

Measuring Progress to Scale Responsible Digital Payments in Bangladesh

March 2022



BETTER THAN CASH
ALLIANCE



Cabinet
Division
Government of the People's
Republic of Bangladesh



ICT
DIVISION
FUTURE IS HERE



CONTENTS

1. EXECUTIVE SUMMARY/6
2. INTRODUCTION AND COUNTRY CONTEXT/19
3. ANALYSIS OF PAYMENT ECOSYSTEM IN BANGLADESH/34
4. FACTORS AFFECTING WOMEN'S INCLUSION IN DIGITAL PAYMENTS/60
5. TRANSITION TO ELECTRONIC PAYMENTS AND TRAJECTORY OF SHIFT/70
6. PRIORITY SECTOR HIGHLIGHTS (READY-MADE GARMENTS, EDUCATION, AGRICULTURE, AND RETAIL)/90
7. ENABLING ENVIRONMENT FOR DIGITAL PAYMENTS IN BANGLADESH/143
8. RECOMMENDATIONS AND THE WAY FORWARD/152
9. ANNEXURE/156

LIST OF FIGURES

Figure 1. Levers of digital payments enablement	19
Figure 2. Emerging macro-trends for digital payments	21
Figure 3. Key tenets of UN Principles for Responsible Digital Payments	23
Figure 4. Bangladesh's economic landscape: Evolution over the years	25
Figure 5. Number of bank ATMs in Bangladesh over the last three years	42
Figure 6. Number of fully online branches in Bangladesh over the last three years	42
Figure 7. Number of card transactions over specific months during the last three years	43
Figure 8. Number of issued cards	44
Figure 9. Growth of internet banking customers and transactions	45
Figure 10. Volume trend of card-based transactions	46
Figure 11. Value trend of card-based transactions	47
Figure 12. Growth in internet banking transactions	47
Figure 13. Number of RTGS transactions–2020 quarters	48
Figure 14. Quarterly growth trend of BEFTN transactions–2020 quarters	49
Figure 15. Volume and value of transactions through agent banking	50
Figure 16. Number of Banking Agents and Agent Outlets	50
Figure 17. Volume of mobile banking transactions	54
Figure 18. Number of mobile money accounts opened segregated by gender	55
Figure 19. Registered vs. active mobile money accounts	56
Figure 20. Number of female MFS accounts and female agent-banking accounts	60
Figure 21. Payment streams and key use cases for analysis	71
Figure 22. Shift in the share of digital payments by volume and value across key use cases	72
Figure 23. Growth in value of digital payments of custom duties over the years	83
Figure 24. Number of RMG factories	90
Figure 25. Factors in the success of RMG	91
Figure 26. RMG as a percentage of total exports	92
Figure 27. Growth of Bangladesh's apparel exports	92
Figure 28. Wage disbursements using MFS accounts from April 2020 to November 2020	98
Figure 29. Wage payments from April 2020 to September 2020 for non-brand and brand-facing RMG factories	98
Figure 30. Employment trend in the agricultural sector	101
Figure 31. Loan disbursement in the agricultural sector	106
Figure 32. Deposits in farmer accounts	107
Figure 33. Breakdown of farmer accounts, rural vs. urban	107
Figure 34. Quarterly statistics on no-frills accounts	108
Figure 35. NER for primary education	116
Figure 36. NER for secondary education	118
Figure 37. Share of G2P benefits spending	119
Figure 38. Banks with the most school banking accounts	122
Figure 39. Contribution of retail sector to Bangladesh's GDP	123
Figure 40. Transactions using MFS accounts in Bangladesh	125
Figure 41. Transactions at POS in Bangladesh	126
Figure 42. E-commerce transactions in Bangladesh	130
Figure 43. Number of doctors and healthcare workers (per 10,000 population)	134
Figure 44. Life expectancy in Bangladesh (2016–2021)	134
Figure 45. Digital payments strategy and policy evolution in Bangladesh over the last 5 years	144
Figure 46. Policy response of Bangladesh Bank to COVID-19	148
Figure 47. Pillars of digital services in Bangladesh	149

LIST OF TABLES

Table 1.	Role of digital payment in achieving SDGs	29
Table 2.	Interbank transaction volumes	41
Table 3.	Agent-banking transactions: Comparative analysis of 2019 vs. 2020	52
Table 4.	Trend of MFS transactions in Bangladesh, 2019 vs. 2020	58
Table 5.	Gender gaps in identified parameters	61
Table 6.	Key recommendations for increasing digital payments adoption by women	64
Table 7.	Payment data by payer and payee across the key value chains,,	71
Table 8.	Payment data by payer and payee across the payment value chain in Bangladesh,,,	75
Table 9.	Payment data by payer and payee across the key payment value chains in Bangladesh,,,,,,,,	81
Table 10.	Payment data by payer and payee across the payment value chains in Bangladesh,,,	87
Table 11.	Key challenges regarding digital payment usage in the RMG sector	99
Table 12.	Challenges to credit access and digital payments adoption in the agriculture sector	112
Table 13.	Challenges to digital payments adoption and digitization initiatives in the education sector	121
Table 14.	Key challenges for the adoption of digital payments in retail sector	131
Table 15:	Challenges to services digitization and digital payments adoption in the healthcare sector	142
Table 16.	Key policies supporting Digital Bangladesh Initiative	144
Table 17.	Key policies, strategies, and guidelines	146
Table 18.	Key acts supporting data privacy and security	151
Table 19.	Foundational infrastructure components	151
Table 20.	Inputs from stakeholder discussion	152

1. EXECUTIVE SUMMARY

Digital payments are an essential part of Bangladesh's journey towards the 'developed nation' status by 2041 and have propelled the country's COVID-19 response to a large extent. Embracing responsible digital payments can add 3 percent to the economy of an emerging country.¹

Investment in the digital infrastructure of the country has been a priority for the Government of Bangladesh in the past decade, ever since the launch of Digital Bangladesh. The digital infrastructure has enabled the adoption of digital payments, and the pandemic further accelerated the growth, especially in the priority sectors. One in five financial transactions in Bangladesh are now digital,² and 79 percent of the population is part of the financial ecosystem.³ Women are beginning to be prioritized, but more work is needed. Mobile financial services (MFS) accounts held by women increased 21.5 percent between 2019 and 2020 and by 11 percent between March 2020 and May 2021.

Digital payments are critical to the government's vision of a digital Bangladesh and ensuring these are scaled responsibly is now critical. The country has made significant strides in responding to the pandemic, especially in the priority sectors of agriculture, education, ready-made garments (RMG), and retail and e-commerce, which together generate 37 percent of the country's gross domestic product.⁴ Adoption of digital payments in these sectors touched new highs during the pandemic:

- In the RMG sector, 82 percent of the workers in brand-facing factories started receiving wages digitally.⁵
- Merchant payments using MFS accounts increased by 15 times between April 2020 and May 2021.
- The ticket size for merchant payments using MFS accounts increased by 4.5 times.⁶
- Digital healthcare services relied highly on digital modes of payments during the pandemic.
- Agriculture has made steady progress toward food security, with 27 percent of farmers receiving subsidies digitally.⁷
- In the education sector, all primary education stipends and 9.6 percent of private school fees are now paid digitally.⁸

1.1 TRAJECTORY OF SHIFT IN PAYMENT STREAMS⁹ SINCE 2016 (FIRST EDITION OF THE DIGITAL PAYMENTS DIAGNOSTIC)

- **Government:** Digital payments by the government accounted for around 26 percent of all payments by volume and 58 percent by value, compared to 1 and 69 percent, respectively, in 2016. This shows proliferation of small-value payment digitization.
- **Business:** An estimated 23 percent of business payments by volume and 6 percent by value were made digitally – a sharp rise in volume from 2016 (10 percent) – but the increase in value (from 3 percent) was marginal.
- **Personal:** Individual transactions rose sharply to 19 percent by volume and 18 percent by value from 4 percent and 2.5 percent, respectively, in 2016.

In Bangladesh's march towards scaling responsible digitization, these six priority areas, which are aligned to the UN Principles for Responsible Digital Payments, present opportunities for greater collaboration:

1. Service **cost distribution, especially for cash-out**, is a challenge across the value chain of digital payments, especially for users.
2. **New use-cases and business models** that facilitate e-money transactions need more investment and collaboration.
3. Providing users with choice through **interoperability of the digital payments' infrastructure** is crucial for a seamless experience.
4. User **data protection and trust** in digital financial services (DFS) are key to drive adoption, expansion, and usage.
5. Designing for individuals and closing the **demand–supply gap** for underserved segments, such as women, smallholder farmers, and microenterprises can improve the value proposition for all players.
6. Improving financial **and digital capabilities**, including making recourses clear, quick, and responsive, is key to dealing with first-time users of digital payments.



14%

increase in the number of ATMs in urban areas and 20% increase in rural areas

63%

increase in monthly card transactions and

50%

increase in cards issued over the last three years

140%

increase in agent outlets over the last three years, with 16,806 outlets active as of May 2021

340

million MFS transactions in May 2021 and an increase of 150% during the last five years due to strong market expansion and the extension of MFS services

The priority areas highlighted in this report concern all players in Bangladesh's payments ecosystem: the government, regulators, the private sector, financial service providers, and users as well as their social and economic communities.

1.1.1 Digital payments ecosystem

In Bangladesh, two out of three people now have a smart national identification (NID) card, which has enabled many new users to access financial services. DFS transactions increased across payment streams, with the sharpest rise observed for e-commerce transactions in both volume and value. Electronic fund transfers (EFTs) have tripled since 2016; cheque payments declined in 2020. This fast growth, as enumerated below, highlights the importance of digitizing responsibly in order to reach financial equality and help advance the Sustainable Development Goals (SDGs).

- Use of automated teller machines (ATMs) has increased consistently in both rural and urban areas, along with a shift toward online bank branches.
- The number of cards issued has increased in the last three years; their use in e-commerce has grown faster than at ATMs and point-of-sale (POS) devices.
- The rural population has embraced agent banking for deposits, loan disbursements, utility bill payments, and inward foreign remittances, with the cumulative value increasing by 15 times since 2016.¹⁰
- Strong market expansion and extension of service offerings have fuelled proliferation of DFS, with adoption increasing from 50 percent in 2016 to 60 percent in 2021.¹¹
- MFS accounts owned by women have continued to increase in the last three years, growing at 20 percent year-on-year, although the gap between male- and female-owned accounts has widened.
- Active MFS accounts in 2020 were 2.5 times than their 2016 number, although the ratio of registered to active users remained unchanged. There were 98 million registered and 38 million active MFS accounts as of May 2021.¹²

1.1.2 Prioritizing women

The number of MFS accounts increased 21.5 percent¹³ between 2019 and 2020 and by 11 percent between March 2020 and May 2021. This takes the female share of MFS accounts to 45 percent. Agent banking accounts owned by women increased by 77 percent between March 2020 and May 2021, taking their share to 42 percent of all agent banking accounts.¹⁴ Government benefit programs targeting women have been digitized, especially in the all-important RMG sector. Women also account for a significant portion of the growing social commerce entrepreneurs, where digital payments play an instrumental role.

However, despite the progress in prioritizing women in digital payments, the following factors continue to exclude them from the formal financial system:

- **Low literacy rate:** The female literacy gap between urban and rural areas is 13 percent, as reported by Bangladesh Statistics 2019.¹⁵ Many women lack digital literacy to operate and trust digital devices and accounts.
- **Gender gap in access to identity and Know-Your-Customer documentation:** The World Bank's 2017 Findex survey estimates that 81 percent of women have a national ID in Bangladesh, whereas 84 percent of men have IDs.
- **Access to mobile devices:** Only 61 percent of the women in Bangladesh have a mobile phone of their own, compared to 86 percent of the men.¹⁶
- **Privacy concerns:** Women are reluctant to visit male agents or transact digitally with them because it exposes their phone numbers to the agents and potentially anyone at the agent point.
- **Shared devices:** As many women use a shared mobile phone, they do not want to transact from that device, as they do not want to disclose their financial standing with others.



1.1.3 Payment streams

1.1.3.1 Bulk disbursements

Government to person payments:

- The government increased the digitization of wage payments to 100 percent (from 36.4 percent in 2016) through initiatives to develop Bangladesh's information and communication technology infrastructure, including the Integrated Budget and Accounting System (IBAS++).
- The Department of Social Services, which runs 52 social safety net programs with 20 million beneficiaries and an annual budget of Bangladeshi Taka BDT 16.20 billion (US\$190.57 million), pays all its benefits digitally.¹⁷

Development sector payments:

- Development agencies have provided humanitarian relief through innovative mechanisms, such as quick response (QR) codes and blockchain-based ledgers.

Wage payments in the private sector:

- Most businesses, especially small- and medium-sized enterprises (SMEs), still pay their wages in cash. In April 2020, only 20 percent of non-brand-facing factories in the RMG sector were making digital wage disbursements. Digital wage disbursement peaked in June 2020 at 60 percent but decreased to 40 percent by September.¹⁸
- A small portion of SMEs are moving from cash to MFS disbursements, and some medium and large establishments are moving from check payments to MFS transfers or EFTs in bank accounts. However, cash-out costs remain a deterrent.



1.1.3.2 Commercial and consumer payments

Personal and corporate taxes are still paid offline, although value-added tax has been payable online since July 2020. In October 2020, the National Board of Revenue (NBR) launched an automated challan system, allowing taxpayers to deposit taxes and fees through online banking and MFS providers. In utility bills, 15 percent of Person-to-Business and 18 percent of Business-to-Business are paid digitally through channels such as MFS and ekPay platforms, the two leading digital payment modes. ekPay has a network of 50 assisted agents, 50,000 syndicated agents, 15 banks, and 30 service providers.¹⁹ Eighteen billers are connected to the platform, which accepts all means of digital payment.

- Digitization of import and excise duties for companies has begun, and 12 percent of payments are already digitized. The NBR has decided to make all customs duty payments digital for ticket sizes exceeding Tk 200,000.²⁰

1.1.3.3 Personal payments

Digital Person-to-Person transfers by volume rose from 11 percent in 2016 to 20 percent in 2021.²¹ Domestic monthly payment transfer volumes nearly doubled from 22.43 million in May 2019 to 40.34 million in May 2020.²²

- Foreign remittances grew from 11 percent in 2016 to 24 percent in 2021, where 70 percent of remittances were received into agent-banking accounts in rural areas.²³ Migration of workers declined last year due to COVID-19, but remittances rose due to the increased support from migrants to their families to help them cope with the pandemic.

1.1.4 Priority sector highlights

1.1.4.1 Ready-made garments

The RMG sector is key to Bangladesh's export earnings and the livelihood of its vast labor force. The government initiated measures to help the sector cope with the pandemic, such as tax deferment, stimulus packages, and mandated digital wage disbursement. During COVID-19, digital disbursement of the government's BDT 50 billion (US\$588.20 million) stimulus for export-oriented sectors boosted RMG payment digitization, with 82 percent of the wages paid digitally in July 2020.²⁴ The rate of digital payments dipped (54 percent) after the government's support to factories ended in August 2020.²⁵

Overall, 59 percent of women and 70 percent of men said digital wage payments gave them more control over their money than cash did.²⁶

Digitizing wage disbursement in the informal RMG sector can add BDT **380 crore (US\$44.70 million)** to Bangladesh's official economic channels

Digitizing credit disbursements in agriculture can add up to BDT **22,700 crore (US\$2.67 billion)** to the country's official economic channels

- Despite the positive trends, gender gaps persist, such as in access to documentation and mobile phones and in digital payment services beyond wages. In addition, RMG workers outside the formal supply chains were excluded from wage digitization, depriving them of social protection programs.
- Digital payments in RMG are limited by the cost of usage, lack of digital literacy, and insufficient financial capability. These limitations lead to mistrust of the services, due to operational challenges, and raise questions about the sustainability of the business models.

1.1.4.2 Agriculture

Bangladesh's agricultural sector employs 49 percent of the population. Women are heavily engaged in the sector but often remain unrecognized and unaccounted for. This makes agriculture another priority sector in which the digital payment gender divide must be bridged.²⁷ This sector has a credit-based system across the value chain, with credit disbursement of 27 percent of farmers' subsidies transferred digitally.²⁸

Most agricultural subsidies are still received in cash or through cheques. The government is moving toward MFS for disbursing agricultural scheme benefits under programs like the National Agricultural Technology Program (NATP). Multiple initiatives by the government as well as the private sector, such as the NATP Government-to-Person (G2P), are designed to improve sector efficiency through digitization of payments. However, challenges remain in the form of cash-out charges and limited use case of non-cash funds. There is an opportunity to on-board small merchants, such as input retailers, and make it easier for farmers to transact digitally.

1.1.4.3 Education

All primary education stipends and 10 percent of private school fee payments are made digitally.²⁹ According to data from MFS provider, Surecash, BDT 10.34 billion (US\$121.64 million) were disbursed digitally under the Primary Education Stipend Program to 12.11 million students during financial year (FY) 2019–20.

The Harmonized Stipend Program has been implemented in secondary and higher secondary institutions through the Secondary Education Development Program. The Prime Minister's Education Assistance Trust distributes the stipend among students through a digital payment gateway. So far, 5.2 million students from grades 6 to 12 have received BDT 2.5 billion (US\$29.41 million) through their MFS accounts in FY 2020–21.³⁰ Although all banks offer school fee payment services, government schools usually process fee payments manually because student records are maintained manually. The Department of Secondary Education is moving toward paying teachers through G2P channels.



There are process and administrative challenges for new use cases. Enabling digital fee payments requires multiple approvals from the education board and lengthy processes.

1.1.4.4 Health

Healthcare in Bangladesh is primarily cash-driven, with ample opportunity for digitization. Most of the procurement processes for medical equipment are still manual, but several government initiatives have started utilising the benefits of digital transactions. All public hospitals in Bangladesh are equipped to accept digital payments through IBASS++. The government also utilizes the IBASS++ system for digital wage disbursement in the sector:

- The government's Shashtho Shurokkha KOrmoshuchi scheme served 20,931 households as of April 30, 2021, through coverage of BDT 50,000 (US\$588.20) per year for healthcare services against a government-financed premium of BDT 1,000 (US\$11.76).³¹
- Online pharmacies are becoming more popular, as seen in the surge of online transactions since the onset of the COVID-19 pandemic. For example, Arogga, an online pharmacy launched in 2020, has fulfilled 4,400 orders until May 2021 and has reported a 60 percent month-on-month growth rate in payments.³²

The new-generation healthcare services, like telemedicine and teleconsultancy, leverage digital ecosystems to accept payments.

Digitizing 30% of micro-merchant payments would help increase the GDP by
BDT **26,978 crore**
(US\$ 3.17 billion) per year.

In fact, digital payment modes have been the major enabler of digital healthcare services during the pandemic. Formalizing digital payment guidelines and building a supporting ecosystem can expand the use cases of digital payments in healthcare. In the context of COVID-19 recovery, there are opportunities to digitize payments for health workers.

1.1.4.5 Retail

E-commerce is a large source of foreign investment, totalling US\$41 million, and it is now the third most-funded sector in Bangladesh. There are 2,500 e-commerce businesses and 400,000 social commerce businesses in Bangladesh. Dhaka, Chattogram, and Gazipur are the hotspots, originating 80 percent of online sales (US\$2.07 billion).³³

The COVID-19 pandemic emerged as an opportunity for e-commerce companies to boost digital payments — 20 percent of all online orders are now paid for digitally.³⁴ Government initiatives for digital commerce, innovative payment modes, and encouragement of women entrepreneurs are expected to provide a further push to the sector.

However, challenges remain, with around 80 percent³⁵ of customers paying cash on delivery. MFS providers operate outside of the National Payment Switch Bangladesh (NPSB) and Bangla QR code ecosystem, which hinders online payments using MFS accounts on e-commerce websites. The Bangladesh Bank and the Ministry of Commerce have introduced an escrow policy for e-commerce payments, which is meant to encourage consumers to pay digitally and build trust in e-commerce.

1.1.5 Igniting the progress of the SDGs

The compendium developed by the Better than Cash Alliance shows that digital financial inclusion, when provided responsibly and sustainably in a well-regulated environment, not only drives growth but also enables faster progress towards the majority of the SDGs.³⁶

SDG 1 on No Poverty: For extremely poor families, combining DFS with livelihood promotion, safety nets, and mentoring boosts their long-term standard of living.

