CJF&A

Copernican Journal of Finance & Accounting

2020, volume 9, issue 1

e-ISSN 2300-3065
p-ISSN 2300-1240

Sadrul Huda, S.S.M., 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

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INNOVATION IN FINANCIAL SERVICES: THE CASE OF BANGLADESH

Keywords: financial innovation, financial technology (fintech), mobile financial services, financial inclusion, digital financial services.

Date of submission: April 11, 2020; date of acceptance: June 8, 2020.

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J E L Classification: G20, G21, G23, O31.

Abstract: The financial services industry of Bangladesh has achieved phenomenal success and advancing day by day for the growth of technology. Bangladesh has long been considered a role model for financial inclusion, first with the emergence of proliferation and prominence of microfinance institutions, especially in rural areas. This paper examines the financial services innovation in Bangladesh by presenting the changes in the industry over the years. The paper also analyses the comparative picture of Bangladesh's financial inclusion and world financial inclusion. This study is a descriptive study where quantitative data has been collected from secondary sources. The study reflects a very positive picture of financial innovation in Bangladesh. We expect that the study can be used by concerned business people in decision making for the better implication of financial innovation.

Introduction

Our modern economy is the result of an efficient and effective financial system. According to Rose and Marquis (2009), the financial system is the collection of instruments, institutions, regulations, and markets through which financial services are delivered, interest rates are specified, and financial securities are operated. Pietrzak, Polański and Woźniak (2008) considered the financial system as a major part of modern society. With the development of the financial system, financial innovation has become the most talked-about topic of today's world.

Financial innovation can be defined as the producing and promoting of new financial services and products, emerging new practices to assist financial activities, designing new arrangements for financial institutions, and, most importantly, interacting with customers to ensure better services. Financial innovation can help to minimize financial risks, develop financial intermediation, lessen the cost of capital, and thus upgrade the economy. That is why financial innovation is mandatory for the economy of developing countries like Bangladesh. In this perspective, Bangladesh is not lagging. The financial innovation and adaptation rate is comparatively higher than the other developing countries' rates.

Different studies were developed on financial innovation, global financial crisis, the influence of financial innovation, and many more. But no study focuses on the overall scenario of Bangladesh's financial innovation with a comparative picture of Bangladesh's financial inclusion and world financial inclusion. This paper is trying to fill the stated gap with a descriptive study using secondary data. Through the discussion, the paper finds that the scenario of financial innovation in Bangladesh is very positive, and the increase rate is pretty higher than the other developing countries. The managerial implications of the paper will help the finance personnel for a better understanding of financial innovation and making proper decisions.

Literature review

Extraordinary success has been observed over the last twenty-five years through the application of reform programs and mixing of modern technology in the financial services industry of Bangladesh in terms of expanding branches, innovation, profitability, feasibility, and competitiveness. In the face of the progress cited, a good number of population, notably the people who don't have access to most of the privileges living in rural areas till this time cannot consume various financial services as a result of inadequacy of direct access to numerous kinds of financial services. Subsequently, mobile financial services (MFS) have been granted to initiate in Bangladesh (Nabi, Sarder, Moula & Sarder, 2017).

Financial innovation

Modern globalization, along with the help of government and investors bring the innovation by facing advanced and broader global risk; innovation works as an instrument of solving problems, coordinate, and circulate added difficulties. Deregulation in the banking system helps in developing allocation, competence, and lessening costs occurred in financial services and creates growth in the economy in turn. To condensate financial innovation, it means acquiring new products and new attributes for current financial products. As follows, the core theme of financial innovation becomes the creation of more unique products with added attributes and features with the existing financial products. Accordingly, the aim of innovative products needs to try lessening risks involved in financial services to reaching financial optimization (Shekhar & Gudimetta, 2013). In particular, before the industrial revolution in Western Europe, the Asian economies worked as the antecedent of some of the most significant historical financial innovations. The evidence shows that in the second half of the twentieth century, a number of significant financial innovations were originated from Asia (Buckley, Arner & Panton, 2013). To cite specifically, Bangladesh has been termed as the birthplace of microfinance as an Asian innovation and has spread around the world (Armendáriz & Morduch, 2005).

Need for financial innovation

Financial innovation, an indispensable element, is often ignored as a form of innovation. Financial markets to be more competent, such innovation is helpful (Frame & White, 2004). It seems that in various parts of the world, it has been noticed that the willingness to innovate is not ample (Al Janabi, 2006). As per the situation, a range of financial innovation is present, and those lead to some questions – What are the driving factors for financial innovations in various countries? Why it happens that organizations differ from one another on the basis of their innovating behavior? Hence assisting companies and households in handling risks is one of the crucial functions of financial systems. The usability of financial products depends on the availability of companies and households regarding accepting a range of risks, along with the institutions' competence in managing risks distinctive in these products. Notably, defection in financial markets could cause the negative performance of the innovativeness in the financial products and might limit the availability of those products in turn. Such assets might be named as "natural assets" like the same instruments which are issued by the borrower as well as held by the investors (Shekhar & Gudimetta, 2013).

Innovation in financial sector

Financial innovation is mainly developed through the influence of the stability in the financial sector and partly through the policies being made nationally (Levich, 1985). Levich suggested a few basic questions: Which are the major financial product and process changes during the past twenty to twenty-five years in the national and international context? (Tufano, 1989) What are the primary influencers behind the changes? (Smith, Smithson & Wilford, 1989) What are the direct and indirect influences on individuals and aggregated macro levels both from positivity and policy perspectives?

