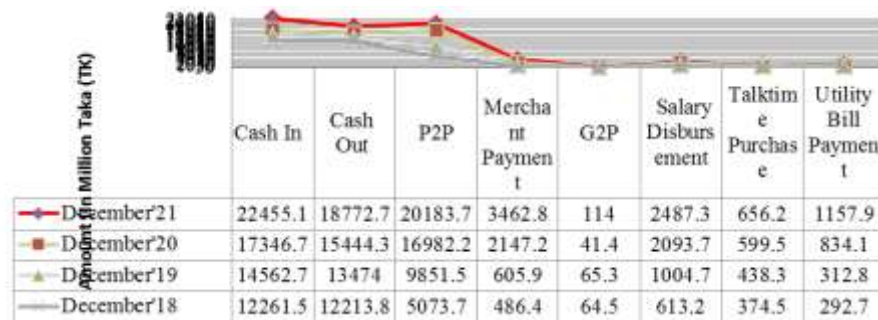


Fig. 5: Year Wise Service Pattern. (Source: Bangladesh Bank, 2021)

Figure 5 displays the economic contribution of MFS in Bangladesh further. As the government was prioritizing digitalization and up-gradation of living standards, a consistent upwards trend is noticeable in all parts of MFS in Bangladesh. Additionally, once people were compelled to adopt the technology, it pushed all its shares (services) to boom compared to the earlier time of the pandemic (the years 2018 and 2019 in figure 4). Use of both cash in and out facilities arose sharply throughout the several lockdown periods in the years 2020 and 2021. Again, the utilization of P2P (person to person) and merchant payment remained upward during that time. Interestingly, the use of G2P (government to person) facilities jumped drastically from 41,400,000 million taka to 114 million taka respectively in the year 2020 and 2021 which indicates the government's initiation of helping people in crisis. Similarly, the highest 1158 million taka were exchanged as utility bills in the year 2021 through MFS, which was at 313 million taka (in the year 2019) before the explosion of the virus in Bangladesh.

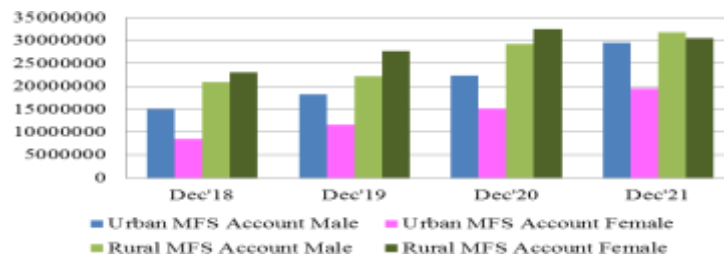


Fig. 6: Urban vs. Rural User's pattern. (Source: Bangladesh Bank, 2022)

Year wise comparison between male and female MFS account users was drawn (Figure 6) to understand the complete scenario of the current and before the pandemic time. Though a constant rise has been noticed in the number of users irrespective of their locality, a huge customer of MFSs are clustered in the rural area than urban cities which again highlights the advancement of the economy of Bangladesh. Moreover, the graph specifies a larger number of female users' existence in rural areas than male users which again attributes the women empowerment in the society. Noticeably, the number of female MFS users dropped slightly in the year 2021.

**Areas of MFS Investment:** The study revealed few profitable areas where MFS business can expand. Figure 7 displays the total picture at a glance.



Fig. 7: Probable areas of MFS investment. (Source: Authors' Contribution, 2022)

**Seizing Additional Market through Facilitation:** At present, only three operators are mainly present in Bangladesh's MFS market [28]. Through proper innovation and by implanting technology, other registered operators need to seize the undervalued market in order to ensure fair competition. Similarly, the upward trend of consumption (MFS users) also indicates customers' willingness to avail of the service. A healthy business environment serves customers with more benefits which in return work for societal up-gradation. Therefore, the untapped market needs to explore further by establishing fair competition.