SDG 2 on Zero Hunger: Digital payments can enable smallholder farmers to gain greater access to low-cost and efficient payments. Furthermore, migrant workers using digital means can remit funds to help millions of families sustain a healthy life.

SDG 3 on Better Health: Digital payments allow households to cope better with health emergencies without being forced into

poverty. Healthcare providers can extend their services into low-density rural areas through digital payments and financing. There is an opportunity to digitize health payments in the context of COVID-19.

SDG 4 on Quality Education: Digital payments can make education expenditure, stipends, and subsidies much simpler for students and parents. Digitizing teachers' salaries has the potential to improve operational efficiency and enhance teachers' financial wellbeing. Digitizing G2P payments can also bring about additional efficiencies to the education sector.

SDG 5 on Gender Equality: Digital payments can enhance women's empowerment by giving them greater control over their funds, helping them build assets, and fostering overall development of the country. For example, digitizing wages in the RMG can help women take charge of their finances and help them save, borrow, and plan for the future.

SDG 6 on Clean Water and Sanitation: Digital finance enables water and sanitation providers to serve low-income households, while also supporting the sustainable expansion of utility networks.

SDG 7 on Affordable and Clean Energy: Digital payments can help reduce costs, expand access to renewable energy, and boost investment.





SDG 8 on Decent Work and Economic Growth: DFS can help small businesses reduce the inefficiencies related to cash handling and ensure a timely flow of payments and channel the savings to fuel the growth of their businesses. It can help bring greater transparency into the RMG sector.

SDG 9 on Building resilient infrastructure, promote exclusive and sustainable industrialization and foster innovation: Digital Payments can create a financial history for micromerchants and other SMEs, which will help them access affordable credit and help their integration into value chains and markets.

SDG 10 on Reduced Inequalities: Digital payments can lower the cost of remittances, and further digitization could cut remittance costs by 3.5 percent on average, lifting 30 million people out of poverty

SDG 11 on Sustainable Cities and Communities: Digitizing payments could save major cities billions of dollars every year by addressing inefficiencies and costs associated with collecting or disbursing cash payments. Digital payments also encourage resource sharing and help reduce congestion in cities.

SDG 13 on Climate Action: Digital payments can help in reducing carbon footprints. Additionally, access to digital savings, credit, and insurance services can help poor households mitigate the risk of climate-related disasters.

SDG 16 on Peace, Justice and Strong Institutions: Digital payments support transparency of government spending and receipts and reduces the misuse of public funds. It also has the potential to expand the tax bracket for the government.

1.1.6 Opportunities

- Digital infrastructure, platforms, and tools are important for democratizing and fostering adoption of digital payments. The digital ID layer can be extended to digital payments. The National ID or Smart Card can be used to transfer money, thus making digital payments seamless and easy.
- Bangladesh has the payments system infrastructure required to empower the market with pioneering solutions, such as Bangla QR and payments interoperability (International Digital Transaction Platform). It has long been debated in Bangladesh whether to introduce a domestic card scheme, like India's RuPay or Saudi Arabia's SAMA, to help reduce the outward flow of revenue from card transactions. The Bangladesh Bank can encourage licensed banks to participate in ATM- and PoS-based interoperable transactions through NPSB.
- A comprehensive law governing data privacy for both customers as well as service providers may soon be required given the growing number of digital transactions and new users. Bangladesh can start establishing data privacy regulations in line with the global best practices.
- Seamless data exchange is vital in effective government planning and solutions. Data exchange is how individuals and businesses allow their financial or other information to be made available to third parties. This information enables service providers to have a better view of the requirements and expectations of individuals and businesses. It can also serve as a platform for sharing information across the government and private entities.

1.1.7 Priority areas

The following needs to be prioritized to ensure greater collaboration among stakeholders, which will drive responsible expansion of digital payments in the country:

- **Cost distribution structure:** Digital payment costs, especially for cash-outs, are a challenge for all but more so for low-income users such as RMG workers. Distributing the cost burden across the value chain can change the outlook towards DFS and encourage the adoption of digital payments. The cost distribution structure can be reworked on the following lines to reduce the cost to users:
 - Government subsidy options for direct-to-citizen cash-based payments
 - Optimization of costs for retail payments through global or local payment schemes
 - Potential public, private, and mixed cost incentivization strategies.

- **New use cases and business models:** The ecosystem will evolve with changes in the underlying technological infrastructure, a greater proliferation of digital devices, increased connectivity, and changing customer needs. It is therefore imperative to build partnerships and business models for new use cases to deliver the transformative benefits of digital payments. These new use cases will support the spread of digital payments into uncharted areas now dominated by cash.
- **Payment solutions and infrastructure:** Development of the payment system infrastructure and the underlying technological capabilities is critical for providing a seamless experience to citizens. The following are potential payment solutions and infrastructure that can help proliferate digital payments:
 - SME invoice discounting platform
 - Digital ID-based payment solutions
 - Offline payment solutions.

These will enhance use of digital payments in areas where users are not able to benefit from them now.

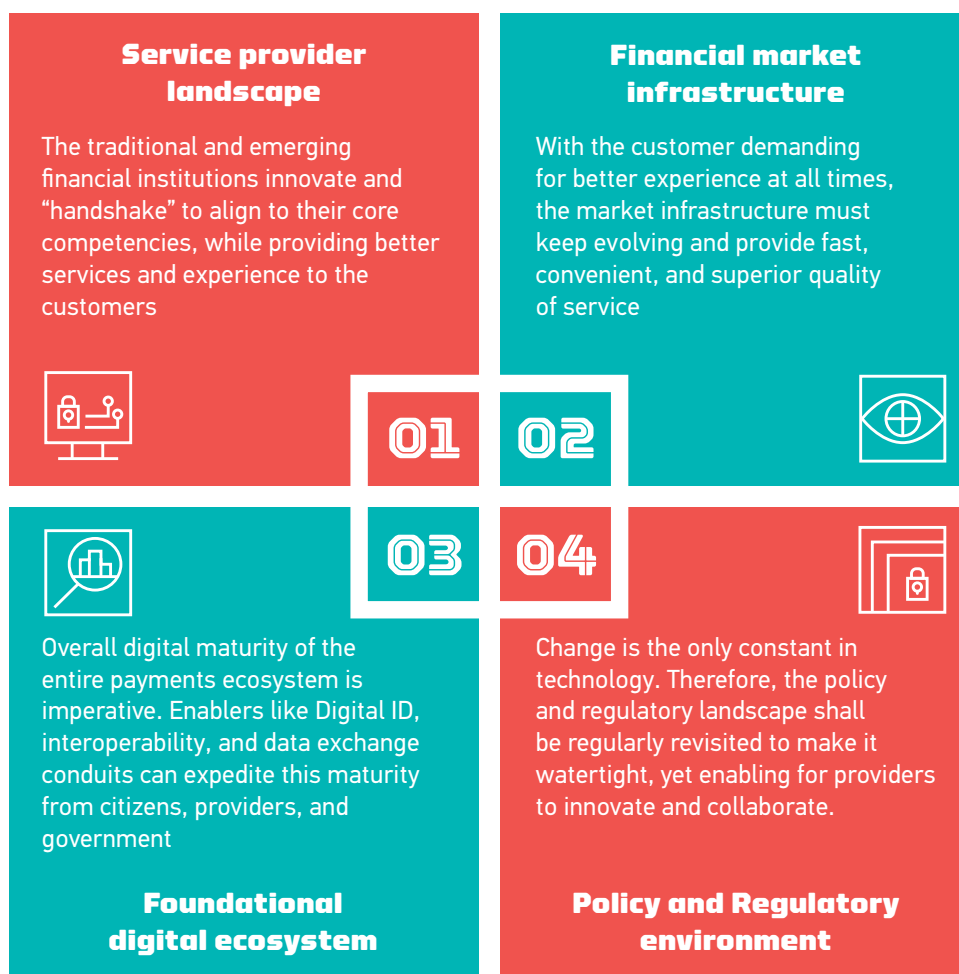
- **Data protection and trust:** Data protection and user trust are among the most important factors in creating active users of digital payments. Preventing the misuse of data is fundamental as more and more data is being generated. This is spurring conversations surrounding data ownership, consent, and bias. The following measures will increase privacy and security for customers as well as service providers and reduce the fear of fraud:
 - A central consent-based framework
 - A fraud detection system based on artificial intelligence or machine learning.
- **Demand–supply gap:** The existing solutions do not fully meet the needs of diverse user segments, such as women and small businesses, who could benefit from DFS but are left out as the solutions are not tailored to their needs or marketed in that way. As digital payments proliferate, user-centric products are a critical determinant of success. Solutions such as open banking platforms, Buy Now Pay Later, SoftPOS, and SME lending for merchants can be explored responsibly.
- **Financial and digital capability building:** Training, awareness, and recourse mechanisms are needed to help the underrepresented segments understand the scope and benefits of digital payments. A national financial literacy strategy and frequent citizen surveys, where sex-disaggregated data will be tracked, will help identify challenges and develop mitigation strategies.

2. INTRODUCTION AND COUNTRY CONTEXT

Digital payments have become a priority for both developed and emerging economies. They enhance transparency, efficiency, and security in financial transactions and improve the lives of low-income groups, particularly women. They help governments, individuals, companies, and international organizations make and receive payments more efficiently and transparently and build an inclusive ecosystem. They also improve access, quality, and usage, helping financial services raise the quality of life.

A holistic digital payments ecosystem depends on the capabilities of service providers, core financial market infrastructure, foundational digital ecosystem, and an enabling policy and regulatory environment.

Figure 1.
Levers of digital payments enablement



The COVID-19 pandemic provided the right environment for global economies to focus on digital transformation and support impacted sectors. As the lockdowns began, people adopted digital payment instruments and channels to avoid handling cash. The pandemic has changed how governments, businesses, and users interact. Countries with a well-established digital policy and agenda can recover and thrive again as the world economy opens up. In line with the global and regional trends, digital financial services (DFS) have made significant strides in Bangladesh, helping pave the way for improved and resilient socioeconomic conditions. These include:



The exponential growth of the service provider landscape driven by mobile financial services (MFS) providers, bank and non-bank agents, and the in-country digital payments ecosystem



Innovative payment platforms and infrastructure, either government-owned or market-driven, addressing the challenges for individual and business customers



The shift in the customer acceptance of digital payments, driven by social and digital capability building as well as financial awareness and knowledge



The evolution of a foundational digital ecosystem – national ID adoption, data privacy and trust, and seamless information exchange – and support infrastructure such as access to the internet, telecom network, and electricity



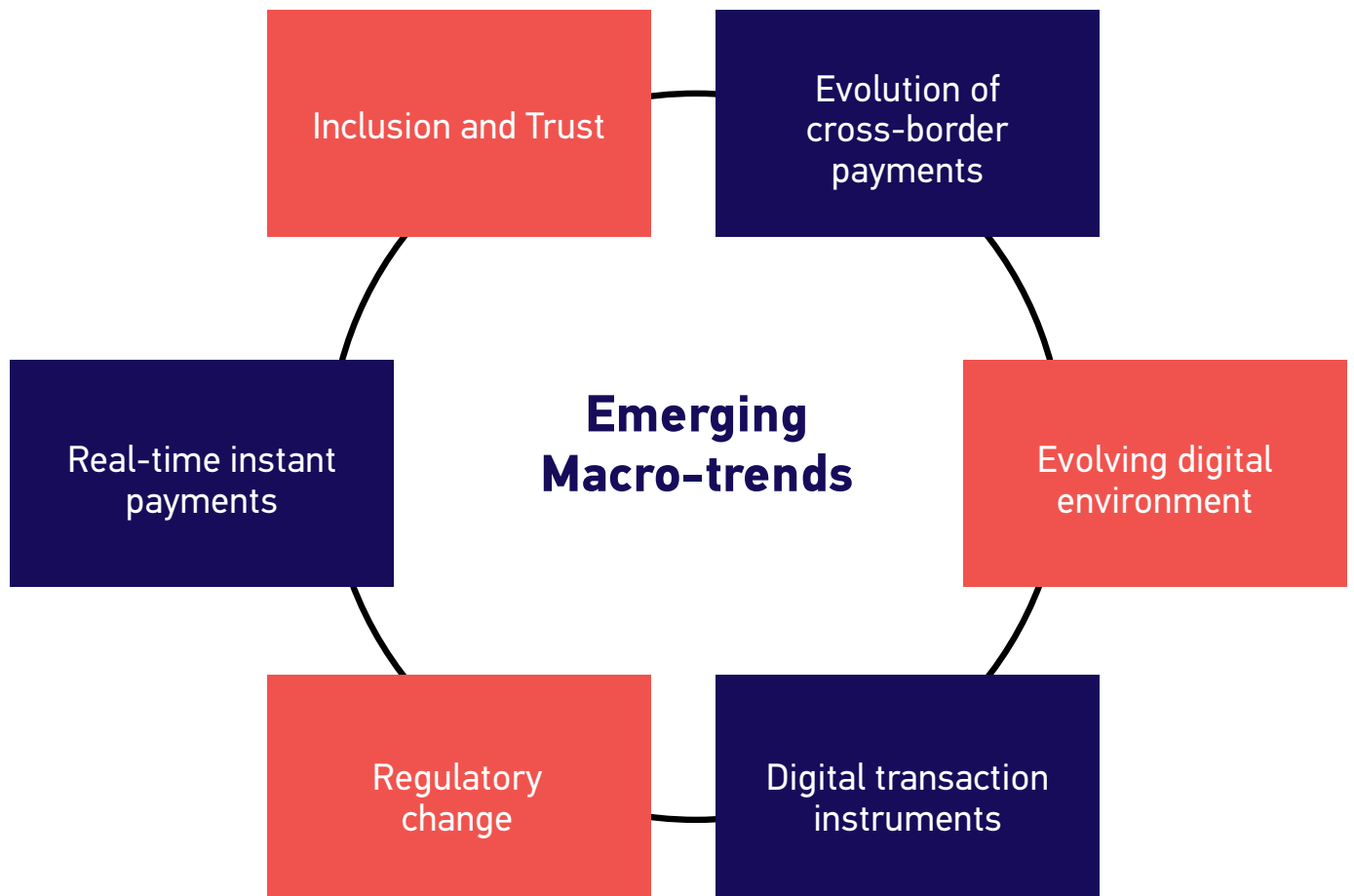
Favorable government policies and guidelines that are responsive to the needs of individual customers and businesses

2.1 EMERGING MACRO-TRENDS AND THE COVID-19 PANDEMIC PLAY A PIVOTAL ROLE IN DIGITAL PAYMENTS ADOPTION IN BANGLADESH

The COVID-19 pandemic has been one of the biggest reasons for the uptick in digital payments over the past year. This has been accompanied by faster growth in developing markets and the emergence of new business models, ease of access, and customized products and services for end-users. Not only are physical payment methods such as paper checks and analog invoices set for a transformation, but also the entire payment infrastructure. Macro-trends have enabled proliferation of digital payments with multiple use cases. The COVID-19 pandemic has intensified these trends.

Figure 2.

Emerging macro-trends for digital payments



- **Inclusion and trust:** Inclusion of the merchant landscape and customer is key, with convenient mechanisms such as mobile money, wallets, and QR codes ensuring cost-effective solutions and reach. Mobile phones provide access to convenient payment mechanisms. Regulatory agencies play a critical role in ensuring privacy, stability, and trust in the system.
- **Evolution of cross-border payments:** Legacy cross-border payment models are cost- and process-intensive, much in need of improving customer experience and reducing costs. Instant, low-cost payments coupled with global payment, messaging, and system standardization drive reinvention of cross-border payments. Alternative, innovative solutions have emerged across the globe, with bank and non-bank players collaborating.
- **Enabling the digital environment:** The increasing scale and scope of digital financial transactions, the emphasis on customer protection, and the need for customer-centric products have driven innovation in Digital Payments, requiring an enabling digital infrastructure. Interoperability of payment solutions, which needs digital capability for connectivity and data exchange, is necessary for creating an impact through digital payments. Other factors range from access to mobile phones and internet to electricity, all of which relate to the customer's digital status.
- **Digital transaction instruments:** Digital transactions are rapidly emerging as the preferred means of payment, largely due to customers' ability to pay using their mobile devices. This is especially true for e-commerce and merchant transactions. With big tech firms venturing into financial services, the usage of these instruments is bound to garner new use cases – such as savings, credit, and insurance – in addition to the core use cases of P2P and merchant payments.
- **Regulatory change:** The proliferation of digital payments has changed how trade, finance, e-commerce, government departments, and customer transactions work. This highlights the need for integration with enabling infrastructures, such as telecom and digital ID. This also carries new risks, creating the need for closer regulatory oversight and guidelines, and safeguards. Risk-based customer due diligence, the emergence of customer protection guidelines, changing customer behaviors and expectations, and the emergence of new classes of service providers require adjustments to the regulatory framework.
- **Real-time payments:** Real-time payments (RTPs), which are being implemented in 56 countries,³⁷ enable a more convenient and faster processing of payments for companies and customers. They also act as the foundation for building new products and solutions. Instant confirmation of funds transfer fosters trust, which helps to increase acceptance and usage.

2.2 UN PRINCIPLES FOR RESPONSIBLE DIGITAL PAYMENTS

Economies are becoming more focused on achieving holistic and inclusive growth in pursuit of Sustainable Development Goals (SDGs). The use of digital payments has spread across income groups and socioeconomic strata through innovation in products and service delivery. The government focuses on building and enabling the supporting payment infrastructure and reaching marginalized sections of society through digital media, which can reap significant benefits. The UN Principles for Responsible Digital Payments (“UN Principles”) set out the key tenets of equitable access, reach, and fairness in delivering financial services to underserved and low-income groups.³⁸

Figure 3.

Key tenets of UN Principles for Responsible Digital Payments

01	02	03
Treat users fairly Fair treatment of the users by service providers to increasing trust in Digital payments	Ensure funds are protected Reliable and secure access of funds to the customer	Prioritize women Equal access to DFS for women through social inclusion and relevant products and services.
04	05	06
Safeguard client data Safeguarding client data and enablement of consent-based client data sharing	Design for individuals Products and services design based on user needs	Be transparent, particularly on pricing Transparency in pricing information disclosure
07	08	09
Provide user choice through interoperability Interoperability of services across providers	Make recourse clear, quick and responsive Optimal grievance redressal and resolution on customer complaints	Champion value chain accountability Control and supervision of DFS value chain providers and enablers

The UN Principles define the framework for an inclusive and responsible digital payments ecosystem. When embedded in the systems, functions, and guidelines governing the digital payments ecosystem, the principles of responsible payments can help develop a system that transfers value to those who need it the most and drives inclusive and holistic economic growth.