Tufano (1989) looked into the factors by cross-examining some new securities and trying to find out whether financial innovators can get someone any first-mover advantages. From 1974 to 1986, his observation was that the investment banks which created and offered financial innovators did not actually charge higher than the usual, long before the similar products arrived in the market and that those banks also continued on offering the new products at a consistently lower prices than what the competitors were offering. Smith et al., (1989) proved that there is a positive correlation between financial riskiness and financial innovation since there is a direct link when there is the volatility of interest rates, exchange rates, and commodity prices.

Verghese (1990) suggest that the outcome from the current wave of financial innovation must be evaluated from an objective angle to find out the actual results from such financial innovations. Innovation in financial services should include all the significant features of the financially innovative products against the cost of introducing and running those products in the market. Thus, we can capitalize on the lessons we get from the financial changes and innovations. He came at this conclusion from his comprehensive study of the Indian financial markets and the financial innovations offered in the market.

Miller (1992), on the other hand, suggested the functional benefits of financial innovation through financial intermediation. He opined that through the lower cost of capital, reduced financial risks, and improved financial intermediation, financial innovation could bring welfare enhancement. By properly explaining how financial innovation functions in the market, the instruments can be made more popular in the world of fiercely competitive financial industries across the world, that is quintessential for injecting capital to the business operations. With this, we can see how financial innovation is instrumental for the growing economy and how financial innovation reengineered as one of the significant change catalysts in stimulating the economy for the betterment, especially among the emerging economies.

A standard interpretation explained by Tufano (2003) for financial innovation is that some specific kinds of market inability, as well as some weaknesses, are being helped by it to bring it on track. Such as incomplete markets, are being assisted by financial innovation to develop conveniences for risk-sharing. In the case of agency conflicts, the sequences of interests can be advanced by new types of security. Lowering taxes or to bypass the yield of regulations works as another important catalyst regarding financial innovation. Financial innovation becomes desirable and successful when both the issuers and buyers get benefits from the innovation.

The array of financial innovations are being driven by the regulations (Frame & White, 2004). Individual's education and income; and use of the new financial technology by consumers are being found through a positive relationship. Financial innovators for their well-earned efforts gain first-mover advantages and compensations.

It is necessary to improve product choices for consumers and expanded access to credit which is possible only when innovations are not being hindered by regulations (Draghi, 2008). As a result, the destination is to establish the flexibility of the system and not to delay the process needed for market discipline and innovation which are needed to the financial sectors' contribution towards economic growth.

Financial innovation in Bangladesh

According to Siddik, Sun, Yanjuan and Kabiraj (2014), financial inclusion raised as a crucial issue in both the developed as well as developing countries since 2005, the year which was announced as the International Microcredit Year by UN. It also has become a hot topic for the researchers and academicians. From a more extensive point of view, financial inclusion indicates delivery of formal financial services at a reasonable expense to every single individual from a country. In Bangladesh, during the most recent couple of years, the banking industry has encountered huge development. Nonetheless, there are worries that all the banks have not been capable enough because of high operating expenses, to incorporate a broad segment of the whole population into the overlap of essential banking facilities, particularly people from remote territories. The distance can expand the cost of utilizing financial services. In this manner can decrease the productivity of banks and thus making branch expansion decision unattractive to the service providing banks.

In this manner, the national bank of Bangladesh, i.e., Bangladesh Bank is urging scheduled banks for delivering banking facilities to individuals by using updated technologies, for example, smart cards, ATMs, mobile banking etc. Given that ATMs would never empower rural people to do a transaction from remote areas. But mobile banking is viewed as an excellent choice to diminish the issue of nearness to bank branches. CGAP (2006) expressed that mobile banking has extraordinary potentiality to make essential financial services more reachable to low-income individuals.

From the above discussion, it can be said that many scholars analyzed the influence of financial systems on the economy. Different studies were developed on financial innovation, global financial crisis, the influence of financial innovation, and many more. Many scholars from Bangladesh worked on various financial innovation-related issues. But no study focuses on the overall scenario of Bangladesh's financial innovation with a comparative picture of Bangladesh's financial inclusion and world financial inclusion. This paper is trying to fill the stated gap.

The research methodology and the course of the research process

This study is a descriptive study where quantitative data has been collected from secondary sources to examine the financial services innovation in Bangladesh by presenting the changes in the industry over the years in the financial market of Bangladesh. The secondary data was collected from the World Bank, Bangladesh Bank, articles, and reviewing numerous literature. The World Bank's Global Findex database and Global Financial Development Database from 2014 to 2017 is used to analyze the impact of financial innovation in financial inclusion of Bangladesh. Besides, the mobile financial services (MFS) data was collected from the central bank of Bangladesh (i.e., Bangladesh Bank) to present the comparative summary statement of mobile financial services.

Discussion and findings

Bangladesh has long been considered a role model for financial inclusion, first with the emergence of Grameen Bank in the late 1970s, and after that with the subsequent proliferation and prominence of microfinance institutions such as BRAC, mainly in rural areas. Despite these developments, it is still now a challenge for many people, especially marginal farmer and women, to access financial services. But recently, Bangladesh Bank has taken potential measures to promote the development of a more inclusive financial system in Bangladesh.

Mobile banking

Mobile banking or M-Banking is one of the wonders of this technological era (Sadiku, Tembely, Musa & Momoh, 2017). It refers to providing banking services through mobile telecommunication devices such as cell phone or personal digital assistant (PDAs). Khan (2014) defined M-banking as an application of mobile computing that delivers customers with banking facilities anytime, anywhere using mobile devices and a mobile service such as SMS (Short Message Service). Mobile banking facilitates customers by removing the space limitation such as transferring a balance from one account to others and checking account as well as removing the time limitation by saving time. Khan (2014) indicated the following services that are provided by mobile banking.