**Grabbing the Remittance Market:** In Bangladesh, migrant workers' annual remittance values more than 10 million which is a major contributor to the economy (trading economics). The country received \$1704.45 million remittances in January 2022, which is \$73.79 million more than December 2021 (Bangladesh receives \$11.95b, 2022). However, the research of [29] revealed that yearly only 0.5% of the total remittance enters the country through MFS. Remarkably, inward remittance through MFS facilities increases by 569 percent over the last four years [4]. Therefore, the government can plan region-wise initiatives (such as first south Asia, then the middle east, and later Europe market likewise) to capture this inflow through MFS with minimal charges than banks.

**Offering Microcredit:** Microcredit is crucial for the economic advancement of any developing nation [28]. A report by United Nations Capital Development Fund (UNCDF) in 2020 estimates that the presence of 2 million people at the micro-merchant level whose annual transaction is over \$18.42 billion and that sector is estimated to reach \$3 billion by the end of the year 2023[6]. By targeting this group, at first, MFS operators can offer micro credits. A recent paper by [29] stated that the model of microcredit is popular in many neighboring countries like India and China. Again, another ongoing pilot project in Bangladesh has proved that the default rate of those credits is less than 1 percent which is 4.5 percent for bank loans [4]. Therefore, through its easy access, MFS vendors can facilitate the credit needs of marginal societies, entrepreneurs, and students to meet their crisis, personal or business requirements.

**Promoting Women Entrepreneurship:** The study signposts the yearly rising trend of female users, despite the contamination. Through proper verification, female entrepreneurs can be encouraged (by lucrative offers) to use MSF rather than other operation modes. Moreover, such convenience will help them to avoid fraudulent practices, especially in rural communities.

**Funding Insurance Services:** Once again, the pandemic pointed to the lesson that each country needs to invest in the health sector as "the best defense" against any outbreaks [30]. Moreover, in developing countries like Bangladesh people usually face many health threats. Thus, through innovative Micro Health Insurance (MHI), MFS operators can serve the nation along with gaining revenues. Micro health insurance (MHI) is a proven potential health-financing tool for many developing countries where the Bangladesh government also started investing in recent years [31]. Besides, Micro Insurance policy can be another good starting point for MFS facilitators where low-income households or individuals can cover their lower valued assets and compensation for illness, injury, or death [32].

**Concentrating on Rural Development:** Traditionally, Bangladesh is an agriculture dominant economy where the primary means of its rural populace is agriculture [34]. With globalization, the economy of Bangladesh is moving towards urban areas. This change is happening faster during the last two decades [33]. Through infrastructural development, the government can continue to disburse all its governmental facilities (aid, allowance, benefits, etc.) even after COVID time. Further, the government can connect even with the marginal community and with vulnerable people. Additionally, the use of MFS will help to eradicate the red-tapism and bribery due to which many people fail to avail governmental facilities, especially in distant places in Bangladesh. Thus, MFS can play a fruitful role in rural development.

**Recommendations:** At the very beginning, based on the future potentiality of MFS business in Bangladesh, the government can offer some incentives and VAT exemptions to promote the business for certain time (like three years Tax exemption). Then, like developed countries, MFSs sector requires proper regulation and invigilation. Research of [28] mentioned 20 types of criminal activities usually associated with MFSs like smuggling, drug and human trafficking, abduction, online fraud cases etc. Thus, compliance discipline is mandatory to control unethical transaction through MFS. Recently, Bangladesh bank has enacted the "Guidelines on Mobile Financial Services (MFS) for the Banks" which provided a clear guideline for MFS transactions [12]. Next, one major problem of the business is extravagant charges. Users and consumers' rights groups were urging for single digit cash-out charges where relevant operators are demanding a fair business environment (same charge by all operator) in return [4]. Therefore, policymakers need to keep an eye to ensure fair business environment by benchmarking the best practices of neighboring countries. Such atmosphere will pursue operatives to focus more on customer service and product innovations rather than acquainting customers. After that, digital literacy and customer awareness is also crucial for MFS customers to safeguard their own transactions. According to GSMA report [35] Bangladesh is in the worst position among countries in Asia Pacific and even from Pakistan in regards of internet facilities and smart phone usage. In Bangladesh, currently only 41 per cent users use smart phones while India has 69 percent (the highest percentage), second is Sri Lanka (60 percent), Nepal holds 53 percent and Pakistan has 51 percent smart phone usage [36]. Hence, for customers benefit, price of smart phones devices and the internet usage cost has to bring down. Finally, MFS operators also need to invest in IT infrastructure and cyber security to keep the



customers' data and funds risk-free. Study of [37] highlighted that use of new technologies like artificial intelligence, block chain technology, virtual reality and machine learning, and internet of things will help MFS industry grasping new edges and profitability.