2.3 COUNTRY CONTEXT INDICATORS AND ECONOMIC LANDSCAPE

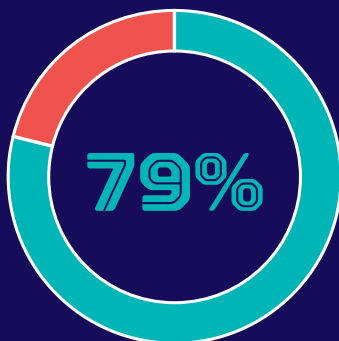
Bangladesh has pursued rapid economic development over the last decade and is ahead of all other South Asian countries on the Inclusive Development Index, GDP growth rate, and other development metrics. This has been supported by an increase in financial inclusion, with 79 percent of adults financially included,³⁹ and a rapid uptake of digital payments, with one in five financial transactions in the country happening digitally.⁴⁰ In 2016, 1 out of 19 transactions were digital and only 34 percent adults were financially included. This means digital transactions have grown from 5% to 20% in 5 years, which is an impressive 4-fold increase. It is estimated that a transition to responsible digital payments can add 3 percent to an emerging economy's GDP.⁴¹ Apart from improving efficiency and increasing trade, digital payments remove the costs associated with cash. According to a Bangladesh Bank study, the maintenance cost of printed cash in the country accounts for 0.5 percent of its GDP.⁴²

Bangladesh has been moving toward its goal of becoming a developed country by 2041, with digital payments being a key contributor to its growth story

1 in 5

Financial transactions


are DIGITAL

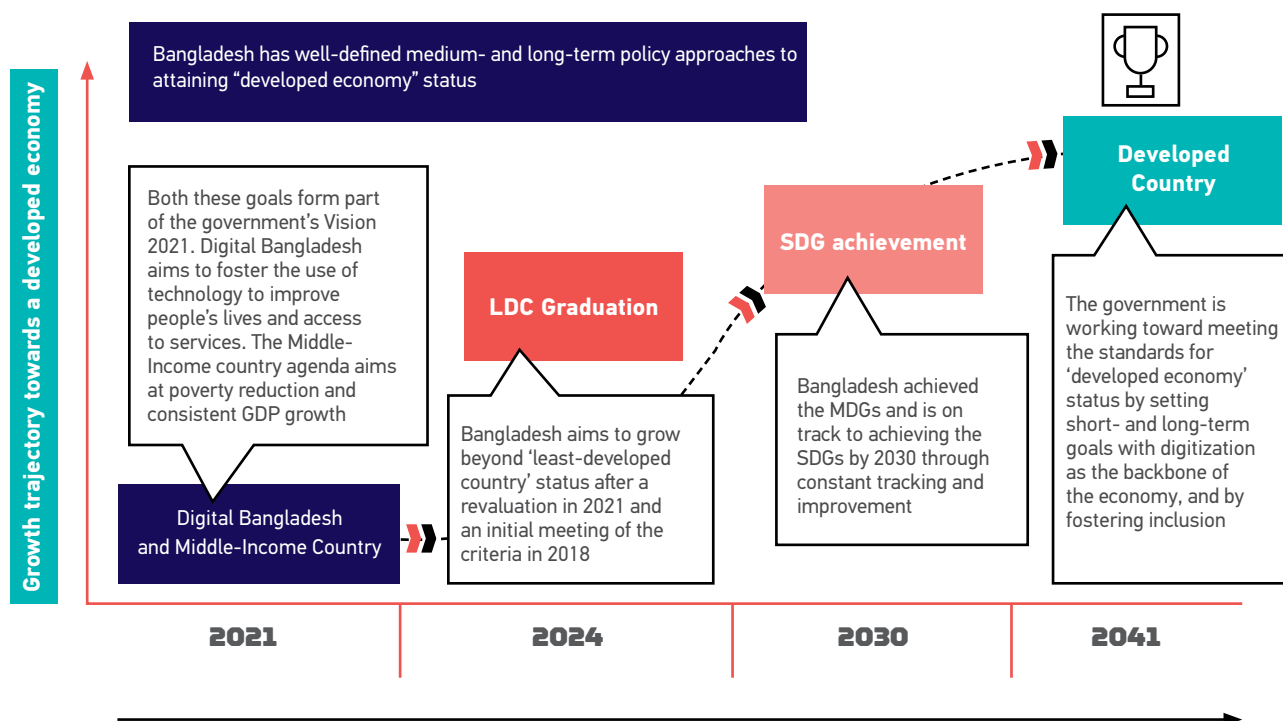


population is part of the financial ecosystem, with access to credit, savings and insurance from a bank, MFI, or an MFS provider.

The country's economy has enjoyed growth for the last nine years. The positive economic trend has continued despite the global pandemic slowing down economic activities. Eighteen months into the pandemic, the economy is showing signs of recovery on the back of a rebound in exports and strong remittance inflows.⁴³

Figure 4.

Bangladesh's economic landscape: Evolution over the years



The Government of Bangladesh has been implementing technology and advocating its use across sectors to improve efficiency and productivity. Digital Bangladesh 2021 positions technology as one of the enablers for growth. One of its aims is enhanced digital channels for service delivery to increase convenience and quality. Another is to increase the reach of digital government services through the National Web portal and initiatives such as ekPay, ekShop, and Krishi Batayon and the adoption of digital ID and payments among all sections of society. A focus on gender equality and inclusion in Information and Communication Technology (ICT) and mobile device use is a key element of this vision, which is also aligned with the SDGs.

2.3.1 Bangladesh is showing signs of recovery from the COVID-19 pandemic, supported by developments and initiatives in the priority sectors of ready-made garments,⁴⁴ agriculture, education, and retail, which together contribute 37 percent to the GDP⁴⁵

Bangladesh's economy has shown consistent growth and the country is moving toward its goal of achieving “developed economy” status through a gradual increase in productivity across sectors, improvements in the quality of human capital, and enhanced

productivity gains from digital technology. The economy is dominated by the service sector, which accounted for 51.3 percent of GDP in financial year (FY) 2019–20, followed by industry (35 percent), and agriculture (13.65 percent). Manufacturing, a subset of the industry sector, accounted for 24 percent of GDP.⁴⁶ Remittances and exports, two of the mainstays of the economy, slowed down for the first time in two decades due to the COVID-19 pandemic.

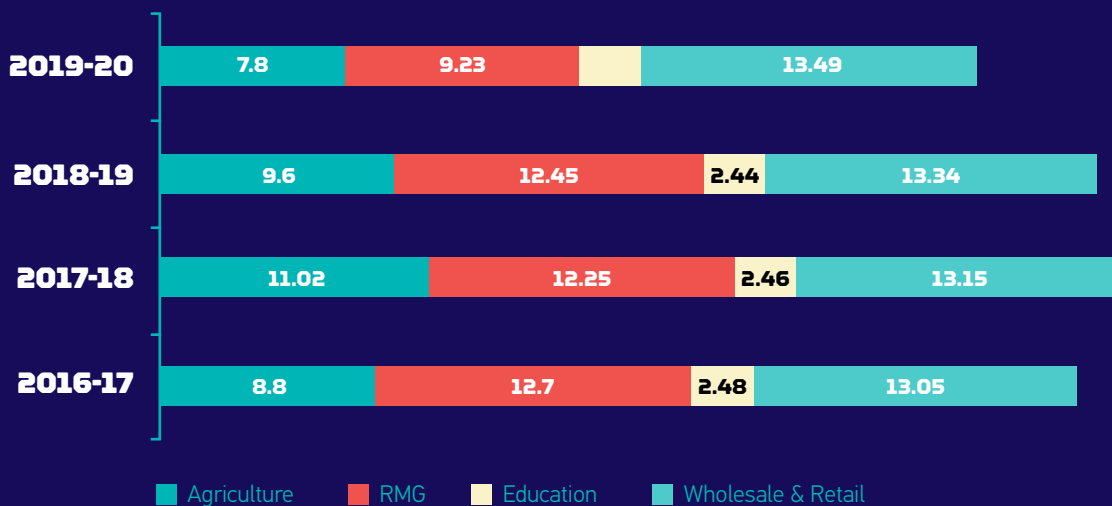
Ready-made garment (RMG) exports depend on the recovery in customer markets. Similarly, a resurgence in remittances is subject to how the global employment market for migrant workers recovers. Though agricultural output has increased over the last few years, the sector is constrained by a lack of cash and an increase in debt, which will affect access to production inputs. The COVID-19 pandemic has increased the financial sector's risk from non-performing agricultural loans.

Digitization has been key to boosting economic output and facilitating better services for users. Digital payments are a pillar of the government's vision and one of the enablers for seamless government support to marginalized sections of society.



SECTOR-WISE CONTRIBUTION TO ECONOMY

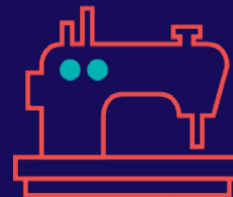
Sector-wise Contribution to GDP (%)



Agriculture
9.3%

Average Contribution to GDP over last 4 years by Agriculture Sector

Largest contributor to the labor force of Bangladesh



RMG
11.66%

Average Contribution to GDP over last 4 years by RMG Sector

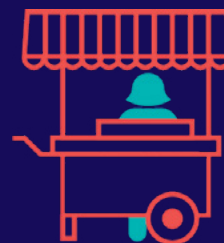
Largest contributor to exports in Bangladesh and highest % female labor force



Education
2.46%

Average contribution to GDP over last 4 years by education sector

One of the priority sectors for government benefits delivery



Wholesale & Retail
13.25%

Average contribution to GDP over last 4 years by wholesale and retail sector

One of the largest contributors to country's labor force with a growing share in GDP

2.3.2 Remittances and wage payments in the RMG sector, enabled through digital payments, support economic growth and recovery

Bangladesh's GDP growth rate, though positive, plunged to a 10-year low amid an unprecedented contraction in merchandise exports, industrial production, and remittances because of COVID-19.

The total value of overseas remittances per capita increased by 46 percent from FY 2018–19 to FY 2019–20, as the number of migrant workers leaving Bangladesh dropped between 2018–19 and 2019–20. Inward remittances increased from US\$16,419 million to US\$18,205 million over the same period.⁴⁷ The government has supported inward remittances through formal financial channels through an initiative to give a 2 percent cash incentive to remittances.⁴⁸

The share of remittances in Bangladesh's GDP has been declining despite an increase in per-capita inflows and the total value. By contrast, the share of the RMG sector as a percentage of exports has been constant over the last couple of years, with a dip in 2020 due to a drop in demand and factory closures during the pandemic.



2.3.3 Digital payments can improve the socioeconomic status of the people by accelerating the achievement of SDGs by 2030

Bangladesh has well-defined medium- and long-term policies aimed at attaining “developed economy” status. The government is committed to achieving the SDGs to ensure inclusive and holistic economic development. After the Voluntary National Review Process for SDGs in 2017, the government prepared an SDG action plan and an SDG tracker to ensure the economic development is all-encompassing. The country is on track to achieving its SDGs by 2030 and will monitor progress⁴⁹ and make adjustments where necessary.

It is globally accepted that digital payments can accelerate the achievement of SDGs and improve socioeconomic levels. The programs listed in Table 1 show how digital payments and SDG achievements complement each other.

Table 1.

Role of digital payment in achieving SDGs⁵⁰

Sustainable Development Goal	Digital payments interventions in Bangladesh complementing the SDG	Example of digital payments interventions across the world complementing the SDG* (Alliance research)
 <p>1 NO POVERTY</p>	<ul style="list-style-type: none"> During the COVID-19 pandemic, a significant shift in G2X and D2X payments occurred toward contactless and real-time modes of funds transfer. The Prime Minister's cash assistance of BDT 3,200 crore (US\$376.45 million), announced on July 13, 2021, will be available in MFS to ensure greater transparency.⁵¹ To mitigate the social and economic disruption caused by COVID-19, the Bangladesh Rural Advancement Committee (BRAC) launched a cash transfer program to 200,000 of the most vulnerable families in Bangladesh. After a small pilot, BRAC rolled out the program across 41 districts in the country.⁵² BRAC's Ultra-Poor Graduation program implemented digital transfers with one of the largest MFS providers. The Prime Minister's Office distributed BDT 1,250 crore (US\$147.05 million) among 5 million families through MFS, such as bKash, Rocket, Nagad, and SureCash.⁵³ 	<p>Kenya</p> <p>Spread of mobile money lifted roughly 1 million people out of extreme poverty from 2008 to 2014, the equivalent of 2% of the population.⁵⁴</p>
 <p>2 ZERO HUNGER</p>	<ul style="list-style-type: none"> By offering a secure way to store money and access financial services, mobile money emerged as the preferred solution to improve the resilience of smallholder farmers. Multiple development agencies, such as the United Nations High Commissioner for Refugees (UNCHR) and the World Food Programme (WFP) provide digital cash-based and non-cash food vouchers as part of their assistance to displaced and disaster-hit groups. Access to banks is limited for rural agricultural communities. Mobile phones have a higher penetration. The mSTAR initiative of United States Agency for International Development (USAID) assessed where and how mobile money could be applied in project value chains. Without the need for physical currency, and with the ability to store and manage money, farmers can reinvest more in their farms, in turn increasing their output and profits. 	<p>Indonesia</p> <p>The government moved to card-based vouchers for 1.4 million recipients of subsidized rice in 2017. Nine out of 10 recipients said they received more and better-quality food.⁵⁵</p>



- The Mobile Alliance for Maternal Action (MAMA) paid incentives to health workers for new enrolments through MFS. The incentives used to be paid in cash and took approximately 41 days to process. With the shift to mobile payments using the two MFS providers in the country, health workers could receive the incentives in just 11–30 days.⁵⁶
- The MAMA project is working to reduce maternal and child mortality by increasing community access to information on maternal and child healthcare. Pregnant women and new mothers receive maternal and neonatal healthcare messages as SMS, obtain guidance from doctors through a dedicated call center, and access referrals. Mothers are given health and wellness tips on mobile phones throughout the pregnancy.

Kenya

M-Tiba is the leading health finance technology platform in Kenya. It facilitates collaboration among consumers, health-care providers, insurance firms, and the government. M-Tiba's mobile wallet enables health-related payments and access to credit to 1 million people. It serviced 150,000 patient visits and US\$2 million in medical bill payments.



- The MFS sector supports the government's primary education policy by transferring benefits digitally instead of cash payments. One of its significant applications is in the Primary Education Stipend Program (PESP).
- The Harmonized Stipend Program (HSP) has been implemented in secondary and higher secondary schools around the country through the Secondary Education Development Program. The Prime Minister's Education Assistance Trust distributes the stipend among students through a digital payment gateway. By FY 2020–21, 5.2 million students in grades 6–12 had received BDT 2.5 billion (US\$29.41 million) through their mobile banking accounts.⁵⁷
- In June 2017, the government decided to transfer the stipends for 13 million children enrolled in the program directly to mobile banking accounts of 10 million mothers.⁵⁸
- Educational institutions in Bangladesh lack a digital system, such as a management information system (MIS), which deprives teachers and students of a digital record. SSLCOMMERZ developed a software package that allows schools to upload their information in an Excel file. This allows SSLCOMMERZ to accept digital payments on the school's behalf. Students and guardians receive a notification on their device when they pay fees. This software was provided free by SSLCOMMERZ and can be replicated.

Nepal

Households headed by women increased their education spending by 20% when given access to a digital savings account.⁵⁹



- Literacy levels and access to mobile phones are among the main reasons for the disparity between men and women in use of digital payments.
- Ministry of Finance, Bangladesh Bank (BB), and a2i are making efforts to bridge this gap. BB has focused on meeting targets regarding credit products for women entrepreneurs. A2i has been able to push ministries and financial service providers to digitize Social Security Programs, many of which have women as the primary beneficiaries.

Philippines

A study by SocialDirect on Female Empowerment in the Philippines⁶⁰ found that opening a goal-based account increased savings by 81%, resulted in greater bargaining power for women within the household, and increased expenditures on household consumer durables (washing machines, sewing machines, electric irons, kitchen appliances, air-conditioning units, fans, and stoves) and other durables (vehicles/motorcycles, entertainment, and recreational goods) and was particularly attractive to less-empowered women.



- Several water and other utility providers have come on-board the ekPay platform, leading to greater and more timely collection of dues through digital payments.
- 1Service, a cloud-based platform, provides water bill notifications and allows customers to pay using a smartphone or a RobiCash agent. This has helped municipalities track, collect, and predict their revenues more efficiently.

Ghana

In a recent pilot project managed by the Alliance and the Government of Ghana, 15,000 customers paid for reliable water services through digital channels. Against a target of 30% growth in digital payments for water utilities, it achieved a growth of 120%.⁶¹



- The leading distributor of household gas in Bangladesh, Titas Gas, have introduced a prepaid and pay-as-you-go billing system, increasing transparency and control cost for users.

Ghana and Cote D'Ivoire

PEG Africa uses its solar devices to help customers establish a credit rating and access loans and is on track to reach 500,000 people with this life-changing service.



- During the pandemic, most RMG factories digitized workers' wages, leading to efficient wage distribution, reduced manual overhead expenses and 53% in time savings for factories, according to a study by the Better Than Cash Alliance (the Alliance).⁶²

Afghanistan

Workers at a firm saved 37% of their salaries on average in the first six months by choosing to have a portion of their salaries automatically deposited into their mobile phone savings accounts.⁶³



- A leading MFS provider in Bangladesh is working with the Women Entrepreneur Forum to help women running small businesses transact digitally with suppliers. Several small businesses run by women need only national identity card (NID) verification and not trade licenses.
- Digitizing the wages of RMG workers can reduce factory transaction costs by 85% in two years, according to estimates by the Alliance.⁶⁴

Brazil

Grupo Bimbo worked with small retailers to help them adopt digital payments. Sales revenue for participating merchants increased by up to 30%.⁶⁵



- The government announced a 2% incentive on the value of remittances to be paid in BDT through formal channels to reduce receiving charges for low-income families. The 2% incentive is given to receivers either in cash for cash over-the-counter payments or credited to their bank accounts.⁶⁶

Worldwide

If the cost of remittances is reduced by 5%, recipients in emerging economies can get additional benefits worth US\$20 billion each year. Digital payments can help lower remittance costs.



- Bangladesh Road Transport Authority has launched a portal to enable citizens to pay their vehicle fees and using electronic payment.
- To reduce tailbacks in highway bridges, the government introduced a smart system called the Windshield Based First Track Electronic Toll Collection at the Meghna, the Gomoti, and the Bhairab bridges.
- MFS provider bKash has added a tab called the 'Flyover Toll' on its app for its users to pay for tolls conveniently. Users can purchase tolls for up to 100 journeys in advance.

Colombia

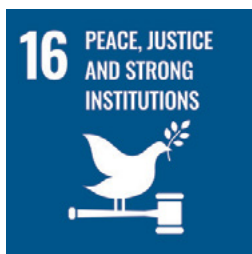
Smart public transport transit cards in Bogota lifted ridership by 56% among recipients in just one year. This helped reduce traffic congestion and encouraged participation in the labor force.⁶⁷



- Bangladesh Bank has made it mandatory for 2% of all loans issued by the nation's banks and other financial institutions to be devoted to green projects, including renewable energy facilities.

Worldwide

Digital finance has catalyzed a new wave of green lending, with pay-as-you-go models helping finance over 2 million solar home systems as of 2017.

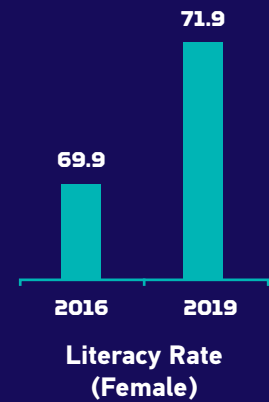
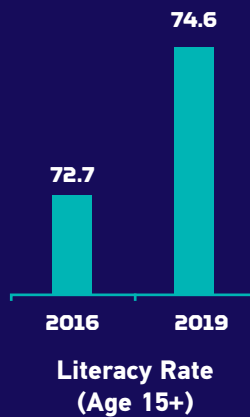
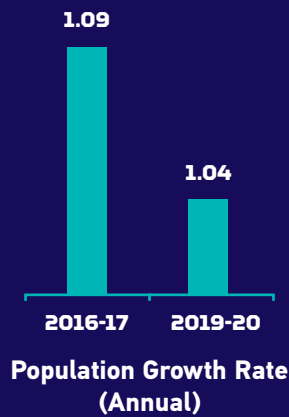


- The government achieved 100% digitization for wage payments to employees, up from 36.4 percent in 2016. The system enables budget distribution to line ministries, electronic interfaces with treasury banks, and an automatic calculation of salaries based on the employee database in the integrated budget and accounting system (IBAS++), preventing leakage and saving hundreds of human hours.

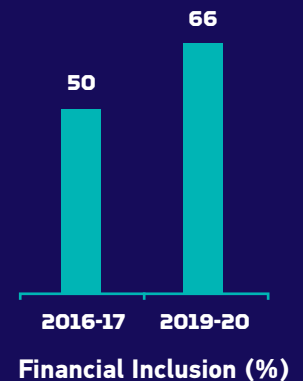
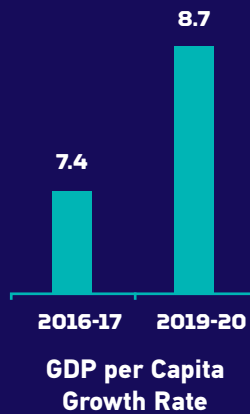
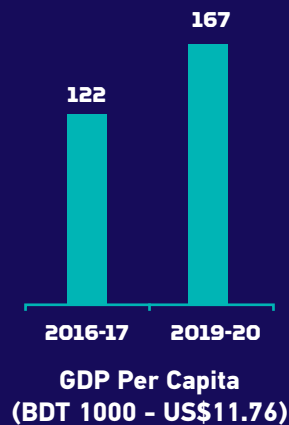
Mexico

Digitizing government salaries, pensions, and social transfer payments helped save around \$1.3 billion per year of government expenditure.