- Account Details: the prime services of account Services Provided by Mobile Banking are alerts on account activities, mini statement of account, checking of account, access to card statement and loan statement, monitoring of deposits, equity statement, mutual fund statement, pension plan management, insurance policy management.
- Payments and transfers: the services include international and domestic fund transfer, mobile recharging, bill payment processing, micro-payment handling, commercial payment processing etc.
- Investments details: the services include card and cheque book request, status of an application for credit, personalized notifications and alerts on security prices, real-time stock quotes, and portfolio management service.

Despite offering so many services, the M-banking is still underused, and the adaptation rate is lower than expected. Sadiku et al. (2017) stated about some potential barriers to M-banking adaptation, such as trust issues, perceived security risk, illiteracy, minimal knowledge about technology, unavailability of smart phones and personal digital assistant (PDAs), associated cost etc. Offering secured services is the major challenge of mobile banking. Cyber-attacks that may affect mobile banking include hacking, unauthorized use, information loss, eavesdropping, PIN recovery attacks, malware and interference. To prevent this kind of problems, some authentication techniques can be practiced, such as One Time Passwords (OTP), biometric identification and transaction profile scripts.

Internet banking

Internet banking refers to the systems which support the customers to access accounts and necessary information on bank services through PC with internet support or other intelligent devices (Khalil, Ahmad & Khan, 2017). The banks that allow internet banking are Eastern Bank Limited, Bank Asia, BRAC Bank, Arab Bangladesh Bank Ltd., HSBC, SCB, and so on. The facilities that are available from internet banking include wholesale products and services for corporate customers as well as retail products and services for individual customers.

Some examples of wholesale products and services are wire transfer, bill payment, automated clearinghouse transaction, cash management. Examples of retail products and services are funds transfer, balance inquiry, investment activity, and loan applications, downloading transaction information, bill resentment, bill payment and other value-added services.

According to Khalil, Ahmad and Khan (2017) demographic considerations, customer services and competitive cost motivate banks to practice internet banking. They also stated about some factors that drive banks strategy, which includes cost efficiencies, competition, and branding, geographic reach and customer demographics.

- Competition: Competition is the prime driving force of increasing internet banking that leads to revenue enhancement. Banks are using internet banking as a new strategy for retaining existing customers as well as attracting new customers.
- Cost efficiencies: Banks can deliver better services in cost-efficient ways by practicing internet banking.
- Graphical reach: Expanded customer contact can be managed by internet banking by increasing geographical reach and lowering delivery cost.
- Branding: Developing a positive brand image is a strategic priority for banks. Internet banking products and technology can facilitate banks to maintain and develop a profitable relationship with customers by providing easy access to a broad array of financial services and products.
- Customer demographics: The customers who are early adaptors can quickly adopt new technologies that is offered to the market. Internet banking permits banks to provide a vast array of new technology-based se-

rvices to the early adaptors. But the challenge is to find suitable services for suitable customers.

Internet banking also facilitates banks to maintain proper communication with the customer as well as provide crucial information whenever it is needed. Internet banking also allows customers fast, safe and convenient ways to shop required financial services.

Internet banking offerings in Bangladesh

- CitiDirect: The motto of CitiDirect is "Money isn't everything but it can be everywhere". The facilities of CitiDirect are Information Reporting, Easy-to-use application, deliver services with highest security, World Link through CitiDirect, Online Direct Debit Transaction Process, comprehensive payment transaction solution globally and locally, Real-time information reporting, Payments through CitiDirect, Flexible and streamlined functionality, E-mail and Wireless Banking Alerts by CitiDirect.
- Eastern Bank Limited: The internet banking application of Eastern Bank Limited allows customers to meet the banking requirements through the internet. The services include Fund Transfers and Payments, Loans, Deposits, Utility Bill Payments, Account operations and Inquiries, Session Summary etc.
- Bank Asia: Bank Asia offered innovative services through centralized databases. To gain competitive advantages, Bank Asia is practicing its internet banking services by modern IT infrastructure and Online Banking Software. It is the pioneer in traducing innovative services like shared ATM Network and SMS banking. Bank Asia has 21 ATMs as a member of ETN along with eleven other banks.
- BRAC Bank: BRAC Bank assured the highest security system through SSL (Secure Socket Layer) encryption technology. SSL secured the exchange of information between bracbank.com and customer's computer, and for the third party, it is not possible to access. SSL is universally accepted on the WWW (World Wide Web) for encrypted and authenticated communication between the servers and customers' computers.
- HSBC: HSBC enables a customer to receive a credit of all cheque and cash deposits along with inward remittance. Customers can deposit up to BDT50000 cash per transaction and any BDT amount in cheque 24/ 7 ba-

sis through the conveniently located Service Centers, ATM Machines and EasyPay Machines. With EasyPay Machines all the customers of HSBC and Non-HSBC can make deposits and pay their credit card payments, utility bills etc. Easypay Machines also permit customers to make transactions, pay credit card payments, utility bills, etc.