**Implications:** This investigation vastly contributes on theoretical and practical understanding. Theoretically, the paper enhances the existing literature, where future entrepreneurs can apprehend the prospects of the MFS business, its merits and explicit characteristics. Specially for women who wish self-accomplishment by balancing the family responsibilities, such contactless, easy and secured mode of operation will work as a motivation factor for self-establishment. Practically, findings of this study can aid various stakeholders like banking industry, the business professionals, and other financial entities with special guidelines on how they can utilize MFS facilities to recover the deficiency of pandemic circumstances. Besides, successful implementation of the recommended measure will lead policymakers to further expansion of this sector by eradicating fraudulent practices, particularly in rustic networks. Once again, being a developing country, results of this paper might align with other economies similar to Bangladesh, which proves the universal implication of the research.

**Limitations and Future Research Directions:** Absence of primary survey is the key limitation of the study. Even on secondary research, sequential relevant information was absent at cases. As this sector is yet on nursing stage, governmental database need to update on a timely manner. Future researchers might conduct field survey meeting MFS agents to understand the business in detail. On the contrary, another research might be carried on to assess customer's perception. A factor analysis can be carried out to reveal the most vital factors that are contributing on its success, which need to be prioritized for the furtherance of this industry.

**Conclusion:** The investigation has established that the MFS business has rendered a new door of opportunity to the economy when the nation along with the world populace was in search of a way out of the crisis to perform financial transactions, to maintain social distancing and to guarantee humanity to the victims. At present, people are availing the facilities of carrying less or even going cashless at times. Thus, in reality, though the surge of corona pandemic pushed the country to adopt cashless measures, it is sometimes contributed to ensuring social safety. In addition, cashless transactions will work to reduce the production cost of the paper currency. With all its opportunities, MFS industry can bring more business, more employment, more financial inclusion by reducing wastage of time and effort; all of which will result in better societal synchronization for any developing nation including Bangladesh. Consequently, it is a high time for the policymakers to draw proper rules and regulations, and to patronize this business. Investment in ICT (information and Communication Technology) is a prerequisite to extent the market share (yet the usage is low compared to the population). Over again, strong ICT infrastructure will work to smooth the transactions through MFS along with protecting customers' personal information and fraudulent activities. Besides, awareness programs need to be run to educate people toward technological usage. In conclusion, combined efforts from all respective authorities are need to embark to continue and to progress in this new lifestyle, which in return will accelerate the wheel of the economy.