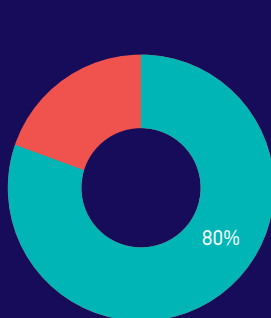
DEMOGRAPHIC EVOLUTION FROM 2016



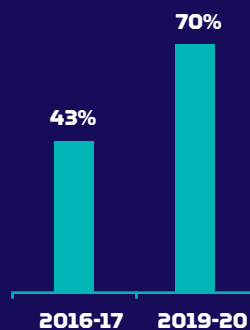
ECONOMIC EVOLUTION FROM 2016



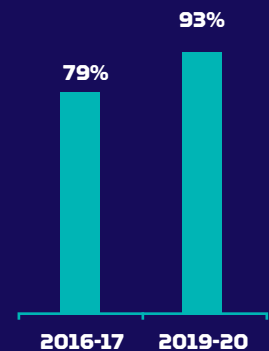
TECHNOLOGY ADOPTION and INFRASTRUCTURE



NID Penetration
(Ages 15+)



Internet Penetration
(individuals using the internet)



Electricity Access (%)

3. ANALYSIS OF PAYMENT ECOSYSTEM IN BANGLADESH

Bangladesh has a promising digital payments ecosystem. Multiple actors and stakeholders collaborate using the central bank payment infrastructure and other payment solutions enabled through private–private or public–private partnerships between banks, MFS providers, fintech companies, and others.

3.1 CURRENT PAYMENT INFRASTRUCTURE

The payments ecosystem has seen tremendous growth, moving from manual clearing to semi-automated and finally to a fully automated system. This modernization started in 2010, with the Bangladesh Automated Cheque Processing Systems (BACPS). Afterwards, other systems – such as the Bangladesh Electronic Funds Transfer Network (BEFTN), National Payment Switch Bangladesh (NPSB), Real-time Gross Settlement System (BD-RTGS), and Mobile Financial Services – widened the scope.

Listed below are the payment solutions available in Bangladesh:

- **Bangladesh Automated Clearing House (BACH):** The BACH was started in 2010. It operates two interbank payment systems:
 - BACPS
 - BEFTN

Both these systems operate on a batch processing and Deferred Net Settlement basis. The central BACH system receives transactions – through instruments or instructions – from member banks round the clock, which are processed and settled at a predetermined time. After each clearing cycle, each participating bank settles a single multilateral netting figure by posting it to their account books maintained with the Bangladesh Bank.

- **BACPS:** This is an automated clearing system with a truncation facility for paper-based instruments such as checks, pay orders, refund warrants, and dividends. This enables image exchange, instead of physical movement of instruments. The BACPS has brought the country under a single clearing umbrella. The clearing time has fallen to T+1 for regular-value checks and T+0 for high-value ones.⁶⁸

- **BEFTN:** The BEFTN started in February 2011. This is an instruction-based funds transfer and payment system designed to move away from paper-based transactions to a secure and cost-effective system. Payments such as credit transfers, salary payments, foreign and domestic remittances, social safety net payments, interest and dividends by companies, and retirement benefits are settled through the electronic funds transfer (EFT) network. The Bangladesh Bank is an early adopter of EFT and the salaries of most government officials are paid through it.
- **NPSB:** The Bangladesh Bank introduced NPSB in 2012 to foster interoperability among internet, ATM, and card-originated transactions. The prime objective of NPSB is to act as a central and national switch and connect all other proprietary switches owned or shared by banks and non-bank entities. In October 2020, 52 banks were interoperable for POS transactions and 25 were interconnected for their Internet Banking Fund Transfers (IBFT). NPSB has popularized card-based electronic payment in Bangladesh.
- **IBFT:** NPSB also processes IBFT transactions for six banks. Customers of these banks can transfer funds to another bank within a minute using IBFT. An account or card holder of an IBFT member bank can transfer funds to other banks – from one account to another account or card, or from a card to another card or account – through internet banking.
- Fifty-three banks are operating a card business in the country. Of those, 51 are interoperable for ATM transactions through NPSB.⁶⁹
- Forty-eight banks are interoperable for POS transactions through NPSB.⁷⁰

It has long been debated whether to introduce a domestic card scheme like India's RuPay and Saudi Central Bank's SAMA to reduce the outflow of revenue from card transactions.

The Bangladesh Bank should encourage all licensed banks to participate in ATM- and POS-based interoperable transactions through NPSB.

- **Real-Time Gross Settlement (BD-RTGS) System:** The RTGS system was launched in 2015 and enables instant settlements of instruction-based transactions. The system settles only high-value transactions in local currency — BDT 1,00,000 (US\$1,176.41) or more – and domestic foreign currency transactions.
- **Digital MFS:** The ever-increasing penetration of mobile phones, modernization of payment systems, and country-wide reach of mobile network operators (MNOs) have created opportunities to provide innovative, cost-efficient, and ubiquitous MFS, especially for the underserved and unbanked or under-banked population.

The Bangladesh Bank 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) payments through MFS domestically. No cross-border money transfer is allowed. However, local disbursements of inward foreign remittance through banking channels are permitted.

- **Payment Systems Operator (PSO) and Payment Service Providers (PSPs):** To promote digital payments, the Bangladesh Bank issues licenses to non-bank companies as a PSO and PSP. PSPs cater to either its participants or to a payment system to facilitate payments or payment processes and to settle their transactions through a scheduled bank or financial institution that maintains accounts with the Bangladesh Bank to meet cash reserve requirements. The Bangladesh Bank also grants a PSO license to companies that operate a settlement system for payment activities between participants, of which the principal participant must be a scheduled bank or financial institution, such as a payment gateway or payment aggregator. PSOs mostly serve as payment processors, merchant aggregators, and providers of proprietary payment switching solutions. They facilitate e-commerce and interbank card-based transactions.

The PSO model has been successful. They help both banks and individual MFS customers conduct online transactions. Five non-bank institutions have been providing PSO services, and four are PSPs. PSPs provide e-money services through e-wallets. Five PSOs and three PSPs are operating in Bangladesh. SSLCOMMERZ is an authorized and licensed PSO. It emerged as the country's first online payment gateway and allows merchants and other organizations to accept payments on the internet. It is also the first and largest Merchant Solution Provider in Bangladesh, covering 2,500 top e-commerce merchants. Organizations and businesses can collect payments online by integrating the SSLCOMMERZ gateway with their websites and mobile applications. Customers can shop and make payments, such as for utility bills and passport, visa, and tuition fees, using debit or credit cards, internet banking, or mobile banking.

Dmoney is a PSP that provides e-wallet services that can be used to transfer money from one Dmoney wallet to another or to any bank account, make payments at merchant points, add money to a wallet from a verified bank account or card (debit or credit), make mobile top-up bill payments (internet, credit card, DTH), and book bus or movie tickets. Dmoney helps small businesses list products and sell directly to consumers. Sellers do not need their own application or website to use this service.

The Department of Currency Management and Payment Systems of the Bangladesh Bank issued the “Guidelines on Mobile Financial Services for the Banks” on September 22, 2011, which were amended on December 20, 2011. Under this first version of the regulation, 28 banks acquired No Objection Certificates, and 17 launched MFS operations. Only two of these MFS operators were successful and one of them, bKash, was dominating the market.⁷¹ It was thought that banks could not penetrate the market quickly. Thus, to help banks, the regulator produced guidelines for two more licenses for PSOs and PSPs. The scenario has changed, with 98.13 million MFS account holders as of May 2021⁷² in Bangladesh. However, 78 percent of transactions through MFS accounts are still cash-in, cash-out, or top up. Other digital use cases must be adopted.⁷³

PSPs can issue wallets and provide e-money services, but cannot be cashed out or cashed in at retail points and need to be loaded through banking channels. Wallets can be used only for digital payments and are therefore just a subset of MFS services. The challenge with PSPs is that they spend money on licensing, technology, and branding but depend on other service providers. That is why there is no great PSP success story in Bangladesh.



TASNUVA TASFIA PUSPITA

“I regularly buy products from businesses selling their products through social media, especially, Facebook because they have a wider variety. But as many of them do not have business MFS accounts, I have to add the cash-out charge to the total bill.”

Tasnuva, 26, executive in communications agency, Dhaka

Tasnuva lives with her parents and two younger siblings in Dhaka city. After graduating from university, she started working at a communications agency. She first used digital financial services as a teenager to purchase an iPod using her father's credit card. Then, in 2015, she made a payment from her own account using mobile financial services (MFS) for the first time. In 2018, she opened a bank account, and today she has two bank accounts. As an early adopter of digital services, she makes 80 percent of all her payments digitally. Once, a food delivery company had double charged her for her order when she paid using a credit card, but she was able to access recourse and get it reversed within 24 hours.

Her preferred mode of payment is cards. To access MFS and banking services, she always uses apps. She has also received calls from scammers, but she is well-

aware and knows how to keep her funds safe. Although she is not the designated person to pay her household's utility bills, she has paid them on some occasions through her MFS wallet.

She finds it convenient to link her MFS wallet with digital services, like ride-sharing and food delivery, but sometimes the recipient (e.g., vehicle driver or delivery person) insists on cash payment. She is also a frequent shopper at social commerce pages, especially Facebook. She prefers paying through her MFS wallet but the recipient asks for a cash-out fee, as they use personal MFS wallets instead of business accounts. For Tasnuva, the cost of cash-out is a burden that must be reduced. She once had to pay BDT 500 (US\$6) for a BDT 20,000 (US\$240) transaction. Since then, she only pays for small transactions via MFS.

Many of the businesses using social commerce, especially Facebook, are not registered businesses. This limits their ability to open business MFS wallets. The introduction of 'personal business accounts' could change this scenario.

Cost distribution strategies proposed in the National Digital Payments Roadmap can lower the cash-out burden that users like Tasnuva face. It will also foster transparency in pricing information, which is in line with UN Principle 6 on being transparent, particularly on pricing.

3.2 EVOLUTION OF BANKING FROM PHYSICAL TO DIGITAL

Banking has played an important role in the development of Bangladesh's economy and in increasing financial inclusion. With 61 scheduled banks, of which 6 are publicly held, banks enable financial inclusion through their branches and agent-banking networks.⁷⁴ Agent banking, ATMs, and POS machines provide access to banking services in remote areas, eliminating the requirement to visit a branch and facilitating digital payments. Branches were important for delivering banking services throughout the country before the advent of MFS and agent banking. Since then, there has been a substantial shift toward digital enablement of branches in both rural and urban areas. At the end of 2020, there were no offline bank branches in the country.⁷⁵



EVOLUTION OF BANKING SERVICES FROM PHYSICAL TO DIGITAL



Branches

100%

Bank branches fully online in urban areas

80%

Bank branches fully online in rural areas



ATM

17%

Increase in number of ATMs in urban areas

20%

Increase in number of ATMs in rural areas



Internet Banking

230%

Increase in number of internet banking transactions over the last 3 years

80%

Increase in number of internet banking customers in the last 3 years



Cards

63%

Increase in monthly card transactions over the last 3 years

50%

Increase in number of issued cards over the last 3 years



IMPACT OF COVID-19 PANDEMIC

Consistent increase in the number of online transactions; 100% increase in 2020

RTGS transactions dipped during the initial wave of the pandemic but rebounded to pre-pandemic levels

BEFTN transactions increased during the COVID-19 pandemic and later stabilized

3.2.1 EFT transactions have increased, while check payments have declined

EFT transactions increased year-on-year from 2019 to 2020, while check and high-value payment transactions through RTGS declined. Comparing this data with the assessment carried out during the last diagnostic in 2016, the number of EFT transactions has increased, with a Cumulative Annual Growth Rate (CAGR) of 21 percent from 2015 to 2020. Transactions during the first five months of 2021 surpass the EFT transactions in the whole of 2015. The volume of check transactions – including Magnetic Ink Character Recognition (MICR) and non-MICR checks – declined from 22.8 million in 2015 to 18.7 million in 2020 and 8.5 million in the first five months of 2021.⁷⁶

The number of RTGS transactions – high-value payments – increased from 1.75 million in 2015 to 2.45 million in 2020. The resumption of business and economic activities caused these transactions to increase to 2.45 million during January–May 2021, showing significant growth.⁷⁷

Table 2.

Interbank transaction volumes

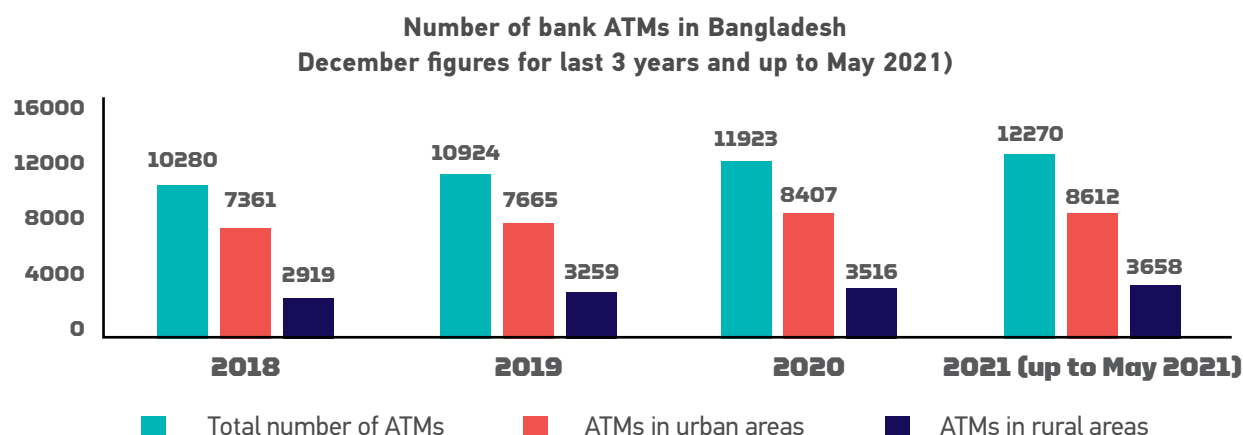
Number of Interbank Transactions (calendar year)	2019 (as of December 2019)	2020 (as of December 2020)	2021 (up to May 2021)
	Volume	Volume	Volume
EFT	26,533,295	36,050,334	17,222,992
RTGS	1,642,163	2,454,045	161,591

3.2.2 Consistent increase in the number of ATMs in both rural and urban areas, along with a shift toward “fully online” bank branches

Bank branches in Bangladesh have seen a substantial shift toward digital banking in both rural and urban areas. Branches are increasingly moving to a centralized core banking setup. Over the last three years, the growth in bank ATMs in rural areas, at 20 percent, was higher than that in urban areas (14 percent), indicating a strategy to set up cash-out avenues at the last mile and improve access to financial services for the rural population.

Figure 5.

Number of bank ATMs in Bangladesh over the last three years⁷⁸

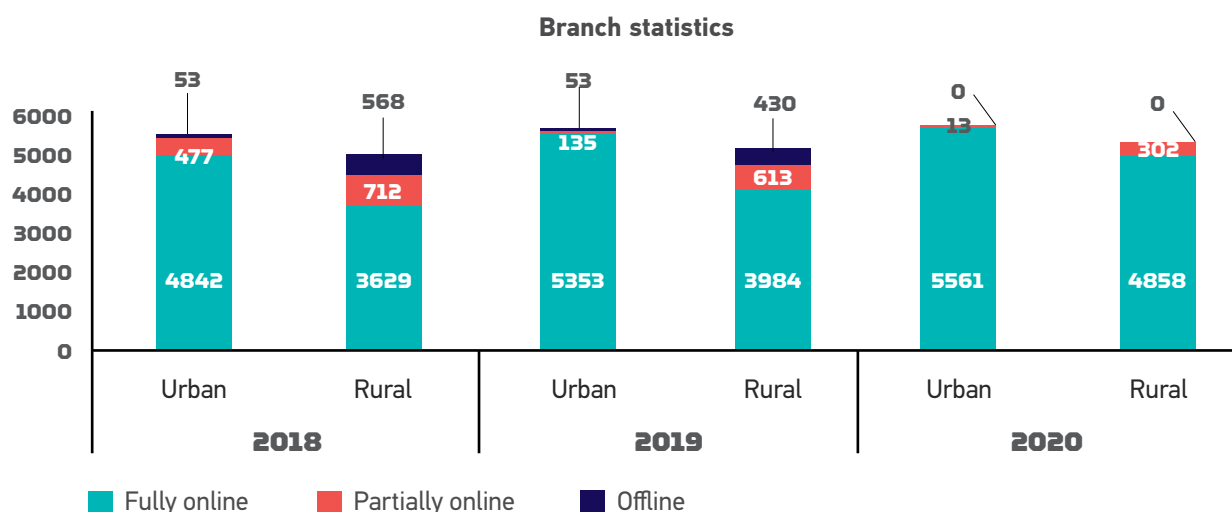


The number of ATMs in Bangladesh grew by 9.1 percent from 2019 to 2020. During the last diagnostic in 2016, the number of ATMs was around 9,460, whereas 12,270 ATMs were operating as of May 2021.⁷⁹

The number of fully online bank branches increased over the last three years, while the total number of bank branches decreased from 13,593 in 2015 to 10,772 by May 2021. The decrease in branches can be attributed to the increased use of digital channels by customers and decreased use of brick-and-mortar branches. This led to the closure of loss-making branches and greater focus on a banking agent model. Branches in rural areas were fully online as of May 2021, while just seven branches in urban areas remained only partially online.⁸⁰

Figure 6.

Number of fully online branches in Bangladesh over the last three years⁸¹

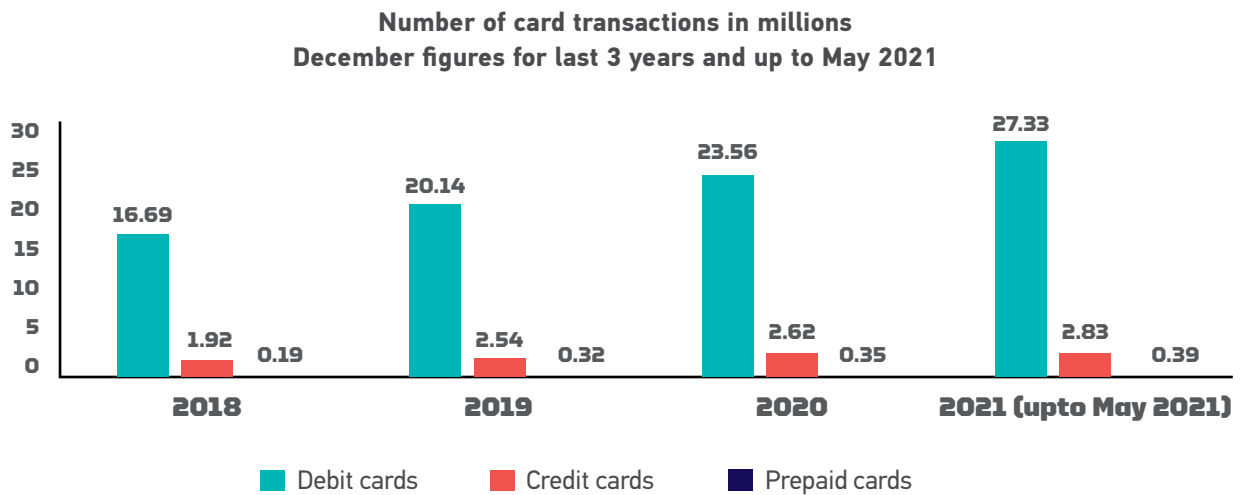


3.2.3 The number of credit and debit cards issued increased over the last three years; ATM and POS device usage also increased, but at a lower rate than online transactions⁸¹

The use of electronic banking cards for shopping increased sharply by 48 percent during the COVID-19 pandemic. In March 2020, debit, credit, and prepaid cards had a monthly value of BDT 164 billion (US\$1.92 billion). By March 2021, their value had increased to BDT 243 billion (US\$2.85 billion).⁸²

Figure 7.