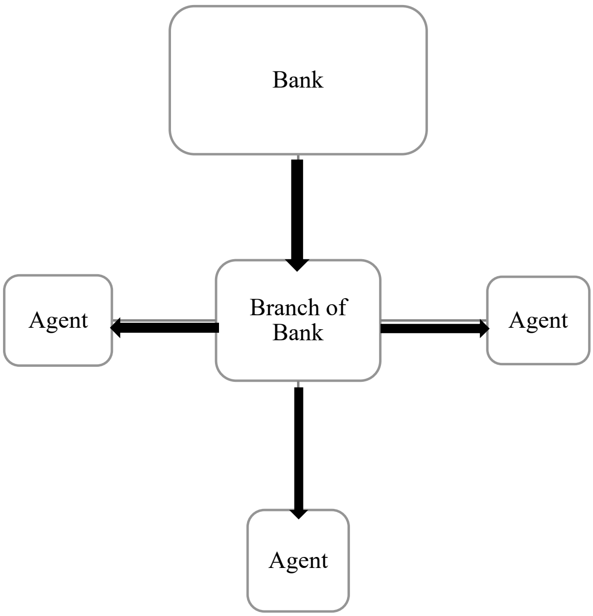
There is a sharp rise in the growth of internet technology and internet users. At the same time, there are also present some impediments on the way to ultimate growth. The reasons are Lack of efficiency in using of IT network, Underdeveloped IT industry, Low-level of computer literacy, Limited skilled human resources, Widespread poverty, Poor telecommunication infrastructure, Lack of software in the Bengali language.

Though there are some constraints on the growth of the internet, some opportunities also exist. Most important one include young generation is playing a vibrant role in the emerging IT industry in Bangladesh. Young people generate 38 % of all bank accounts. Among them, 17% of young people have two accounts. We know that the young generation is mostly interested in internet banking. So there is a vast opportunity for internet banking. Moreover, Bangladesh railway established a nationwide fiber-optic network which was used on 8% from its existence. This facility can provide a backbone for national data and voice communication.

Agent banking

According to Ahmed and Ahmed (2018) agent banking refers delivering the limited scale of financial services to the underprivileged population through non-bank retail agents under an agency agreement by relying on some devices such as POS terminal, card readers or mobile phones. Banks need prior and valid approval from the central bank for offering agent banking. An agent is the owner of an outlet who provides financial services on behalf of any specific bank (InterResearch, 2017). Agents are utilized as potential distribution channels for financial inclusion. The agent banking is promoting by Bangladesh Bank to reach the unobserved segment as well as the current customers living in geographically dispersed locations. A proper guideline is formed by Bangladesh Bank for agent banking to ensure security and soundness of the delivery process. The following diagram can state the process flow and the stakeholders involved in agent banking:

Figure 1. Agent banking model in Bangladesh



S o u r c e : authors' developed model, 2020.

The services that are provided by agent banking are receiving of clearing cheque, balance inquiry, inward foreign remittance disbursement, utility bill payment, cash payment, small value loan disbursement; instalments of loans, fund transfer, collection of small value cash deposits and cash withdrawals, processing of documents for account opening, credit or debit card application, and loan application.

The services that are not provided by agent banking are Cheques encashment; Dealing with financial appraisal or loan; Dealing with Foreign currency transaction; issuance of cheques and bank cards; Giving final approval of bank accounts opening.

Agent banking business model in Bangladesh

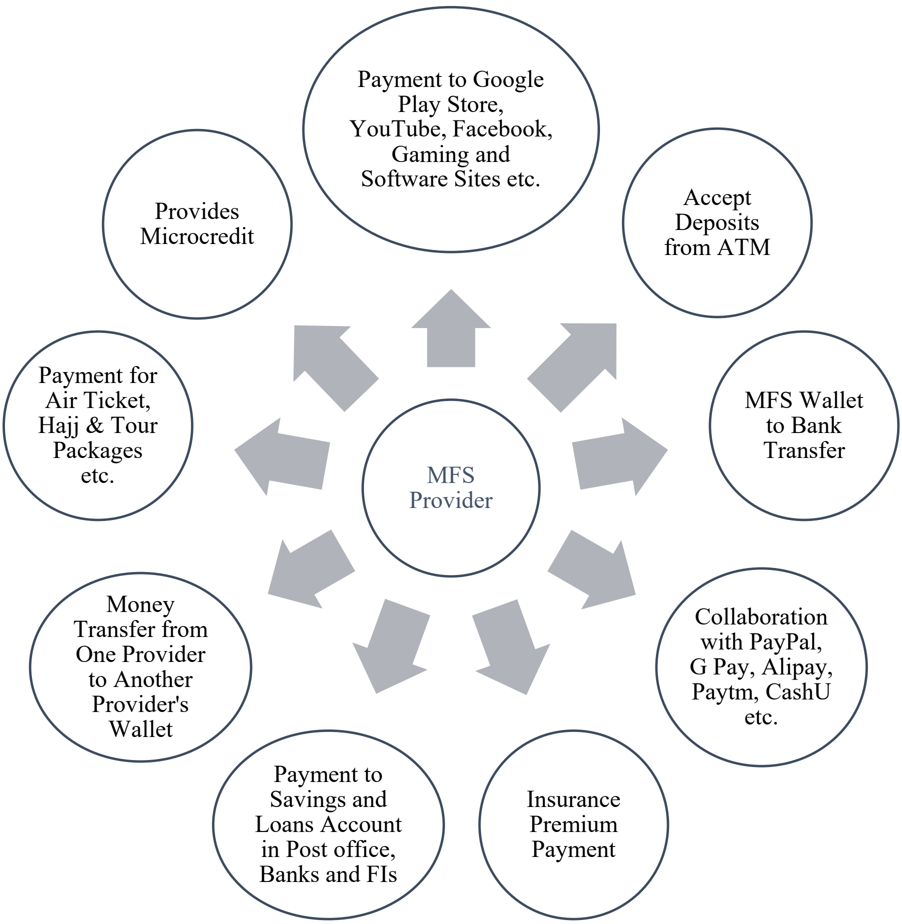
According to the guideline of Bangladesh Bank, 2013, an agent act on behalf of a bank and can take a license from one or more banks at a time. The customers can enjoy real-time banking services from the agent banking house because agent banking branch can be called a mini branch of a bank that has all modern facilities that a full branch of a bank has. In Bangladesh there present some known risks in agent banking, such as committing fraud by retail agent or customers; getting stolen of equipment or other properties from agent premises; facing financial loss by the agents or banks from hacker attacks, data leaks, inadequate electronic or physical security; lack of skilled technical support providers; weak Internet connections; inadequate backup systems (Lyman, Ivatury & Staschen, 2006). Except for these known risks, agent banking also has a significant risk of hijacking and robbery in the time of cash re-balancing and handling to and from bank branches. To manage the above mentioned risks, agents are instructed to do the following:

- Selecting agents with the experiences of regular cash handling.
- Keeping an ample amount of cash on hand and credit in the account.
- Maintaining a good relationship with law enforcers.

Digital financial services

To digitize a nation, it is necessary to digitize a country's citizen services and financial services. Since the beginning of the Digital Bangladesh journey, the government is concentrated more and transforming the citizen services. Currently, a citizen can apply for any government services online from passport application to the tax return form. However, to fully digitize the country, it is necessary to concentrate on digital financial services. Over the past few years, the mobile financial services (MFS) has booming in Bangladesh, but that is not enough for 164.7 million people. There is a vast number of unbanked people who could be potential customers for the MFS provider. However, services offered by MFS provider is limited to cash in and out; some are giving services to pay a few e-commerce sites. Here is a model to show what other services can be offered by MFS provider:

Figure 2. Proposed digital financial services that the MFS provider can provide to existing and potential customers



Source: authors' developed model, 2020.

MFS provider should allow their customers for depositing money from Automated Teller Machine. Also, there should be a service of mobile wallet to bank account, debit and credit card transfer. MFS provider can collaborate with an international payment gateway like PayPal, G Pay, Alipay, Paytm, CashU etc. so that the migrant workers can send remittance to Bangladesh more quickly and conveniently. Besides, migrant workers working in Bangladesh can send their money to their home country so that the illegal transfer of money flow will decline. Country's freelancer will be benefited because they can receive money by using PayPal without any hassle. To encourage developer and online payment MFS provider can also collaborate with Google play store YouTube, Facebook, Gaming and software site, and so forth. There should be the service of transferring money from one provider wallet to another provider's wallet so that there will be less need for cash out. If MFS clients can pay their savings accounts instalments, credit card payments, insurance premium, then the unbanked people will feel encouraged to saving their money instead of keeping liquid cash in their home. Moreover, the MFS provider can offer loan to the poor citizens through MFS account that will help them to way out of their poverty and finally contribute to the country's economic development.

Mobile Finance Services

Mobile Finance Services or MFS added a new era in the area of financial access by arranging various technologies and multiple approaches altogether (Nolan, 2013). MFS can be defined as the use of a mobile phone to access and execute the transaction and financial services (Sultana, 2014). Sultana (2014) also mentioned about the three aspects of MFS: mobile money, mobile credit & savings and mobile insurance. Mobile money indicates the uses of mobile phone for transferring money and making payment which includes P2P (Peer-to-peer) transfers, G2P (Government-to-person) payments, merchant payment, bill payment and international remittances. Mobile credit and savings service indicate wing of mobile phone for providing credit, services and savings services to be underserved which includes the services that allow subscribers to save money in accounts and also have the opportunities to borrow a certain amount for a specific period. Mobile insurance indicates using mobile phone for providing micro insurances services to the underserved.

In Bangladesh, MFS firstly introduced in mid-2011 and grew faster than any other country (Sultana & Khan, 2017). Bangladesh Bank issued guidelines on MFS in September 2011. According to a report from payment systems department of Bangladesh Bank (2018), at present following Mobile Finance Services are allowed by Bangladesh Bank:

- 'Cash-in' & 'Cash-out': 'Cash-in' to and 'Cash-out' from MFS accounts take place through bank branches, agent locations, linked bank account, ATM and other methods determined by Bangladesh Bank.

- Person to Business (P2B) payments: P2B payments include mobile top-up, utility bill payments, and deposits into schemes/savings accounts with banks, merchant payments, loan repayments to banks or non-governmental organizations or non-bank financial institutions.
- Business to Person (B2P) payments: includes dividend payments, salary disbursements, discount payments.
- Person to Person (P2P) payments: means transfer of cash from one personal MFS account to another personal MFS account.
- Business to Business (B2B) payments: it includes SCM payments, vendor payments.
- Online and e-commerce payment: from any MFS account to another seller's MFS account.
- Government to Person (G2P) payments: such as freedom fighter allowances, old age allowances, subsidy payments, pension payments etc.
- Person to Government (P2G) payment: such as fee, tax, fine, toll charge, levy payments, and so forth.
- Loan disbursements to borrowers.
- Disbursement of inward foreign remittances.
- Other payments considered by Bangladesh Bank.