## References:

- [1] Worldometer. Worldometer COVID-19 Data, 2022 [Accessed 04 May 2022]. Retrieved from <https://www.worldometers.info/coronavirus/#countries>
- [2] A. Nandy, M. Biswas, J. Das, Social-Media & Mental Health: A Narrative Study on Bangladesh during the Lockdown time of COVID-19 Pandemic, *International Journal of Research and Innovation in Social Science (IJRISS)*. VI (2022) 680-689.
- [3] A. Nandy, M. Biswas, Women Entrepreneurs' survival in the course of COVID-19 pandemic in Bangladesh, *International Journal of Research and Innovation in Social Science (IJRISS)*. VI (2022) 576-584.
- [4] M. R. Alam, MFS helping Bangladesh become digital economy. *The Daily Star*, December 8 2021 [Accessed 04 May 2022]. Available at <https://www.thedailystar.net/business/economy/news/mfs-helping-bangladesh-become-digital-economy-2912311>.
- [5] M.N. Khatun, S. Mitra, M.N.S. Sarker, Mobile banking during COVID-19 pandemic in Bangladesh: A novel mechanism to change and accelerate people's financial access *Green Finance*. 3 (2021) 253-267. doi: 10.3934/GF.2021013
- [6] S.M. Kamal. Bangladesh moving towards a cashless society. *The Daily Star*, February 15, 2022 [Accessed 02 May 2022]. Available at <https://www.thedailystar.net/recovering-covid-reinventing-our-future/fourth-industrial-revolution-and-digital-transformation/news/bangladesh-moving-towards-cashless-society>
- [7] M. Biswas, S. Ferdousy, Relationships between Emotional Intelligence and Leadership Styles at the Private Commercial Banks of Bangladesh, *The Chittagong University Journal of Business Administration*. 30(2015) 249-272.
- [8] M. Biswas, M.S. Rahman, Role of Emotional Intelligence in Transformational Leadership and Leadership Outcomes, *BGC Trust University Journal*. 4(2017)187-206.
- [9] M. Biswas, M.S. Rahman, S. Ferdousy, Role of Emotional Intelligence in Solving Problems in the Private Commercial Banks of Bangladesh, *The Comilla University Journal of Business Studies*. 4(2017) 51-66.
- [10] M. Biswas, M.S. Rahman, Do the Elements of Emotional Intelligence Determine Charismatic Leadership? An Empirical Investigation. *Business Perspective Review*. 3(2021) 24-40. DOI: <https://doi.org/10.38157/business-perspective-review.v3i1.256>
- [11] M. Biswas, A. Zahurul, Unlocking the Relationships between Emotional Intelligence and Group Cohesion in South Asia, *The Journal of Management Theory and Practice (JMTP)*. 3(2022) 13-19.
- [12] Bangladesh Bank issues new MFS regulations. *The New Age*, Feb 15, 2022 [Accessed 04 May 2022]. Available at <https://www.newagebd.net/article/162839/bangladesh-bank-issues-new-mfs-regulations>