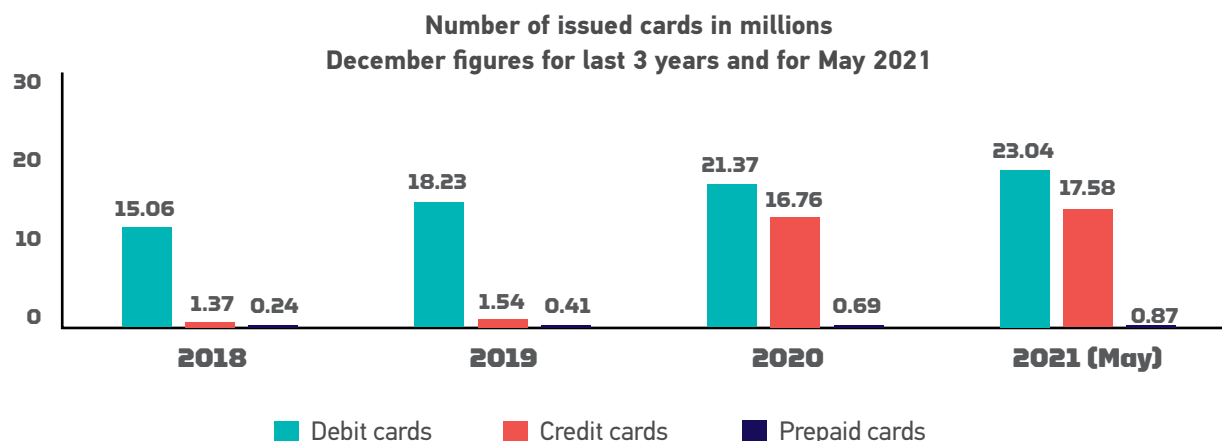
Number of card transactions over specific months during the last three years



The value of domestic use of cards has increased at a CAGR of 84 percent from the 2018 to 2021 for shopping and other online services. Online grocery shopping, food delivery, and lifestyle shopping have grown significantly and account for most debit and credit card transactions. Moving money to MFS accounts using cards is also gaining popularity with the increasing adoption of such accounts. For instance, the users of a leading MFS provider can now add money to their MFS accounts using their Mastercard, debit, and prepaid cards. A leading bank's Mastercard Payment Gateway Services facilitates this service. The following graph shows the increase in the number of cards issued over the last three years.

Figure 8.

Number of issued cards⁸³



The number of debit cards issued increased by 7.78 percent, credit cards by 4.89 percent, and prepaid cards by 24.99 percent between December 2020 and May 2021. However, it is important to understand the gap between the number of active cards and the number of cards used for online payments. The number of e-commerce transactions per 100 issued cards has been close to eight transactions per month over the last three years.⁸⁵

A total of 8.62 million debit cards and 0.62 million credit cards were issued in the January–March quarter of 2016, whereas 66 million debit cards and 5.14 million credit cards were issued in the January–March quarter of 2021, owing to a greater proliferation of banking services, increased card use, and emerging use cases such as e-commerce.⁸⁶

June 2020 saw 1.48 million POS transactions, down by 42 percent from June 2019, and 1.54 million e-commerce transactions through cards, an increase of 29 percent. The period after the initial COVID-19 wave saw a greater adoption of cards for e-commerce transactions, with 2.47 million transactions in May 2021, compared with 1.37 million in May 2020.⁸⁷

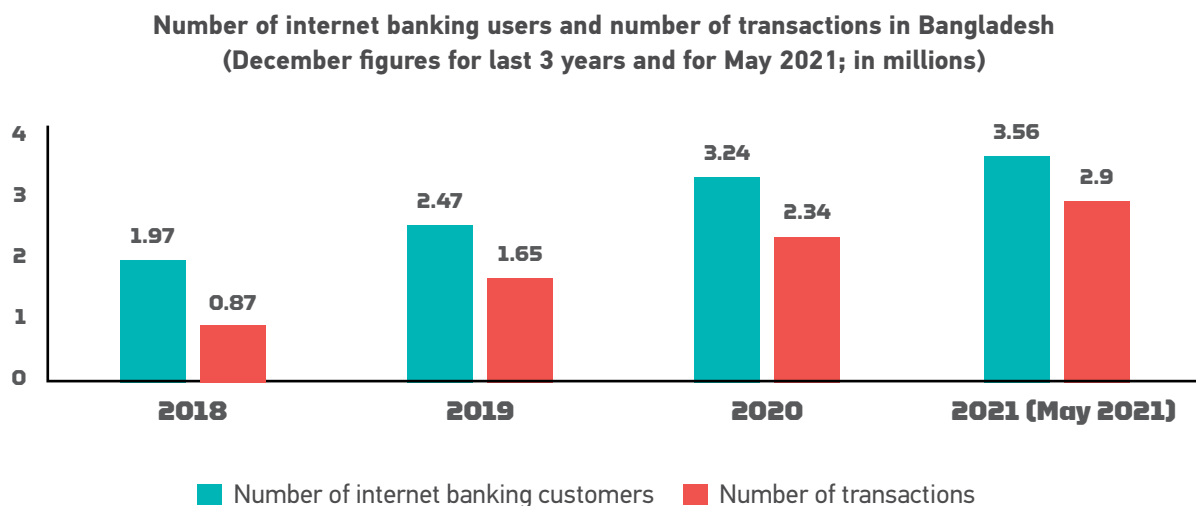
Aggregated Bangladesh Bank data on merchant payments using MFS accounts show 5.32 million transactions conducted through MFS accounts in June 2020, a 60 percent increase over June 2019.⁸⁸

There are two reasons for the increased usage of MFS relative to cards for merchant transactions. First, MFS is a more popular and pervasive instrument that is accepted by all merchants and customers, most of whom have an MFS account. Secondly, merchants are reluctant to accept card payments due to high transaction charges and the merchant discount fee. The POS machine is an additional cost that small retailers avoid.

3.2.4 Internet banking users and transactions have increased over the years, with the number of transactions per user nearly doubling in the past two and a half years

Internet banking has emerged as an important means of making digital payments. The number of internet banking customers increased nearly 1.5 times in the 2.5 years from December 2018 to May 2021.⁸⁹

Figure 9.
Growth of internet banking customers and transactions



The number of internet banking users trebled from 1.25 million during the March–June 2016 quarter to 3.56 million in May 2021, and the number of transactions increased 1.5 times in the same period.⁹⁰

The average transaction value per user also increased 1.5 times, from BDT 20,320 (US\$239.04) in May 2020 to BDT 31,975 (US\$376.15) in May 2021. However, the average transaction value decreased from BDT 38,250 in 2016 to BDT 31,074 (US\$365.55) in May 2021, showing a gradual uptake of internet banking for smaller-value transactions such as bill payments and e-commerce.⁹¹

Amid innovations and developments in products and services, it is imperative to strengthen customers' trust in the system. **The UN Principle for Responsible Digital Payments 2, "Ensure Funds are protected and accessible"**, proposes ensuring adequate awareness and education among users to help them use digital channels safely and in an informed manner. Knowledge of systems would help prevent fraud and increase trust in the system.

3.2.5 Impact of the COVID-19 pandemic on banking

The COVID-19 pandemic has had a varied impact on use of banking channels.

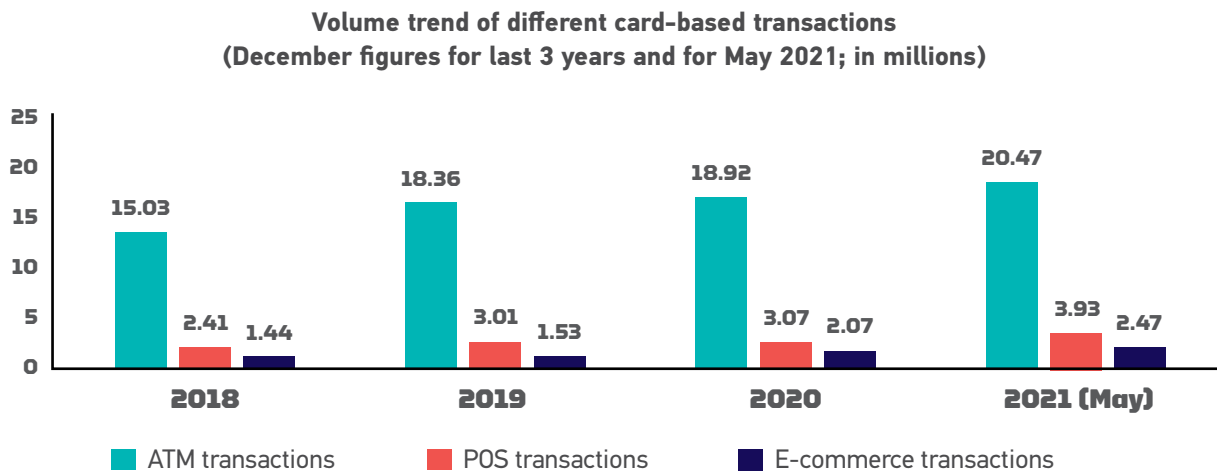
3.2.5.1 Card transactions increased across channels, but the steepest increase in use by both volume and value has been for e-commerce transactions

The NPSB supports card-based payment networks and enables card-based transactions through ATMs, e commerce, and POS-based merchant transactions throughout the country.

ATM transactions, mostly cash-outs, increased marginally, by 0.56 million from December 2019 to December 2020. Similarly, after easing of the lockdown and rise in economic activity, the number of ATM transactions increased by 1.5 million between December 2020 and May 2021. A similar trend was observed for ATM transaction values.⁹²

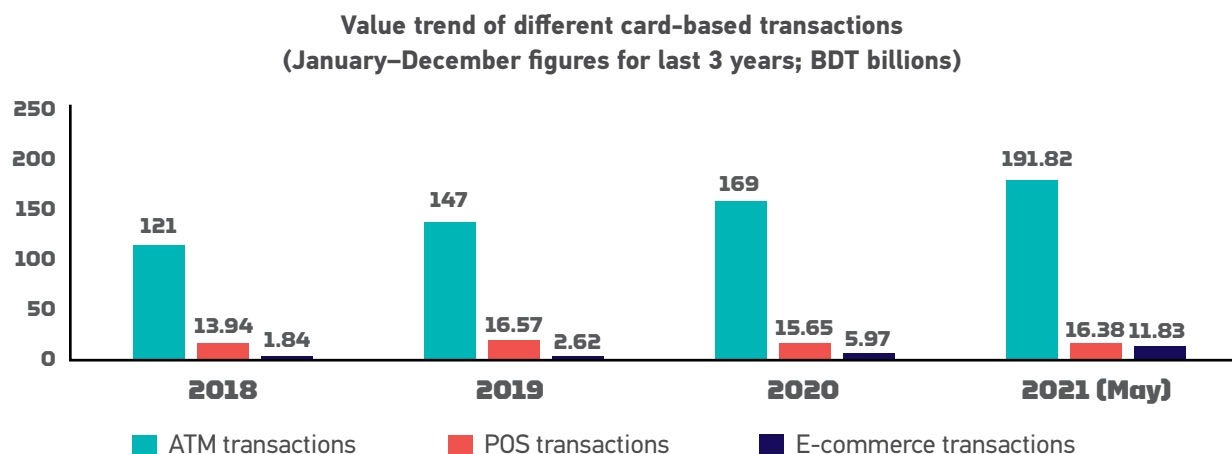
Figure 10.

Volume trend of card-based transactions⁹³



The volume of card transactions for e-commerce increased by 35 percent from December 2019 to December 2020. The value of card transactions increased 2.27 times from December 2019 to December 2020, showing a sharp uptake of card use for e-commerce transactions in 2020, when the pandemic struck. The uptake of cards at POS terminals also increased, albeit at a slower pace than for e-commerce transactions.⁹⁴

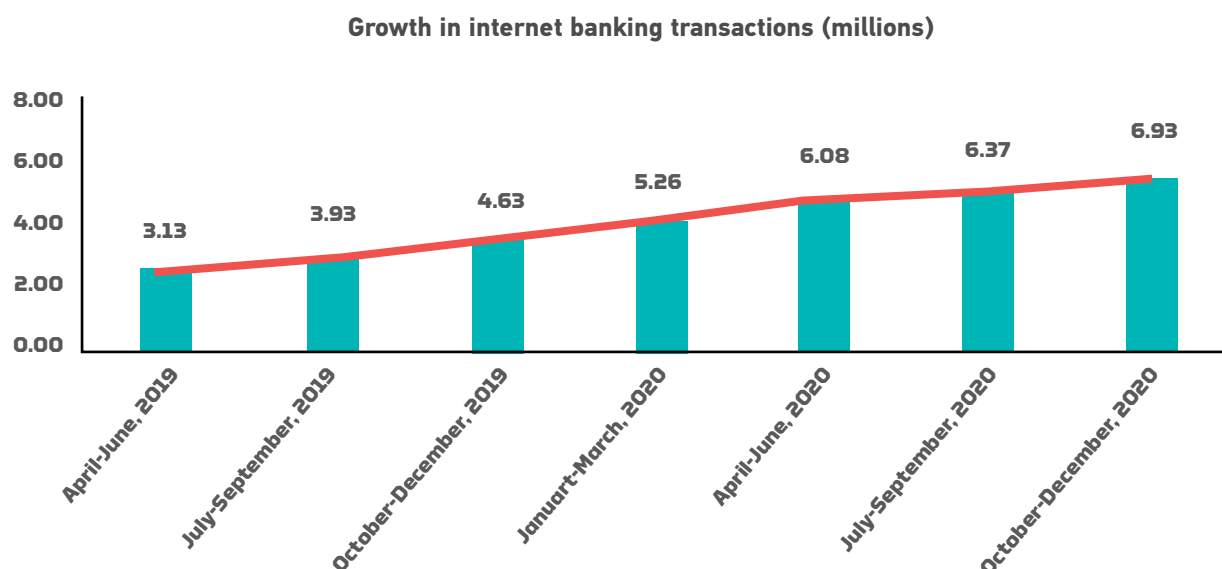
Figure 11.
Value trend of card-based transactions⁹⁵



3.2.5.2 Internet banking transactions increased in average value during and after the initial lockdown

The uptake of internet banking during the pandemic forced banks to add additional functionalities to retain customers and encourage more people to transact digitally. Increased internet banking features for person-to-person fund transfers, bill payments, and e-commerce usage led customers to perform more transactions digitally instead of physically.

Figure 12.
Growth in internet banking transactions⁹⁶

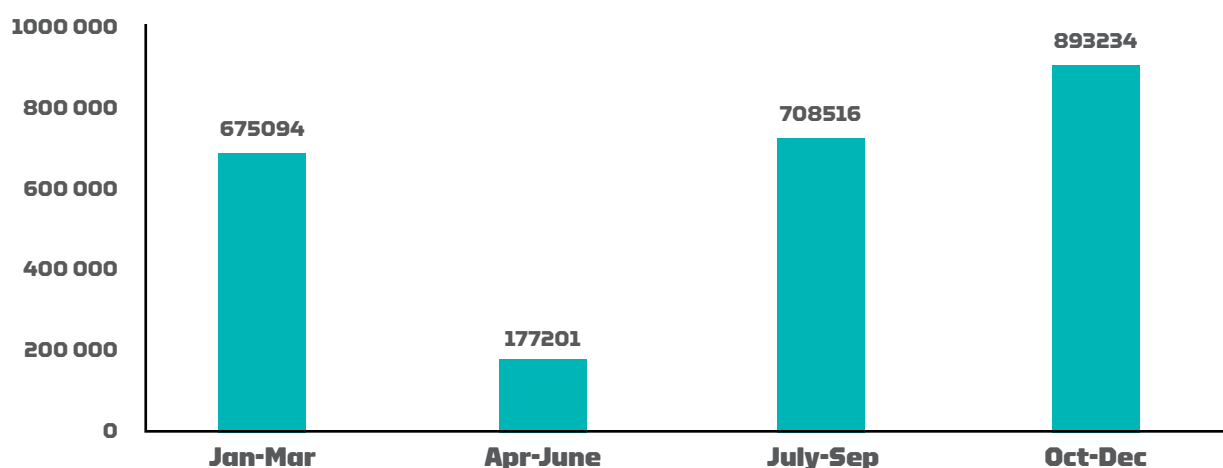


Analyzing the cumulative number of internet banking transactions during the initial lockdown period of April to June 2020 and the period between October to December 2020 shows that internet banking transactions increased 13.9 percent between the April–June 2020 quarter and the October–December 2020 quarter. The average ticket size of internet banking transactions increased to BDT 34,516 (US\$406.05) in December 2020 from BDT 26,915 (US\$316.63) during the lockdown of May 2020, an increase of 28 percent.⁹⁷

3.2.5.3 High-value transactions dipped due to the pandemic, but rebounded when economic activities resumed

In April–June 2020, RTGS declined 58 percent in volume and 52 percent in value compared with the same quarter of 2019. This sharp decrease occurred because the RTGS system was inoperative in April 2020 due to the lockdown. However, upon resumption, RTGS volume as well as value increased sharply in the third and fourth quarters of 2020.⁹⁸

Figure 13.
Number of RTGS transactions–2020 quarters⁹⁹



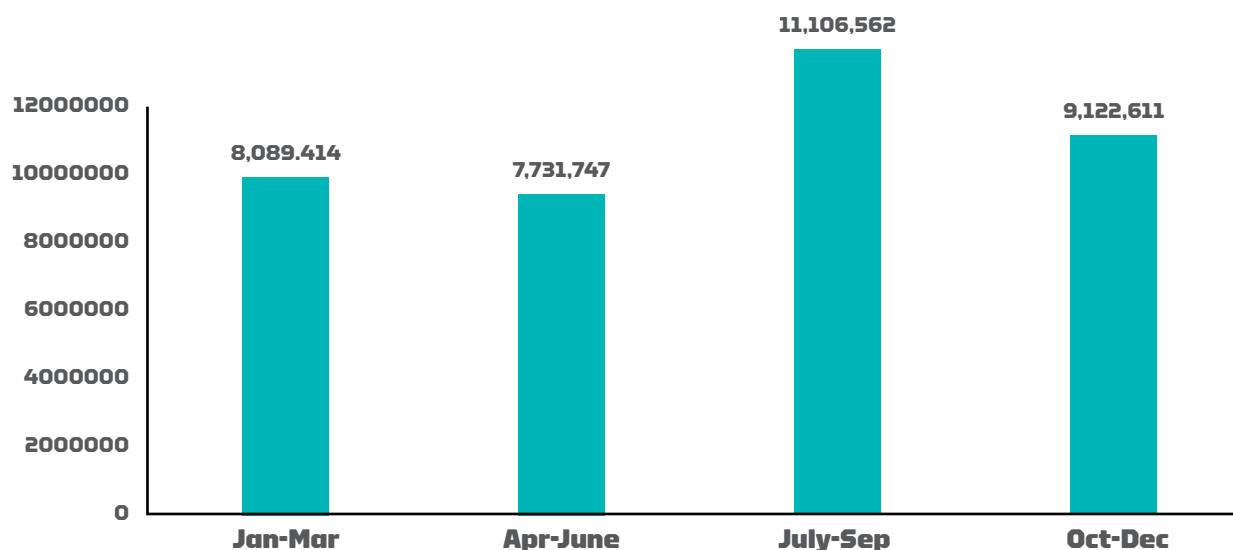
3.2.5.4 Transactions through BEFTN first increased markedly during the pandemic and later stabilized

BEFTN processes transactions such as foreign and domestic remittances, social security payments, payrolls, company dividends, bill payments, corporate payments, government tax payments, social security payments, and person-to-person payments. It also settles debit transactions such as utility bill payments, insurance premium payments, club, or association payments, and equated monthly installments (EMIs). Transactions through BEFTN increased sharply, by 43.64 percent from the April–June quarter to the July–September quarter in 2020, when the government’s COVID-19 relief

package was disbursed across sectors. Digital transactions for bill payments, wages, and other payments increased due to COVID-19-induced precautions. Transactions in the October–December 2020 quarter decreased by 17.86 percent from the previous quarter.

Figure 14.