Table 1. Comparative summary statement of MFS transactions

Serial no.	Description	Amount in February, 2016	Amount in February, 2020	% Change
1	No. of Banks currently providing the Services	18	15	
2	No. of agents	576,996.00	985,914.00	70.87%
3	No. of registered clients in Lac[1]	339.8	818.57	140.90%
4	No. of active accounts in Lac[1]	140.02	270.87	93.45%
5	No. of total transaction	116,208,212.00	226,109,405.00	94.57%
6	Total transaction in taka (in crore BDT)	16,568.89	41,334.79	149.47%
7	No. of daily average transaction	3,873,607.00	7,796,876.03	101.28%
8	Average daily transaction (in crore BDT)	552.3	1,425.34	158.07%
9	**Product wise information**	**Amount (in crore BDT)**	**Amount (in crore BDT)**	**% Change**
a.	Inward Remittance	3.82	29.99	685.08%

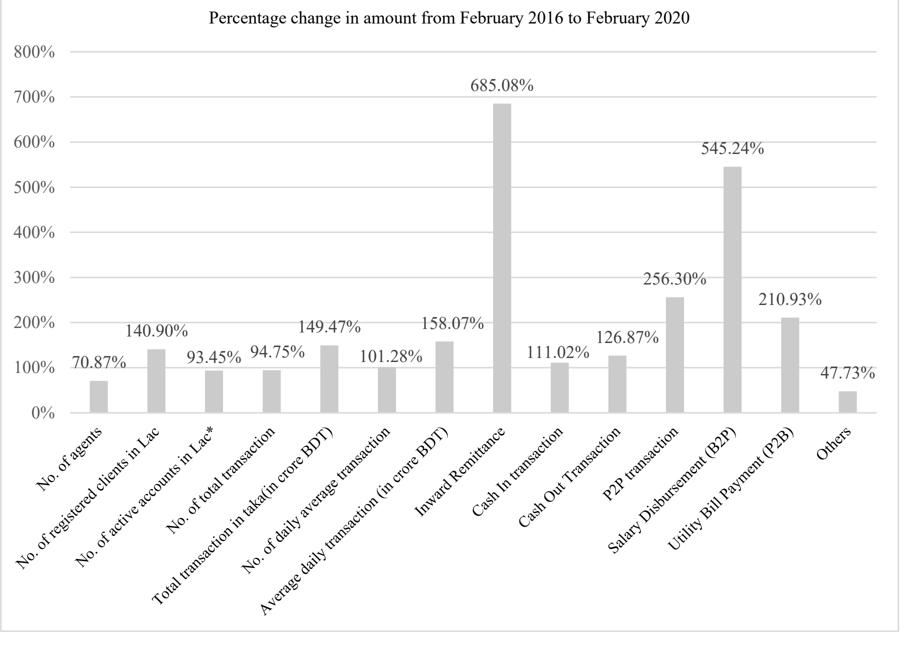
Table 1. Comparative…

Serial no.	Description	Amount in February, 2016	Amount in February, 2020	% Change
b.	Cash In transaction	6,935.23	14,634.91	111.02%
c.	Cash Out Transaction	6,041.35	13,706.13	126.87%
d.	P2P transaction	2,749.68	9,796.98	256.30%
e.	Salary Disbursement (B2P)	168.58	1,087.74	545.24%
f.	Utility Bill Payment (P2B)	141.87	441.12	210.93%
g.	Merchant Payment	-	581.89	-
h.	Government Payment	-	275.5	-
i.	Others	528.36	780.53	47.73%

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

Source: Bangladesh Bank, 2020.

Figure 3. Comparative summary statement of MFS transactions

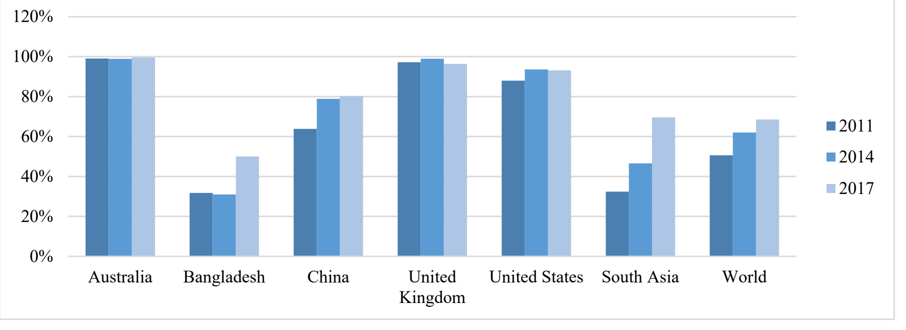


Source: Bangladesh Bank, 2020.

It is noticed from the graph as mentioned above that in just four year's period the inward remittance flow had changed to 685.08% that is for the initiative taken by the government that giving 2% incentive to the expatriate community who are sending remittance through the legal channel. More and more companies are paying their workers' salary through the mobile wallet in recent times, which is the reason for the substantial per cent change in salary disbursement. However, due to the digitalization of financial products and services, consumers are paying utility and other bills through the digital channel, which is the reason for the growth of utility bill payment over the years.

Impact of financial innovation in financial inclusion

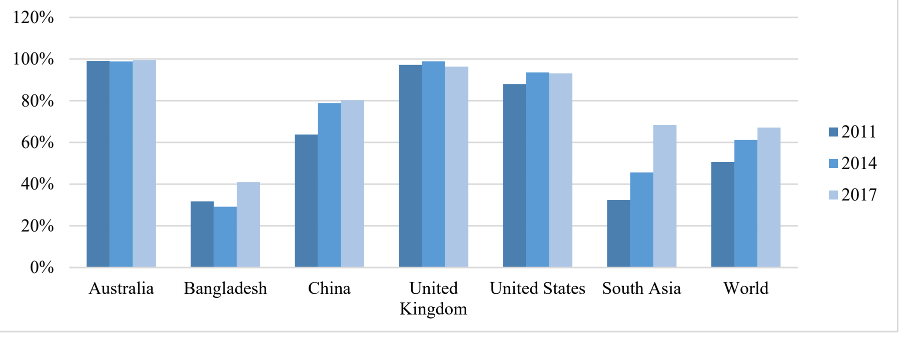
Figure 4. Account ownership by the percentage of adults



Source: The World Bank, 2017.