- [13] An Impact Study on Mobile Financial Services (MFSs) in Bangladesh. Bangladesh Bank, 2017 [Accessed 6 May 2022] Available at: [https://www.bb.org.bd/pub/special/impact\\_mfs\\_27092018.pdf](https://www.bb.org.bd/pub/special/impact_mfs_27092018.pdf)
- [14] L. Iyar. Mobile banking is on the rise due to covid-19 -- but something's lacking from most bank Apps, 2020[Accessed 7 May 2022]. Retrieved from Forbes: <https://www.forbes.com/sites/>
- [15] M. R. Amin, M. A. Halim, M. Nahiduzzaman, Performance Analysis of Mobile Banking During the COVID-19 Pandemic Period Comparing with the Pre-pandemic Period of Covid-19: An Empirical Study on Bangladesh, International Journal of Advances in Management and Economics, 10(2021) 1-14.
- [16] C. Skalska. Mobile banking in the era of covid-19-functionalities review, 2020, May 20, 2020. Retrieved from: <https://finanteq.com/mobile-banking-inthe-era-of-covid-19-functionalities-review/>
- [17] Mobile Financial Services in Bangladesh: An Overview of Market Development. Bangladesh Bank, 2012[Accessed 6 May 2022]. Available at:<https://www.bb.org.bd/pub/research/policypaper/pp072012.pdf>
- [18] G. K. Sagib, B. Zapan, Bangladeshi mobile banking service quality and customer satisfaction and loyalty, Management & marketing, Challenges for the Knowledge Society, 9(2014) 331-46.
- [19] G. K. Kato, W. I. Otuva, J. D. Owunza, J. A. Nato, Mobile banking and performance of commercial banks in kenya, International Journal of Current Research, 6(2014) 670-674.
- [20] S. N. Khan, M. Akter, R. Akter, Factors influencing adoption and usage of mobile banking: Bangladesh experience, International Journal of Finance and Banking Research, 3(2017) 1-12.
- [21] A. Oyomo, Mobile banking and organizational performance in the banking industry, Journal of Scientific Research and Studies, 5(2018) 121-35.
- [22] E. Yue. COVID-19 pandemic speeds up adoption of mobile banking-HKMA's Yue. Sept 30, 2020. Retrieved from: <https://www.centralbanking.com/centralbanks/financialstability/fmi/7690221/covid-19-pandemicspeeds-up-ado>
- [23] COVID-19 Is Rapidly Reshaping Consumer Banking and Payments Behaviors, New FIS Survey Finds. FIS, April, 2020 [Accessed 1 May 2022]. Available at: <https://www.fisglobal.com/en/about-us/media-room/press-release/2020/covid19-is-rapidly-reshaping-consumer-banking-and-payments-behaviors-new-fis-survey-finds>
- [24] J. Marous. How COVID-19 has changed payments & banking behaviors forever. The Financial Brand, 2020[Accessed 1 May 2022]. Available from: <https://thefinancialbrand.com/96502/coronavirus-covid-19-changingbanking-payments-digital-behavior-trends/>.
- [25] V. Sornaganesh, S. Ganesh, M. T. Sathish, C. A. V. Assistant, Impact of covid-19 outbreak in digital payments, international journal for innovative research in multidisciplinary field. 6(2020) 159-64.
- [26] Covid-19: SIBL urges clients to use mobile app for safer banking. Social Islami Bank Annual Report, 2020[Accessed 10 April 2022]. Retrieved from: <https://tbsnews.net/economy/banking/covid-19-sibl-urges-clients-use-mobile-appsafer-banking-91552>
- [27] S. Akanda, Islami Bank Mash Mobile Banking, March 15, 2021[Accessed 9 April 2022]. Retrieved from <https://www.bankingnewsbd.com/islami-bank-mcash-mobile-banking/>
- [28] M. Hasan. The Daily Star. Mobile money in the COVID-19 pandemic. The Daily Star, Jan 17, 2021[Accessed 8 April 2022]. Retrieved from <https://tradingeconomics.com/bangladesh/remittances>
- [29] T. Mohiuddin. TAP is tapping into Bangladeshi MFS industry. The Dhaka Tribune, August 18, 2021 [Accessed 9 April 2022]. Retrieved from. <https://archive.dhakatribune.com/business/2021/08/18/tap-is-tapping-into-bangladeshi-mfs-industry>
- [30] People living longer and healthier lives but COVID-19 threatens to throw progress off track. WHO, 2020 [Accessed 9 May 2022]. Retrieved from <https://www.who.int/news/item/13-05-2020-people-living-longer-and-healthier-lives-but-covid-19-threatens-to-throw-progress-off-track>
- [31] S. S. Mahmood, S. M. A. Hanifi, M. N. Mia, A. H. Chowdhury, M. Rahman, M. Iqbal, A. Bhuiya, Who enrolls in voluntary micro health insurance schemes in low-resource settings? Experience from a rural area in Bangladesh, Glob Health Action. 11(2018). Retrieved from. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6179054/>
- [32] J. Kagan. Microinsurance. September 17, 2021 [Accessed 7 April 2022]. Retrieved from <https://www.investopedia.com/terms/m/microinsurance.asp>
- [33] F. Khatun. Getting the best out of a changing rural economy, October 26, 2020 [Accessed 7 April 2022]. Retrieved from <https://www.thedailystar.net/opinion/macro-mirror/news/getting-the-best-out-changing-rural-economy-1984169>
- [34] M. D. Miah, R. Hasan, H. Uddin, Agricultural Development and the Rural Economy: The Case of Bangladesh. In: Barai, M. (eds) Bangladesh's Economic and Social Progress. Palgrave Macmillan, Singapore, 2020. [https://doi.org/10.1007/978-981-15-1683-2\\_8](https://doi.org/10.1007/978-981-15-1683-2_8)
- [35] GSMA report. The Mobile Economy, 2020[Accessed 7 April 2022]. Retrieved from [https://www.gsma.com/mobileeconomy/wpcontent/uploads/2020/06/GSMA\\_MobileEconomy\\_2020\\_AsiaPacific.pdf](https://www.gsma.com/mobileeconomy/wpcontent/uploads/2020/06/GSMA_MobileEconomy_2020_AsiaPacific.pdf)
- [36] M. Z. Islam. Bangladesh lags behind Asia Pacific peers in telecom services: GSMA. Jul 9, 2020[Accessed 7 April 2022]. Retrieved from <https://www.thedailystar.net/business/news/Bangladesh-lags-behind-asia-pacific-peers-telecom-services-gsma-1927249>
- [37] M. F. Rahman. The future of mobile financial services in Bangladesh, January, 17, 2021 [Accessed 6 April 2022]. Retrieved from <https://www.thedailystar.net/supplements/mobile-financial-services/news/the-future-mobile-financial-services-bangladesh-2028885>