Quarterly growth trend of BEFTN transactions–2020 quarters¹⁰⁰



3.3 THE AGENT-BANKING MODEL CONTINUED TO HAVE A POSITIVE IMPACT ON PROLIFERATION OF DIGITAL PAYMENTS IN REMOTE AREAS.

Agent banking has helped a large segment of the financially excluded population, especially in the rural areas, access formal financial services through banking channels and transact digitally. As of May 2021, 12,463 banking agents had serviced 11.78 million agent-banking accounts through 16,807 outlets across the country.¹⁰¹

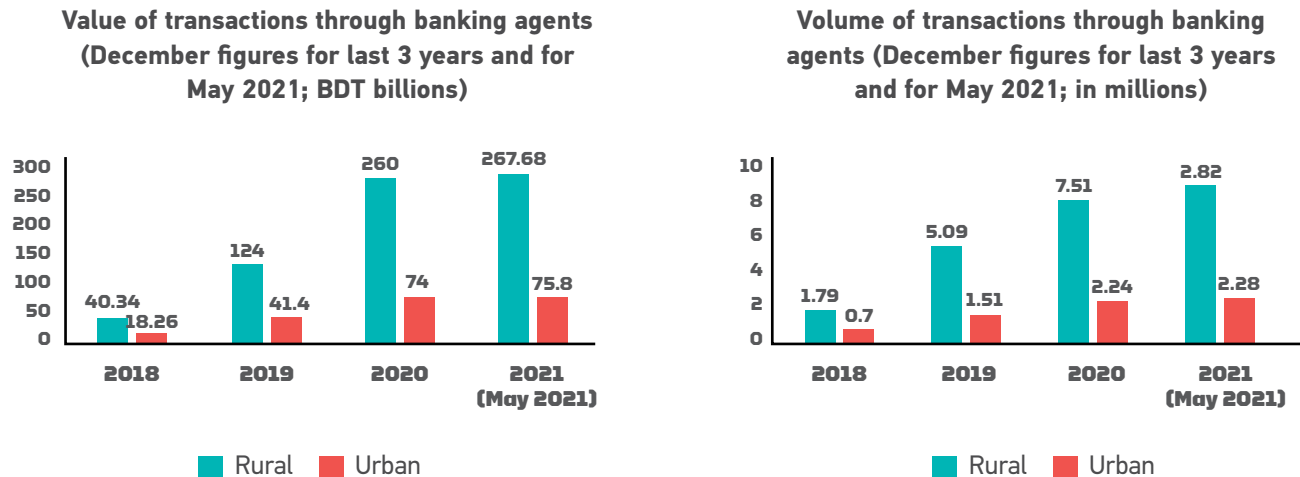
3.3.1 The rural population uses agent banking for deposits, loan disbursement, utility bill payments, and inward foreign remittances

The agent banking model is eminently suitable for remote areas. Transaction volumes and value through agent banking doubled from 2019 to 2020 in rural areas and increased by 50 percent in urban areas. In the five months from December 2020 to May 2021, the value of transactions in the rural areas through agent banking increased 1.5 times, while their volume increased 1.1 times.¹⁰²

The agent-banking channel handled transactions of BDT 1080 billion (US\$12.65 billion) from April to June 2021, compared with BDT 23.37 billion (US\$274.92 million) in the April–June 2016 quarter, increasing at a CAGR of 115 percent. This shows widespread adoption of agent banking for deposits, loan disbursements, utility bill payments, and inward foreign remittances.¹⁰³

Figure 15.

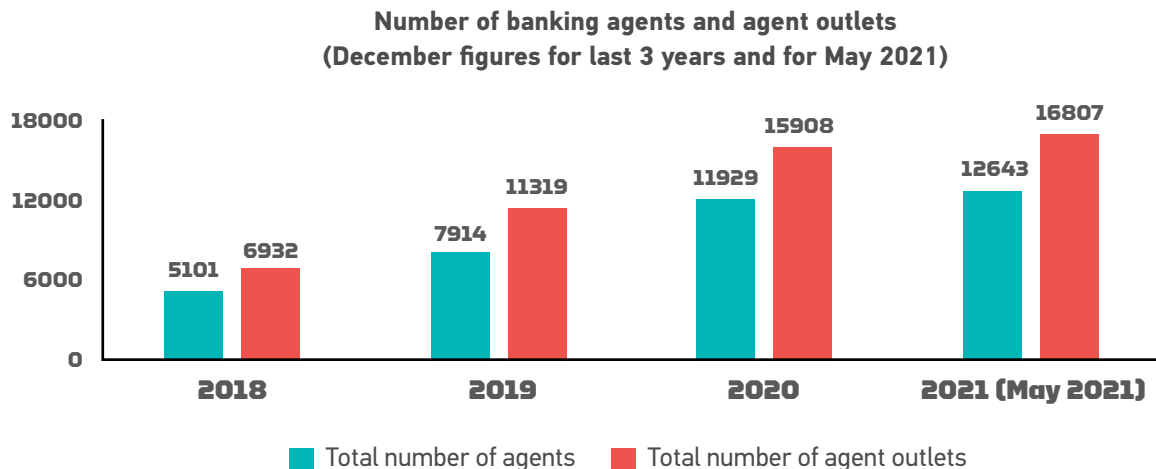
Volume and value of transactions through agent banking¹⁰⁴



To meet the rural demand for financial services, the number of agents increased at a CAGR of 53 percent and agent outlets at 51 percent from December 2018 to December 2021. This increase, along with MFS adoption, has provided choice and convenience in last-mile services.¹⁰⁵

Figure 16.

Number of banking agents and agent outlets¹⁰⁶





AGENT BANKING

140%

Increase in number of agent outlets over the last 3 years with 16,806 outlets as of May 2021

RURAL

360%

Increase in number of monthly transactions over the last 3 years

8.3

MILLION

Number of monthly transactions as of May 2021

URBAN

220%

Increase in number of monthly transactions over the last 3 years

2.3

MILLION

Number of monthly transactions as of May 2021



IMPACT OF COVID-19 PANDEMIC

Adoption of agent banking channels has trended upward during COVID- 19, with loan disbursements from the government's stimulus package and inward foreign remittances being the key contributors

The UN Principle for Responsible Digital Payments #9 on "Championing Value Chain accountability" indicates that digital payment providers have a clear responsibility to ensure standards for due diligence, training, and monitoring of third-party agents providing services on their behalf.

3.3.2 Impact of COVID-19 on agent banking

Agent-banking activities have been increasing to support financial services for the unbanked and underserved populations, especially those from geographically dispersed locations.

3.3.2.1 Agent-banking channels saw an increase in loan disbursement from the government stimulus package, with inward foreign remittances serving as key contributors

Table 3.

Agent-banking transactions: Comparative analysis of 2019 vs. 2020¹⁰⁷

Period	Total no. of transactions (millions)	Amount (BDT billions)	Loan disbursements (BDT billions)	Inward foreign remittances (BDT billions)
April–June 2020	16.14	535.64 (US\$6.30 billion)	0.46 (US\$5.41 million)	53.36 (US\$627.73 million)
July–Sept 2020	21.59	829.29 (US\$9.75 billion)	3.63 (US\$42.70 million)	91.84 (US\$1,080.42 million)
Oct–Dec 2020	27.51	990.56 (US\$11.65 billion)	9.18 (US\$107.99 million)	76.51 (US\$900.07 million)

Agent-banking transactions increased markedly, by 134 percent, during the lockdown period of May and June 2020 relative to the corresponding period of 2019. Only loan disbursements decreased, due to the limited access to agent outlets and a muted credit uptake. The period after the lockdown saw a rebound in transactions through agent banking in both July–September and October–December 2020, with overall transaction growth rates of 50 percent in both quarters.¹⁰⁸

Inward remittances saw strong growth in 2020 over the previous years, even amid the pandemic. Similarly, loan disbursements through agent banking and utility bill payments saw robust growth in the latter half of 2020. Agent banking has emerged as a key enabler for delivering banking services in the rural areas. Services offered by agents are evolving, keeping pace with the new trends and customer demand.

3.4 MOBILE FINANCIAL SERVICES ARE KEY TO DIGITAL PAYMENTS IN BANGLADESH

Digital payments in Bangladesh have been evolving and bringing people into the formal financial ecosystem. MFS have played a vital role in making Bangladesh second only to Sri Lanka in the South Asia region in terms of the percentage of population in the formal financial system. In Sri Lanka, 80.4 percent of the population has a formal financial account. In Bangladesh, 66 percent of the population is included in the formal financial system, with access to credit, savings, and insurance, from a bank, micro finance institution (MFI), or MFS provider.¹⁰⁹

MOBILE FINANCIAL SERVICES

Key Market Players (Market Share)

75%

bKash

12%

Rocket

10%

Nagad



340 million MFS transactions in May 2021, an increase of 150% over the last 5 years due to strong market expansion and an extension of service offerings by MFS players



98 million registered and 38 million active MFS accounts as of May 2021, an increase of around 130% over the last 5 years



“Preference for Cash,” “Alternative Modes,” and “Literacy and Skills” are the biggest reasons why men and women lack a mobile money account



IMPACT OF COVID-19 PANDEMIC

The number of cash-in and cash-out transactions declined during the pandemic; MFS saw a significant boost in usage in P2P payments, utility bill payments, and in-store merchant transactions

3.4.1.1 Strong market expansion and extension of service offerings by MFS players fuel service adoption

A big reason for this is the increase in MFS adoption by users and strong expansion of market participants. The entry of new players providing value-added services in addition to basic financial services has further incentivized the uptake of MFS.

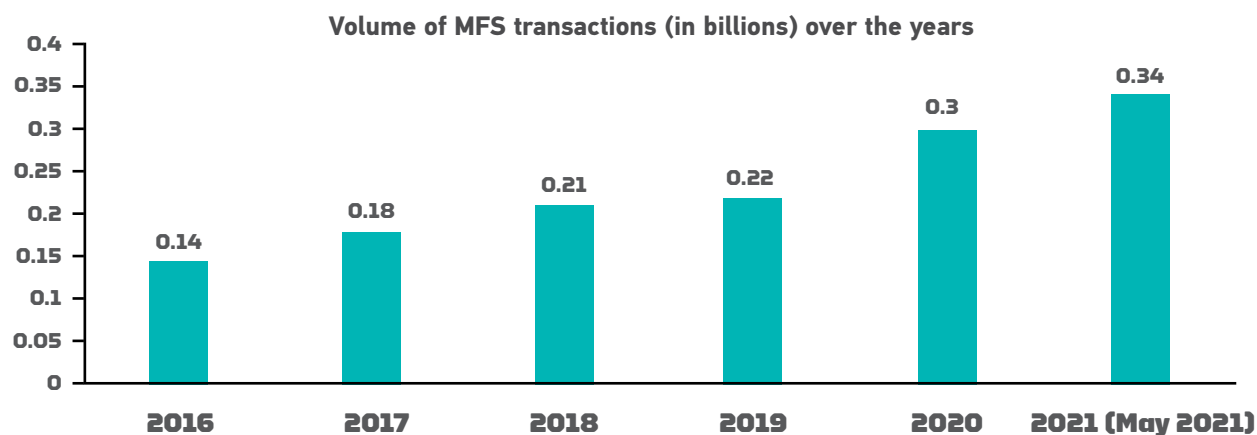
People now prefer MFS wallets for their daily spending. As of May 2021, 48 percent of the transactions through MFS were airtime purchases, merchant payments, and utility bill payments. This has boosted the overall number of digital financial transactions. Though there are 15 MFS providers in the country, 97 percent of the market share is held by only three.¹¹⁰ This is due primarily to the growing number of innovative products and parallel digital ecosystems, such as e-commerce partnerships and super apps, developed by these players, which induce transactions from the corresponding mobile wallets. They also have aggressive marketing, a reward mechanism, and deep coverage in almost all regions of the country.

The prevalence of MFS grew from 50 percent in 2016 to 60 percent by 2021.¹¹¹ The number of new accounts has been increasing annually, with a steep increase in the past year. The shift to digital transactions is largely due to COVID-19 restrictions, disbursement of government aid through MFS accounts, and wage payments in RMG, MSME, and other informal sectors.

3.4.1.2 Monthly volume of MFS transactions doubled between 2016 and 2020

During the COVID-19-induced lockdown, MFS platforms were used for multiple purposes on a large scale, including wage disbursements for RMG workers, disbursements of government benefits, payments of utility bills, and remittances.

Figure 17.
Volume of mobile banking transactions¹¹²



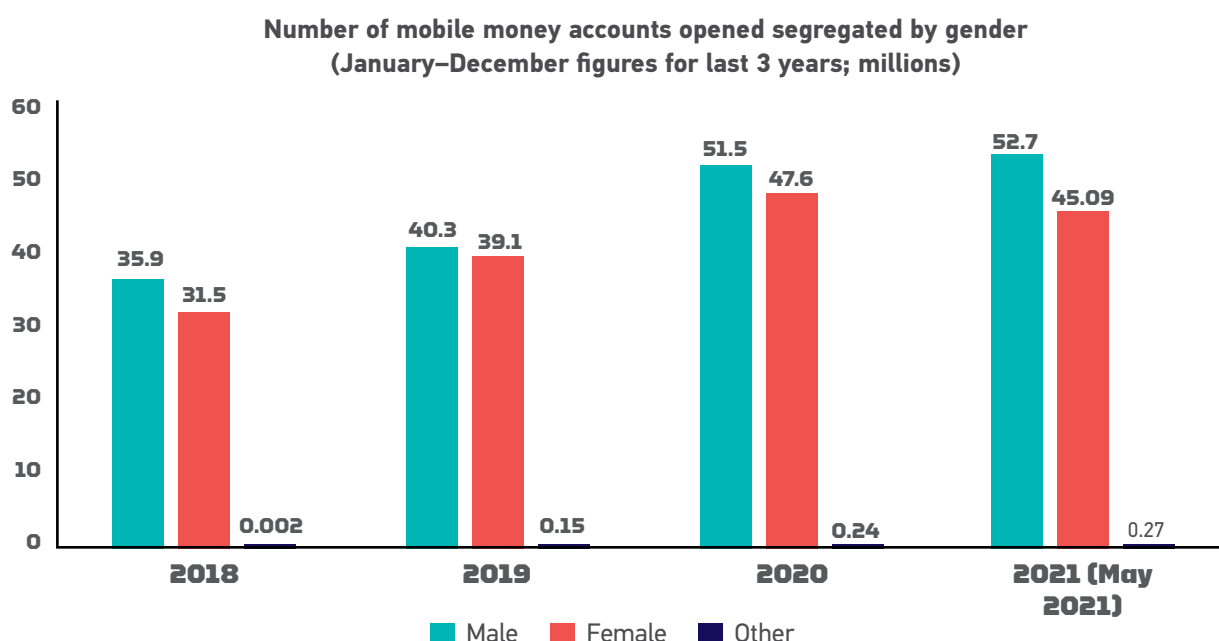
The increase in transactions has been facilitated by a push from the government to shift to digital transactions, especially for disbursing social sector benefits and wages for RMG workers. This is seen in the increase of 25 percent in the number of new MFS accounts opened from 2019 to 2020.

The monthly volume of MFS transactions increased 2.5 times from 2016 to May 2021, owing to the growing popularity of digital payments, increased digital awareness and usage among the population, expansion of MFS use cases, and greater penetration of accounts in rural and semi-urban areas.¹¹³

3.4.1.3 The number of MFS accounts owned by women has increased over the last three years, while the gap between male- and female-owned accounts is also increasing in absolute terms

The graph below shows the disaggregation of MFS accounts by gender for the last three years. The number of MFS accounts owned by women increased over the last three years, which can be attributed to the growing financial awareness and participation of women in the workforce, particularly in small business activities. However, the gap between the number of male- and female-owned accounts has widened despite the absolute increase in the number of MFS accounts opened. This is discussed in greater detail in the section on gender inclusion below.

Figure 18.
Number of mobile money accounts opened segregated by gender¹¹⁴

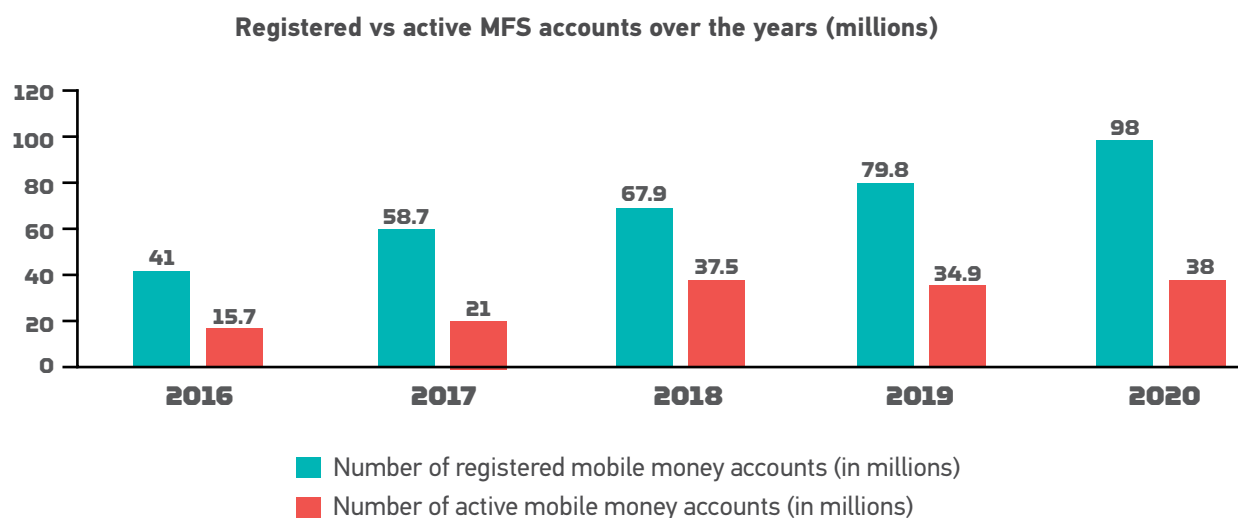


3.4.1.4 The number of active MFS accounts in 2020 increased 2.5 times over the 2016 figure, while the inactive account ratio increased by the end of 2020

Along with the increase in the number of new MFS accounts, inactive accounts also increased, especially after the first COVID-19 wave subsided and people reverted to cash-based transactions. Although the inactivity rate increased from 46 percent in July 2017 to 53.9 percent in July 2020, the number of active accounts increased steeply, from 28.31 million in July 2017 to 42.67 million in July 2020.

However, data show a steep drop of 13.56 percent in registered versus active users of MFS accounts from July 2020 to December 2020. This may indicate that users opened MFS accounts to receive government aid or wages during the lockdown but later shifted back to cash-based transactions. There are other reasons for MFS account inactivity, such as forgotten account PINs, wrongful fund deductions from MFS wallets, and concerns over the safety of digital transactions and redressal of complaints.

Figure 19.
Registered vs. active mobile money accounts



Overall, there has been a steady increase in the usage of MFS as the preferred mode of transaction. However, there are still barriers to acquiring and using MFS accounts.



MOHAMMAD IMAM HOSSAIN

“There is a wave of digital payments around us, however, why should we accept digital payments if our customers are fine with cash?”

Mohammad Imam Hossain, 23, convenience store merchant, Keraniganj

Imam operates a convenience store with his brother in Keraniganj, in the outskirts of Dhaka. Their father owns the store but is also pursuing another venture as a small distributor of a Fast-Moving Consumer Goods company.

Imam and his family are yet to embrace the wave of digital payments, and their business is heavily reliant on cash. He is aware of the growing adoption of digital payments among merchants, but he does not find any strong reason to accept digital payments. In his opinion, the store runs on goodwill, best pricing for consumers, and great relationships with their customers. Digital payment options have never been a barrier or enabler in the running of his business.

When it comes to the supply side of things, Imam's father maintains a bank account, which he occasionally uses to pay suppliers. Imam opined that they make close to US\$600 daily, which he does not consider high enough to be deposited in a bank account because a portion of the cash is required to make payment to small distributors and another portion is required to pay for family expenses.

Imam is the youngest member of the family who is involved in the business, yet he is the most averse to adoption of financial services and has no formal financial footprint. Even to recharge his mobile balance, he uses his brother's mobile financial services wallet. Despite having all the means and access to digital payment services, he will avoid digital payments until either of the two things happen: (1) his elder brother commands it, or (2) they are certain they will lose customers if they don't accept digital payments.

In line with UN Principle 5 of Interoperability, interoperable payment system can result in increased reliability and acceptance of digital payments while improving the user experience for both merchant and customers.