According to the data of the Global Findex Database, 50 percent adult of the total population was unbanked, and 50 percent population had either an account at a bank or other financial institutions or mobile wallet account in Bangladesh in 2017. The number rose by 61 percentage points in just three years from 2014 to 2017 due to the innovation in financial products and services, especially the growth of mobile financial services (MFS). As of February 2020, 15 commercial banks are providing mobile financial services for their clients. A mobile wallet account is an account by which a person can receive formal financial services from a bank, non-bank financial institutions, and other financial technology (fintech) companies. The account ownership scenario for the developed nation was remarkable. When compared with the World and South Asia, Bangladesh's account ownership was still lag. Policymakers of Bangladesh need to focus on the digitalization of financial products and services so that the unbanked population from the rural area can engage with the formal financial system.

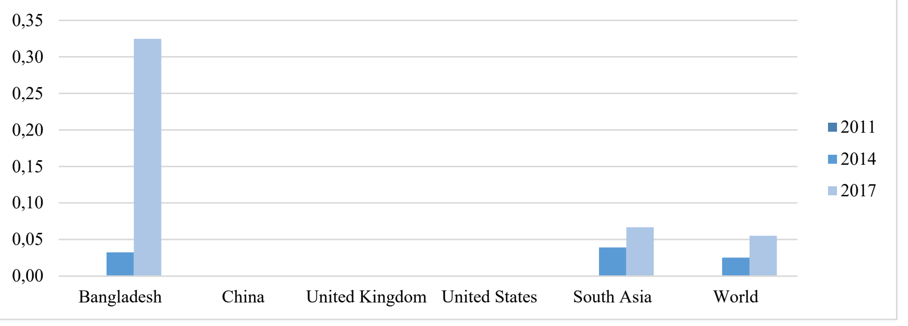
Figure 5. Financial institution account ownership by the percentage of adults



Source: The Global Findex Database, 2017.

The percentage of account ownership at a bank or other financial institutions was 41 percent in Bangladesh, and that rose by 41 percentage points from 2014 to 2017. The growth was due to the introduction of technology in banks and other financial products. Most of the banks have started offering internet banking, online banking, agent banking, mobile banking, and SMS banking services for their clients from the last decade. Since the internet user has increased in that decade, customers' demand for innovative financial products and services has increased. Besides, Agent banking is playing a vital role in the growth account ownership because unbanked people of rural areas can easily open an account by visiting the nearest agent banking branch of a bank. The agent of a bank can provide all banking services for the bank's clients. The Global and South Asian picture was still better than Bangladesh in 2017.

Figure 6. Mobile money account ownership by the percentage of adults

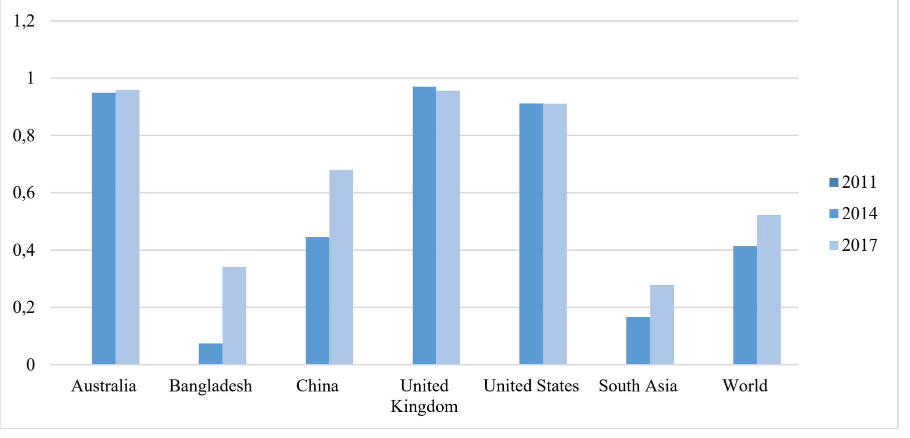


Note: No data are available for China, UK, USA, and for the year 2011.

Source: The World Bank, 2017.

The growth of account ownership by an adult in Bangladesh had increased 61 percent in just three years period from 2014 to 2017. The reason for this significant growth was due to the high growth of the mobile money account. A mobile money account is an account with a bank or other financial institutions or financial technology company by which the account holder can avail all formal financial services of those institutions through mobile phones. A customer can perform different types of services, including cash transactions, payment settlements, and other types of services. A mobile wallet account is becoming a substitute for cash in Bangladesh. Bangladesh had shown great potential in mobile account ownership, whereas the South Asian and Global picture is far behind than Bangladesh.