3.4.2 Impact of COVID-19 on MFS

Bangladesh's COVID-19 lockdown began on March 22, 2020. In the following month of April 2020, the number of MFS transactions decreased by 7.75 percent, but increased significantly in May 2020 by 29.50 percent due to limited bank branch services and containment measures. MFS transactions increased in the second, third, and fourth quarters of 2020, with the only exceptions being cash-in and cash-out transactions in the second quarter and government-to-person transactions in the fourth quarter. The government distributed a stimulus package of BDT 50 billion (US\$588.20 million) for RMG factory workers through MFS during the first nationwide lockdown in April–May 2020. As the government distributed BDT 12.5 billion (US\$147.05 million) in social security funds to 5 million low-income families through MFS accounts, G2P transactions surged in the second and third quarters of 2020.¹¹⁵

3.4.2.1 While cash-in and cash-out transactions declined during the pandemic, MFS usage surged in P2P payments, utility bill payments, and in-store merchant transactions

The following table shows the growth in MFS transactions (in millions) from the corresponding quarters in 2019 and 2020.

Table 4.

Trend of MFS transactions in Bangladesh, 2019 vs. 2020¹¹⁶

Payment Stream/Period	April–June 2019	April–June 2020	Growth	July–Sept. 2019	July–Sept. 2020	Growth	Oct.–Dec. 2019	Oct.–Dec. 2020	Growth
Cash-in	127.81	93.43	-26.91%	120.47	126.02	4.61%	130.93	149.31	14.04%
Cash-out	122.61	99.88	-18.54%	117.27	128.85	9.87%	126.68	132.36	4.48%
P2P	62	102.71	65.66%	69.5	124.45	79.07%	83.03	144.71	74.30%
Merchant payment	11.64	12.53	7.68%	10.98	22.61	106.02%	14.41	30.56	112.00%
G2P	11.1	14.12	27.15%	10.67	13.07	22.48%	10.74	0.41	-96.19%
Salary disbursement	5.34	9.6	79.86%	5.1	11.91	133.64%	6.04	9.4	55.59%
Talk-time purchase	294.31	406.82	38.23%	300.64	400.25	33.13%	303.05	378.61	24.93%
Utility bill payment	6.66	12.61	89.34%	8.69	21.59	148.39%	9.11	20.04	119.98%

Cash-in transactions declined by 26.19 percent and cash-out by 18.54 percent in April–June 2020, compared with the same quarter of the previous year.¹¹⁷ This can be attributed to the COVID-19 lockdown, which restricted movement and therefore transactions at MFS agent outlets. The growth rate increased as the restrictions were relaxed.

Merchant payments through MFS rose sharply in both e-commerce and in-store transactions. Airtime purchases and utility bill payments through MFS became popular during the period owing to the increased use of digital transactions.



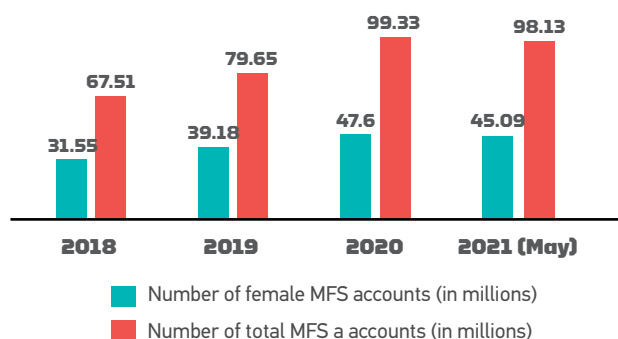
4.1 DIGITAL FOOTPRINT, AND PROLIFERATION OF DIGITAL PAYMENTS AMONG WOMEN IN BANGLADESH

Women's economic participation, school enrolment, literacy rates (71.9 percent as per the latest data from 2019), and digital media adoption for communication and financial transactions have increased steeply over the past few years.¹¹⁸ This has been possible through measures by the Bangladesh Government and the private sector to address the gender gap in digital payments and other areas via strategic plans and policy guidelines.

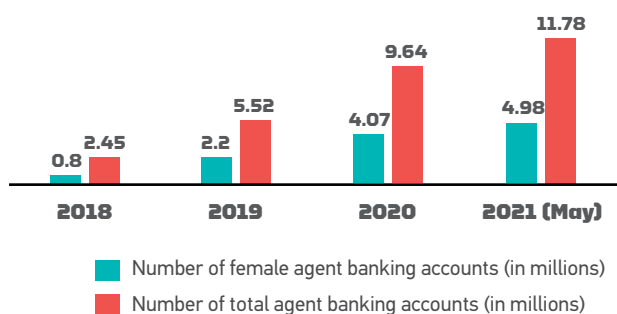
Women's participation in digital payments has significantly increased over the years, which is evident from the fact that the number of MFS accounts owned by women has increased at a CAGR of 14 percent from May 2019 to May 2021. This has been enabled by the increasing uptake of MFS and agent-banking channels, as shown in Figure 20.

Figure 20. **Number of female MFS accounts and female agent-banking accounts**

Number of female MFS accounts vs total MFS accounts
(December figures for last 3 years and for May 2021; millions)



Number of female agent banking accounts vs total agent banking accounts
(December figures for last 3 years and for May 2021; millions)



Data from the Bangladesh Bank indicate that the number of women-owned MFS accounts grew at a rate of 21.5 percent on a year-on-year basis from 2019 to 2020. Similarly, the accounts opened for women through agent banking also grew at a healthy rate of 85 percent on a year-on-year basis from 2019 to 2020.¹¹⁹

The UN Principle for Responsible Digital Payments 3, on Prioritizing Women, highlights the role of women as a major constituency in the digital payment landscape. Multiple initiatives by the government, financial service providers, and think tanks across payment value chains have led to the increase in digital payments uptake among women in Bangladesh.

Government benefit programs for women are now disbursed digitally and directly into women's accounts. Initiatives by financial service providers have led to training, capacity building, and guidance for small businesses owned by women for carrying out their businesses digitally. According to an Internal Organization for Migration survey, 65 percent of household heads receiving international remittances in Bangladesh are women.¹²⁰

Despite the progress, many women lack full access to formal financial services. In the recent past, gender has not necessarily been a deterrent to using financial services, but gender differences exist due to gaps and barriers in the enabling components of digital payments access and usage. The biggest challenges to gender inclusion are highlighted below.

Table 5.
Gender gaps in identified parameters

Parameter	Male	Female	Gender Gap
Literacy rate (as of 2019) (% of gender population)	77%	71.9%	5.1%
Mobile phone ownership (as of 2020) (% of gender population)	86%	61%	25%
Mobile internet user (as of 2020) (% of gender population)	33%	16%	17%
Registered bank account (as of 2019) (% of gender population)	24%	15%	9%
Registered mobile money account (as of 2020) (% of gender population)	61%	57%	4%
NID Coverage (as of 2019)	84.63%	81.26%	3.37%

The data in the table above represent the gender gap across all parameters. The gap is most noticeable in mobile phone ownership and internet usage, which are key to digital payments. Several factors have a direct causal relationship with the gaps depicted above, such as:

- A higher dropout rate for females, especially at the secondary, tertiary, and university levels
- Societal preference for ownership of digital devices by men, especially in the rural areas
- Women's reliance on spouse or male guardian's financial accounts for transactions, as most women are not directly engaged in employment or any other revenue-generating activity.

It is imperative to identify the challenges and barriers affecting the use of digital payments among women. Some of these, identified through discussions with multiple stakeholders, are examined in the following section.

4.2 BARRIERS AFFECTING INCLUSION OF WOMEN

A lack of understanding of digital products and services limits holistic inclusion and digital payments proliferation and use among women in Bangladesh. Another barrier is the failure of digital payments providers to enable access to women, by:

- Not considering women as an important customer segment (e.g., working and salaried women, informal workers, small business owners)
- Limiting product and service design and “pink-washing” digital payment products for women
- Not addressing women's reluctance to adopt new products and solutions offered by digital payments.

In addition to the above, there are fundamental problems leading to the exclusion of women from formal financial services:

Literacy rate: Female literacy in the rural areas is 13 percent lower than in the urban areas. According to 2018 data from the Bangladesh Bureau of Statistics, the literacy rate among urban women is 78 percent, compared with 65 percent for women in the rural areas. This is significant, considering that 65 percent of the population of Bangladesh resides in villages, according to 2018 data.¹²¹ This is one of the biggest barriers to adoption of digital payments. The problem is compounded if the mobile phone interface is in English.

Financial literacy: Financial literacy is a significant enabler of independence for women, financial and otherwise. Women from the underprivileged sections of society are more likely to accumulate debt burdens, have poor spending habits, or lack long-term financial preparation. Financial literacy empowers these women to make independent decisions. In most households, women are responsible for the day-to-day expenses. It is helpful for them to know how best to use their money. Women have a low awareness of the confidential nature of credentials like passwords, card PINs, and one-time passwords.

Proof of identity: Though NID adoption has grown significantly, complete coverage of the population remains a work in progress. NID-enabled electronic Know-Your-Customer (e-KYC), used to identify users opening MFS accounts, is a challenge for those without an NID, and a lack of NID is a hindrance to opening a financial account. Marks & Spencer (M&S)¹²² says 90 percent of its facing factories pay their workers digitally and 82 percent of the workers have MFS accounts. However, the wages for 60 percent of female workers are remitted to their husbands', parents', or other family members' MFS accounts.¹²³

Access to mobile devices: In most low-income families, members share mobile phones, often resulting in female members not having one of their own and having to rely on others for digital transactions.

Low mobile literacy and lack of digital/technology adoption skills: A lack of basic mobile literacy and mobile internet literacy prevents women from understanding mobile devices and how to access, create, navigate, and consume online content on a digital device. Consequently, women rely on their social circle, including family and friends or mobile phone agents, for using mobile financial applications. For a large proportion of women, these remain the primary barriers and need to be overcome.

Privacy concerns in the use of digital payments: Many women are reluctant to visit male MFS agents or give out their mobile phone numbers owing to privacy concerns. They are also concerned about fraudulent transactions and identity theft.

Limited knowledge of integrating digital payments with business: Micro- and small-scale women entrepreneurs have limited knowledge of digital payments products and services for conducting business with ease and accessing credit from formal sources. Many emerging entrepreneurs, especially small businesses run by women, end up doing cash transactions because they do not know enough about the assistance from the government or financial service providers.



MOSAMMOD MOYNA

“A bank where I used to save money just disappeared. It is difficult for me to trust financial institutions again.”

Moyna, 19, informal factory worker, Dhaka

Moyna works at an informal garment factory in the capital city of Dhaka, around 72 miles away from her native Rajbari district. She gets her salary in cash and prefers it that way, owing to a bitter past experience when a bank she used to deposit her money in shut down abruptly. Moyna lost BDT 30,000 (US\$355), equivalent to 3–4 months of her salary, and she could not do anything to retrieve her hard-earned money. She claims that some of her colleagues also lost money, but they did not have the power or knowledge to do anything about it. Essentially, lack of a recourse mechanism made Moyna lose trust in financial services.

Even to remit money home to Rajbari, she prefers carrying cash than sending it using a digital channel.

She cannot create a mobile financial service (MFS) wallet, as she does not have a legal identity card; but she does not feel the need to get one, as her husband has a wallet in case they need to use MFS. The other deterrent for Moyna to use MFS are the cash-out charges, which she finds unreasonable. Lack of recourse combined with the high costs of cash-outs have driven Moyna out of the world of formal financial services.

In line with UN Principle 8, presence of a recourse mechanism that is clear, quick and responsive may have helped Moyna recover the money she lost and helped her regain trust in financial institutions.

4.3 INITIATIVES FOR INCREASING DIGITAL PAYMENTS AMONG WOMEN

Based on discussions with public and private sector stakeholders, the following measures are proposed to increase the adoption of digital payments among women.

Table 6.

Key recommendations for increasing digital payments adoption by women

Barrier to accessing digital payments for women	Public or private sector initiatives ¹²⁴
Privacy concerns	<p>Alternative approaches to the activation and operation of accounts held by women are needed to counter women's reluctance to share personal details with financial services agents.</p> <p>An emerging practice among digital payments providers is hiring of female agents to make women customers feel more comfortable.</p> <p>The UN Principle for Responsible Digital Payments - 3 on Prioritizing Women suggests that the digital payments provider landscape should "serve as a steward for end-user data," which means aspects of gender need to be considered to ensure data confidentiality and prevent data misuse. Digital payments products and services need to be built with user privacy in mind to foster trust in usage. Key aspects include ensuring privacy in the design of systems and the anonymization of user data, which provides users with control over how their data are used.</p>
Lack of awareness	<p>The UN Principle for Responsible Digital Payments - 3 on Prioritizing Women highlights lack of financial literacy as an impediment to using digital payments for women.</p> <p>As part of the three-year "Digital Training Bus project for Sustainable Women Development through ICT," the government has initiated awareness campaigns in partnership with a major telecom service provider and a mobile equipment provider. "Digital buses" go to rural areas and offer digital skills training to women.</p> <p>A major payment gateway services provider from Bangladesh has initiated awareness campaigns and training that go beyond the use of digital payment applications and encourage f-commerce and e-commerce to help women reach out to more customers.</p>

Lack of knowledge about how to integrate digital payments with business

Initiatives from the government and private sector are enabling women to run small businesses more efficiently and profitably through the usage of ICT and digital payments.

The Women ICT Frontier Initiative (Wi-Fi) and ICT development are run by the Bangladesh Computer Council for women and girls. The Hi-tech Park Authority and various start-ups are working on ICT and technological capacity building and developing business acumen among women and girls.

A major e-commerce service provider in Bangladesh is working on a new venture with the government to identify female entrepreneurs in rural areas and provide them with training and information on selling and packaging and making payments. Around 10,000 women have registered for the program.

A leading MFI is working with MasterCard to train women entrepreneurs in accounting and other aspects of running a business.

Lack of gender intentionality

The design, delivery, and provisioning of digital payments need to meet the needs and challenges women face. To this end, digital payments providers have worked on many interventions.

A leading MFI in Bangladesh has developed an innovative solution for PESP recipient mother passbooks, on which updates are made regarding the scholarships received. One problem for mothers was they had no pockets in their sarees. So, school booklets were modified to include a passbook on the first page.

The UN Principle for Responsible Digital Payments – 3 on Prioritizing Women highlights “inadequate service design” as an impediment to digital payment adoption by women. Misaligned services prevent usage of services by women. The principle highlights the need to tailor product design to suit women’s needs and enhance their experience and ease of use.

Lack of gender inclusion in agent-banking

The agent-banking network, which offers women greater privacy, confidentiality, and control over their finances, should ensure that female customers are treated fairly and have sufficient financial skills. This should enhance their understanding of and trust in digital payments. These insights will help service providers design products and services that respond to gender requirements.



SHANTA AKTAR

“As a Muslim, I want to refrain from enjoying haraam (forbidden) income like interest on savings.”

Shanta Aktar, 25, ready-made garment factory worker, Dhamrai

The oldest among three siblings, Shanta lives with her parents and siblings in Dhamrai. She works at a formal export-oriented readymade garments factory. She and her father, involved in agricultural activities, are the two earning members of the family. She wrote her High School Diploma exams through a special program, and once their financial condition improves, she aspires to resume her studies.

In March 2020 when the Government of Bangladesh announced a stimulus package for factories to pay employees' salaries in their mobile financial services (MFS) accounts, Shanta opened an MFS wallet account. She owned a smartphone and was familiar with its use, so she adapted quite easily to using MFS, being young and educated. She has not required any assistance to use facilities such as an automated teller machine, MFS wallet, or bank accounts. She typically cashes out when she needs the money and not when she receives her wage.

Shanta has tried to convince her father to use her MFS wallet to pay utility bills, but he prefers making in-person visits to government offices to pay their bills. Shanta is aware of fraud and scams but is confident that nobody can trick her. However, extra guidance on personal identification number (PIN) management would help her because she tends to keep simple PIN codes for easier recall.

Shanta is in the habit of saving money, but she and her family do not want to earn haraam (forbidden) income through interest – an Islamic tenet, which discourages earning 'Riba' or interest on depositing or lending money. Therefore, she maintains a non-interest-bearing checking account with a bank that adheres to Islamic banking principles. She is keeping funds safe at the bank for her education because she feels cash can be easily stolen or spent.

Using digital ID for authentication can eliminate the need for personal identification numbers (PINs) or passwords and can support most day-to-day financial transactions. This solution is particularly applicable for the RMG sector, as this diagnostic finds that workers often forget their PINs. Digital ID-based payments can be enabled through biometrics, which will make the process convenient for users.

Collecting gender-disaggregated data to proactively track gender dynamics and apply insights

Women represent a major constituency in the digital payments landscape in Bangladesh. Too often, they suffer from systemic and organizational biases that exclude them. Design needs to be gender-intentional, rather than gender-neutral, and the Government can help by building enabling regulatory environments that boost female service uptake. To achieve the requisite sea change, women's voices need to be included at the decision-making stage. Products must reflect and improve women's lived realities. Data analysis needs to be fully gender-disaggregated to provide the ecosystem with the insights needed to drive improvement.¹²⁵ The shifts in emphases required are both subtle and profound. They are also eminently achievable.

Prioritization of women is crucial to the realization of financial equity. **In fact, women's digital financial inclusion has been cited as a top priority for all stakeholders consulted during the formulation of the National Digital Payments Roadmap.** However, all the indicators suggest that women are significantly unserved or underserved compared to men when it comes to usage of financial services. According to the Findex 2017,¹²⁶ **there is a 29.2 percent gap in bank account ownership and a 13 percent gap in DFS account ownership** between Bangladeshi men and women. Though there is anecdotal evidence about what drives and hinders adoption of financial services by women, the opportunity for evidence and data-driven policies, product and user-experiences remain ripe for change and innovation.

Embedding a gender lens across this diagnostic and the National Digital Payment Roadmap and its actions is a crucial first step. Yet, closing the gender gap will require transformational measures that prioritize women and redress their systemic exclusion.

The roadmap can consider the following actions:¹²⁷

- Ensure basic data collected are disaggregated¹²⁸ by sex (e.g., account ownership, volume of transactions, frequency of usage, peak times of usage, complaints). Gather data points that

also capture short- to-medium-term changes in women's access to digital services (e.g., the number of women downloading and/or registering for an app).

- Collect user-facing quantitative and qualitative data (e.g., loyalty, satisfaction) to understand whether women desire access to specific services.
- Collect provider-facing data (e.g., account usage, transaction volumes, attrition) to understand the performance of products and services across segments of women.
- Use data insights to promote easier access and usage by women
- Analyze collected data on women along with feedback to iterate on products and improve relevance. Greater user and transaction data on women help to reduce biases in algorithms.

Often, policies intended to be gender-neutral end up being gender-blind, and do not consider women's possibilities and challenges. In the context of Bangladesh, it is essential to dissect women-specific data, because historically many indicators – such as access to education, healthcare, cellular connectivity, participation in formal economy – have all been skewed towards men. Sex-disaggregated data can expose exclusion and inequalities that aggregate data would disguise as business-as-usual. Data is also a useful measure to understand the implications of past interventions and continue expanding/investing on the ones that have proved to be conducive for women's participation.

Along with the Bangladesh Bank, providers and other institutions involved in the design, development and delivery of financial services can collect and analyze sex-disaggregated data. Companies can look at consumer behavior differently to make commercial sense of prioritizing women as customers. A cooperative data sharing strategy could allow products to be delivered that serve the needs of underrepresented women and could ultimately ensure a safe and frictionless user experience for them, translating into wider participation and increased usage.

Many countries have already committed to collecting sex-disaggregated data. For example, Chile has mandated commercial banks to collect sex-



disaggregated data and establish a centralized unit to analyze trends and publish insights annually. Commercial players use this data to identify, support, and educate female entrepreneurs.¹²⁹

The hypotheses around barriers and motivators for women to use digital financial services can be validated through the analysis of disaggregated data. In Bangladesh, DFS providers believe that by engaging more female agents in places where women are

comfortable transacting will increase adoption. If data was available to support this hypothesis, more and more providers would invest in building a women-led agent network.

Investment in data collection is urgently required to close the gender gap in adoption and usage. It is not an end in itself, but an investment to help reach financial equality faster.