Figure 7. Made or received digital payments in the past year by the percentage of adults

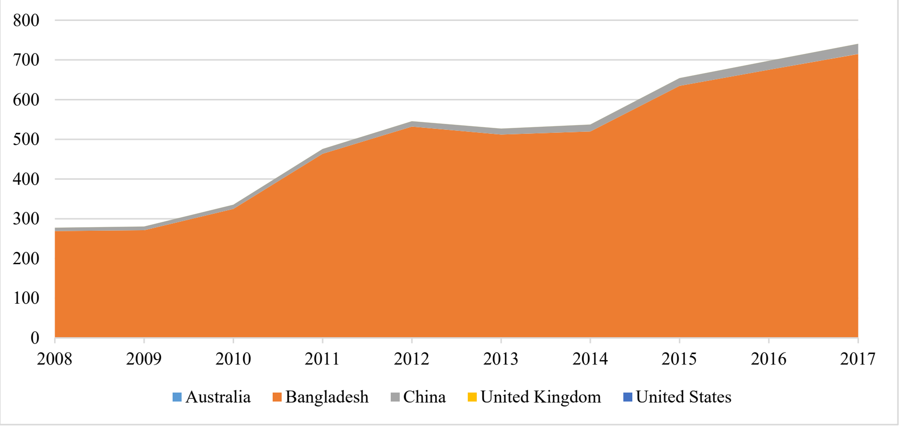


Note: No data are available for the year 2011.

Source: The World Bank, 2017.

In 2017, 34 percent of Bangladeshi adults made or received digital payment. The payment includes payment through credit or debit card, internet banking account, mobile wallet account for remittances, wages, government payments, pension, e-commerce, and so forth. Due to the continuous innovation in the financial sector, the payment condition rose by 79 percentage points from 2014 to 2017. As the financial products and services digitalized, the payment systems also digitalized in Bangladesh. The picture of Bangladesh in this criteria is better than South Asia but falls behind other countries and the World.

Figure 8. Bank accounts per 1,000 adults

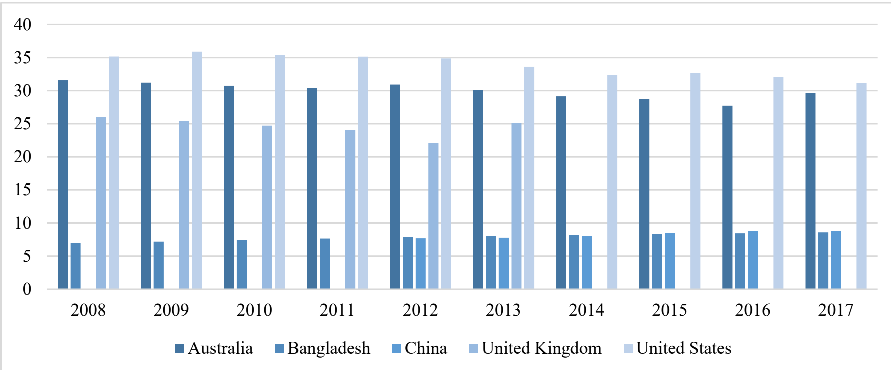


Note: No data are available for Australia, UK, and USA.

Source: The World Bank, 2017.

According to the Global Financial Development Database between China and Bangladesh, Bangladesh was far better than China in bank account ownership in a commercial bank. In Bangladesh, there are 715 adults among 1000 adults who had a bank account in 2017; on the other hand, in China, only 26 adults had bank amount among 1000 adults. The number of bank account ownership has increased over the years because of the agent banking facilities, expansion of bank branches, reformation of the banking industry, and the digitization of formal financial products and services. If the growth rate continues, Bangladesh will achieve the perfect score in bank account opening in the near future.

Figure 9. Bank branches per 100,000 adults



Note: No data are available for China (2008-2011) and UK (2014-2017).

Source: The World Bank, 2017.

Bangladesh and China had approximately the same number of bank branches for 0.10 million adults. On the other hand, all three developed country's figures are significant. The rise of agent banking may trigger the branch opening in all over Bangladesh. Still, policymakers need to issue and implement policy so that banks obliged to open a branch in a rural area where the highest percentage of the population is unbanked. If unbaked populations engage in the formal financial system, they can way out of poverty, earn more to make their lives better, and contribute to the economy. So, the goal of poverty alleviation and inclusive economic growth will be achieved.

Theoretical and managerial implication

This paper illustrates the role of financial innovation in the past, present, and future development from the perspective of Bangladesh. The study also specifies a comparative picture of Bangladesh's financial inclusion with the world financial innovation situation. No other studies clarify these issues. So the findings will be a new addition to the literature of financial innovation.

The study shows a very specific discussion of different financial services innovation and there influence on the Bangladesh economy. The paper also clarifies the increase and adaptation rate of innovative financial services using financial data. Moreover, the study focus on a comparative picture, which gives us a clear understanding of the situation of financial services innovation between Bangladesh and other countries. These findings will help the finance personnel to understand the actual picture of financial inclusion in Bangladesh before making critical decisions. The proposed model recommends some digital financial services that the MFS provider can provide to existing and potential customers to increase their profit.

Conclusion

Financial services can be innovated in more sectors to provide new services for financial inclusion. In this discussion, as mentioned earlier, we have observed that the innovation of financial services should be included in the existing financial services for gaining the digital Bangladesh goal. This article proposed a model that can help innovate the financial services in many areas, so the practitioners and policymakers can initiate adding those services in the mobile wallet of their existing customers and subsequently offers to new customers.

The study presented excellent opportunities for future research. The paper used descriptive analysis. Quantitative research can be done by segmenting the customers on a cluster basis to see the development of the innovation. In this study, no moderating or mediating effect was analyzed; this can be a scope for further research. The paper was developed on the basis of secondary data. Primary data can be used in future research, which will be more actual. So there exists a large field of future study.

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