5. TRANSITION TO ELECTRONIC PAYMENTS AND TRAJECTORY OF SHIFT

5.1 PAYMENT STREAMS AND KEY PAYMENT USE CASES IN BANGLADESH

This section analyzes the payment streams and associated key payment use cases in Bangladesh. The payment streams sum up the use cases that contribute to most payment activity in Bangladesh. The key objectives are to:

- Assess the current level of digitization of payment streams and use cases
- Assess the trend toward digital, contributing factors, and highlights
- Analyze the trajectory in the shift of payment streams using the Alliance's trajectory assessment model.



Figure 21.

Payment streams and key use cases for analysis

Payment Streams	Payer	Payee					
		Key Use Cases	Government	Person	Business	Donor	
		G2X	Government	Budget allocation (Development and Non-development)	Social welfare payments, salaries, pensions	Contractor payments	-
		P2X	Person	Taxes (individual), utility payments	Remittances (Domestic and international)	School fees payments, merchant payment	-
		B2X	Business	Taxes, Utility payments	Salary payments	Supplier payments	-
		D2X	Donor	Loans, grants	-	-	-

5.2 STATE OF TRANSITION TO ELECTRONIC PAYMENTS

In recent years, there has been a marked shift toward digital payments in Bangladesh. Much of this shift can be attributed to the digitization of government payment streams, adoption of digital payment methods across income groups and geographic regions, financial literacy and communication initiatives, and policy and regulatory reforms designed to develop the digital infrastructure. The table below provides payment data by payer and payee across the payment value chains.

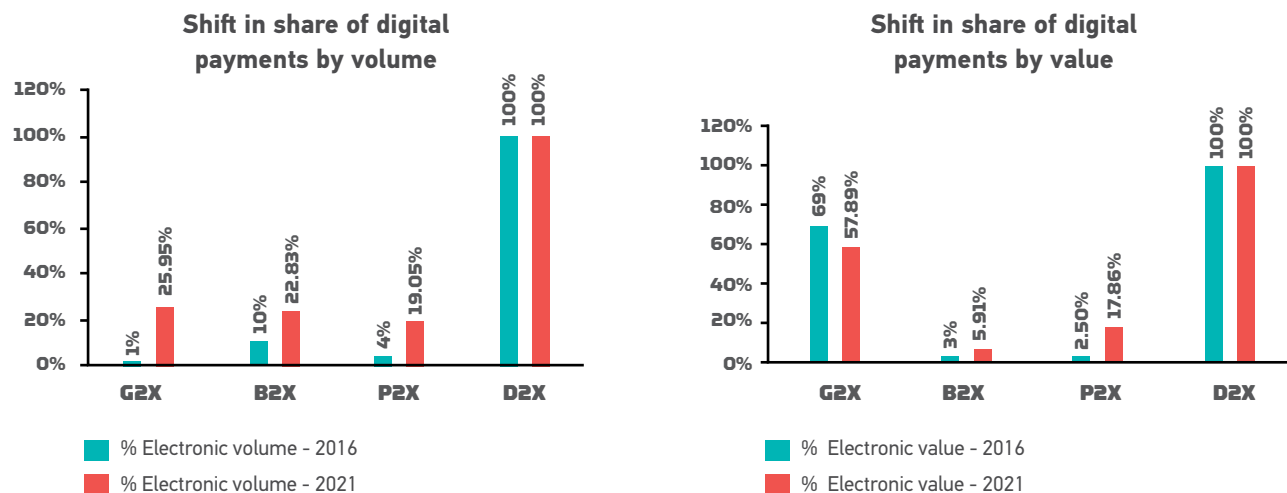
Table 7.

Payment data by payer and payee across the key value chains ^{130,131,132}

Payer	Total volume	% Electronic volume	Total value in BDT billions	% Electronic value
Government	463,054,882	25.95%	8095.13 (US\$95.23 billion)	57.89%
Business	387,824,312	22.83%	68,878.47 (US\$810.29 billion)	5.91%
Persons	3,738,828,244	19.06%	14,852.43 (US\$174.72 billion)	17.86%
Donor	-	100%	7304 (US\$85.92 billion)	100%
Total	45,889,707,439	20.07%	92,381.85 (US\$1,086.79 billion)	12.95%

Figure 22.

Shift in the share of digital payments by volume and value across key use cases



It is estimated that digitizing 10 percent of Business and Person payments will lead to a saving of BDT crore +25,119 (US\$2,955.04 million) a year by reducing the cost of printing and handling cash.

5.2.1.1 Government payments: The government's digital payments accounted for an estimated 25.95 percent by volume and 57.89 percent by value across transactions

The government executed an estimated 120.15 million transactions with a value of BDT 4685.89 billion (US\$55.12 billion) through digital channels in FY 2020–21.

Comparison with the last diagnostic in 2016: The share of digital transactions grew from 1 percent of the volume in 2016, the year of the last diagnostic, to 25.95 percent in FY 2021, though it dropped slightly in value terms, from 69 to 57.89 percent.

The reasons for this shift include proactive measures by the government to modernize its systems for fund allocation and budgeting, digital disbursements of salaries and pensions, and a push toward disbursement of government schemes directly into beneficiaries' accounts, especially after the onset of COVID-19.

5.2.1.2 Business payments: An estimated 22.83 percent of payments by volume and 5.91 percent by value were made digitally across business payment use cases

An estimated 88.53 million transactions with a value of BDT 4071.39 billion (US\$47.89 billion) were carried out by businesses through digital channels in 2020–21.

Comparison with the last diagnostic in 2016: The volume of digital transactions by businesses increased at a CAGR of 17.73 percent, from 10.09 percent in 2016 to 22.83 percent in 2021. The percentage of digital transactions by value increased from 3.29 percent in 2016 to 5.91 percent in 2021.

Businesses in Bangladesh are integrating more closely with the global economy. RMG factories, one of the largest private sector employers, have been digitizing workers' wages. This has become a focus of implementation and compliance for these entities during the COVID-19 pandemic. Still, the percentage of digital wage payments by businesses decreased in volume, though they increased in percentage value, as many employers reverted to cash payments after the initial lockdown. Small businesses increasingly accept payments through MFS and cards. Bangladesh e-commerce has seen a rapid uptake during the past few years, picking up significantly after the onset of the pandemic. Though 80 percent of e-commerce payments are still made by cash on delivery, there has been a sharp increase in e-commerce payments through MFS and cards. Tax payments by businesses are mostly made manually, except for VAT and import/export duty payments.

5.2.1.3 Personal payments: An estimated 19.06 percent of payments by volume and 17.86 percent of payments by value were made digitally across person-based payment use cases

Personal payments using digital channels amounted to 712.49 million transactions with a value of BDT 2652.84 billion (US\$31.20 billion) across use cases during FY 2020–21.

Comparison with the last diagnostic in 2016: There was a steep increase in the personal digital transaction from the last diagnostic in 2016. Digital personal transactions have reached 19.06 percent by volume and 17.86 percent by value, while the share of personal digital transactions was 4 percent by volume and 2.5 percent in value in 2016.

The shift toward digitization is evident from the increase in domestic and international remittances through digital channels. Twenty percent of remittances are now made through digital channels. The value of such transactions, too, has increased sharply due to the dominant migration trend toward cities and overseas. Although overseas migration slowed in 2020 due to the pandemic, there was a large-scale uptake in digital funds transfer using MFS in both urban and rural areas. Similarly, card and MFS use gained popularity, especially in e-commerce transactions. Digital utility bill payments have been well-established over the last five years owing to the push by the government and products from MFS providers.

For instance, utility bill payments through MFS increased in value at a CAGR of 27.32 percent, from BDT 22.87 billion (US\$269.04 million) in 2016 to BDT 76.52 billion (US\$900.19 million) at the end of 2020.¹³³

Digital personal transactions have increased steadily for several reasons, including:

- Rising popularity of MFS and diversification of service offerings by service providers.
- Increased acceptance of digital payments by merchants, as seen in a 74 percent increase in the volume of merchant transactions from the pre-pandemic period.
- Gradual uptake of MFS by women in both urban and rural areas, with a 32 percent increase in the number of accounts owned by women between 2019 and 2020.
- Massive uptake in the usage of internet banking. The number of customers and transactions increased by 34 percent between June 2020 and June 2021.
- Government initiatives encouraging digital wage disbursements from May to July 2020, which subsequently decreased.
- Massive uptake in agent-banking network usage. The number of transactions using this network grew by 94 percent in June 2021, compared with June 2020. The value increased by 75 percent.
- A significant increase in digital social safety net payments – 22 percent in 2021 – and 100 percent digitization of government employee salaries and pension payments. Despite the surge in digital transfers of social safety net payments, challenges such as inactive mobile wallet accounts, incorrect NIDs, and incorrect phone numbers led to delays and failed payments.
- Policy interventions by the government, especially after March 2020. These include:
 - Disbursing of cash aid through MFS
 - Policy-enabling interventions, such as introduction of personal retail accounts for micro-merchants
 - Increased limits on internet banking and MFS transactions by the Bangladesh Bank.

5.3 OVERVIEW OF THE PAYMENT USE CASES IN BANGLADESH

Multiple payment streams across use cases have been moving toward digital. The uses considered in this report are:

Bulk Disbursements: This focuses on payment streams flowing from bulk payers such as governments, humanitarian agencies, and business entities to individuals and businesses. The payment streams in this category include government benefit payments, salary payments from government and businesses, humanitarian payments, and contractor payments. These payments are made primarily via credit transfers, pay orders, checks, and EFT to MFS or bank accounts. Checks, too, are used for payment for salaries by businesses and for some government benefits.

Consumer Payments: This focuses on payment streams flowing from people and businesses to entities such as governments and businesses. The payment streams in this category include taxes (individual and business), utility bills, school fees, and person-to-merchant payments. These are made through multiple modes, such as cash, credit or debit cards, internet banking, and MFS wallets.

Personal Payments: This focuses on people-to-people and business-to-business transactions. These are made through multiple modes such as cash, checks, internet banking, EFT, and MFS wallets.

The following sections discuss the multiple payment streams for the identified use cases based on the defined trajectory assessment model.

5.4 BULKDISBURSEMENTS

5.4.1 Trajectory of shift: Comparison of past and present

Table 8 depicts the key payment streams in the use case and a comparison of the percentage of electronic payments made across these payment streams in 2016 and 2020.

Table 8.

Payment data by payer and payee across the payment value chain in Bangladesh^{134,135,136,137,138}

Payment stream	Exists currently (infrastructure)	% electronic by volume (2016)	% electronic by volume (2020)
Salary payments (G2P, B2P)	Yes	36.4% for government, 10.16% for business	100% for government, 23.67% for business
Pension payments	Yes	0%	84.41% for government pensions
Social sector benefits, subsidy payments (G2P)	Yes	0.02% of all government transfers	21.94% for all government transfers
Supplier payments (G2B)	Yes	87.16% for government	90% for government

Government payments such as salaries, government benefits, and subsidy payments have seen a significant shift toward digitization in the past five years.

5.4.1.1 The government achieved 100 percent¹³⁹ digitization for wage payments to employees, up from 36.4 percent in 2016

This is due primarily to government initiatives for ICT infrastructure development, including the implementation of IBAS++, the financial MIS of the Government. The system enables budget distribution to line ministries, electronic interfaces with treasury banks, and an automatic calculation of salaries based on the employee database in IBAS++. The volume of digital pension payments increased to 84.41 percent¹⁴⁰ in 2020, from zero in 2016.

5.4.1.2 A government-mandated initiative to pay salaries and wages digitally, mainly in the RMG sector, led to the adoption of digital wage payments (EFT or MFS transfers)

Due to the government's mandate, digital wage payments in the RMG sector have increased. This can be seen in the increased volume of digital wage payments by businesses, from 10.16 percent in 2016 to 23.67 percent in 2021. The shift has been driven by smaller establishments' move from cash to MFS and many medium-sized establishments' move from checks to EFT or MFS.

The government's digital supplier payments, by volume, increased from 87.16 percent in 2016 to 90 percent in 2021.

5.4.1.3 A sizable portion of government-to-person (G2P) benefits and subsidies are now paid digitally.

Benefits and subsidies from the government constitute a sizable portion of the budget. Of all government transfers and benefits by volume, 21.93 percent,^{144,145} were paid digitally in 2021, compared with 0.02 percent in 2016. The scale of the increase can be gauged by the value of such digital transactions, which was just 0.81 percent of the total value in 2016.

The Department of Social Services has 52 social benefit and social safety net (SSN) programs, with 20,500,000 beneficiaries and an annual budget of BDT 16.20 billion (US\$190.57 million). All benefits are paid electronically. The highlights of the SSN program are:

- As of June 2020, BDT 6.86 billion (US\$80.70 million) has been delivered digitally; 58 percent of the funds went to women.
- As of June 2020, 1.14 million digital bank accounts have been opened for cash transfer recipients; 64 percent belong to women.
- As of September 2020, 5.53 million cash transfer recipient records have been verified digitally with national identification data; 58 percent of the data pertains to women.



SHEFALI DHAR

“My sons don’t want to go and collect my husband’s social security stipend, but ever since stipend payment has been digitized, we don’t have to travel anywhere or request anyone to help us.”

Shefali Dhar, 64, micro-merchant and spouse of a disability stipend beneficiary in rural Manikganj

Shefali runs a tea stall in Jabra Bazar, Manikganj district in Central Bangladesh, where she also sells basic grocery items. As a merchant, she has a turnover of US\$300 every month. Her 70-year-old husband is a beneficiary of a disability stipend under the social safety net program, which pays them US\$9 per month. Before digitization of Government-to-Person payments by the Government of Bangladesh, they had to travel to for two hours and had to spend US\$0.6 per visit to xxx. Sometimes they could not get there on time and failed to collect the stipend. Now the stipends are sent to her husband’s mobile financial services (MFS) wallet directly, saving them time, money, and effort. The discreet nature

of the transaction is also of great value to her since she wants to maintain confidentiality in her neighborhood about receiving government assistance.

During her younger days, she frequently used postal money transfer to send money to her family when she was traveling with her theatre group.

The couple do not use digital financial services for any other purpose other than receiving the stipend. They only rely on MFS agents they personally know to cash-out the balance and do not operate the account without assistance. For all other payment needs, like utility bills, grocery/medicine, they rely on cash. Even though Shefali was an early adopter of formal financial services because she used to send postal money transfers to her family during her younger days, she is not keen to learn and adapt to digital financial services and use them to their full potential. She attributes it to her age.

The Roadmap recommends investing in financial literacy of citizens, so that everyone can be self-reliant to operate their own accounts and wallets.

5.4.2 Impact of COVID-19 in Bulk Disbursements

The “bulk disbursements” case saw the steepest rise in the adoption of electronic payments, owing to the digitization of SSN payments and wage payments for RMG workers.

Data from the Bangladesh Bank published in October 2020 show the number of G2P transactions through MFS grew by 86 percent in the period before the onset of COVID-19, from 184 million in January–March 2020 to 342 million in April–September 2020.¹⁴⁷

In the same period, salary disbursements through MFS for private sector organizations and factories increased by 90 percent, from 1,139 million to 2,169 million transactions. The increase occurred primarily because RMG factories sought assistance from the government and shifted toward digital. Many factories, especially smaller establishments, reverted to cash payments once the government benefits stopped, primarily due to a lack of automated payroll processes and the reluctance by the factories and workers to bear the cost of cash-outs from mobile wallets. Wage disbursements through digital payments also face challenges of cash flow management for factories, as payroll funds need to be blocked by the digital payments provider at a certain cut-off date. There is no proper channel for grievance management for factory workers who face issues while transacting through MFS or for cases of fraud.

During the COVID-19 lockdown, the government gave monetary benefits to RMG factories to disburse wages digitally, but these were not available to informal RMG factories as they needed documents and payroll data. This affected wage payments in informal factories.

Development agencies played a major role in helping the government provide relief and new payment mechanisms for humanitarian payments to internally displaced and migrant populations. Aid agencies leveraged the MFS wallets of leading providers to disburse aid to flood- and cyclone-affected people during the first wave of COVID-19 in 2020. Agencies such as the WFP used QR codes to disburse food and relief aid in migrant camps to minimize contact and ensure social distancing.

5.4.3 Initiatives and innovations to accelerate the shift to digital

Bulk disbursements has witnessed a huge shift toward digital in the last five years. There have been multiple initiatives and developments to digitize bulk payments. These include the following:

- **Digitization of government cash transfer programs:** The government has been working toward bringing all major cash transfers under G2P programs. Currently, 70 percent of the social protection budget is under cash transfer programs. Most social sector schemes leverage NID to identify beneficiaries. Additionally, the Department of Social Services provides a unique 11-digit ID to all beneficiaries under its programs.
- **Disbursement of government COVID-19 cash aid through MFS:** The government disbursed BDT 2,500 (US\$29.41) to 5 million affected families during COVID-19 through a leading MFS provider in the country.¹⁴⁸ The recipients were not required to pay cash-out fees and NID verification ensured the benefits reached the right people. This increased users and built trust in digital payments.
- **Blockchain-based e-vouchers for aid disbursement:** The WFP has pioneered a blockchain-based solution for e-vouchers to distribute and track aid to the people in migrant camps. The e-voucher program is based on a blockchain-enabled platform and facilitates an open ecosystem in which multiple vendors can join the distribution program. Migrants wishing to purchase items can visit the outlets at the camps and prove their identity with a biometric scanner (QR codes were issued during COVID-19). The transaction is updated in real time on the e-voucher ledger, debiting the migrant aid digital wallet and crediting the vendor wallet.
- **Modernization of government ICT infrastructure:** The Government of Bangladesh, assisted by the ICT division and a2i, has pioneered innovative technology initiatives within its departments, processes, and systems. These include improvements in budgeting, payment processing, and reporting systems such as IBAS++, the MyGov services portal, and Government Enterprise Resource Planning.
- **Digital wage disbursement in RMG sector:** three million new MFS accounts were opened from April to November 2020, further digitizing the wage disbursements in the RMG sector. This initiative was pushed by the government as part of their stimulus package.

5.4.4 Gender perspective on digital payments usage

More women are now emerging as direct beneficiaries of government schemes and receiving wages in their own accounts. This is possible due to the growing number of financial accounts owned by women. MFS accounts owned by women grew by 21 percent¹⁴⁹ from 2019 to 2020. Growth in bulk digital payments can be primarily attributed to:

- Government transfers targeting women: new accounts were opened for the BDT 2500 (US\$29.41) COVID-19 benefit transferred by the government, the receipt of PESP, and secondary education stipends.
- Salaries and wages: new accounts were opened for digital transfer of wages, especially for RMG workers, which led to an increase of 21.41 percent in the number of accounts opened for women during July 2019 to June 2020.

Although account ownership among women for salaries, wages, and benefits has been increasing over the years, several factors limit women to own their financial accounts.

5.4.5 Challenges facing the shift to digital

- **Lack of a centralized database for government scheme beneficiaries:** It is necessary to harmonize the government beneficiary database and programs for digital payments. It is also imperative to identify a mechanism for building a common government beneficiary database, as 70 percent of the social protection budget is for cash transfer programs.
- **Inclusion and exclusion errors in social cash transfer programs:** Social aid beneficiaries are sometimes duplicated due to redundancies and exclusion errors in beneficiary selection and updating processes. There is a need for robust data collection, data filtering, and data management practices, starting from upazila and up to the central level.
- **Cash-out costs for businesses making digital wage payments:** Smaller establishments, especially RMG factories and small- and medium-sized enterprises (SMEs), are reluctant to pay through digital means because of the associated costs e.g., cash-outs), a lack of MIS systems for wage processing, and an absence of coordination with banking/MFS systems.
- **Insufficient digital acceptance and use cases:** Problems with digital acceptance pose the biggest barrier to the digitization of the payment value chain. The marginal RMG worker or teacher whose salary or benefits are digitized is almost certain to cash-out 100 percent of it on the very first day. Further digitization requires boosting the acceptance points and enabling use cases so that the money is spent digitally. This will require authorities to be more creative with aspects such as taxation and/or offering incentives to ecosystem players and stakeholders.

5.5 CONSUMER AND COMMERCIAL PAYMENTS

5.5.1 Trajectory of shift: Comparison between past and present outlook

Table 9 depicts the key payment streams in this use case and a comparison of the percentages of electronic payments made across these payment streams between 2016 and 2020.

Table 9.

Payment data by payer and payee across the key payment value chains in Bangladesh ^{150,151,152,153,154,155,156,157}

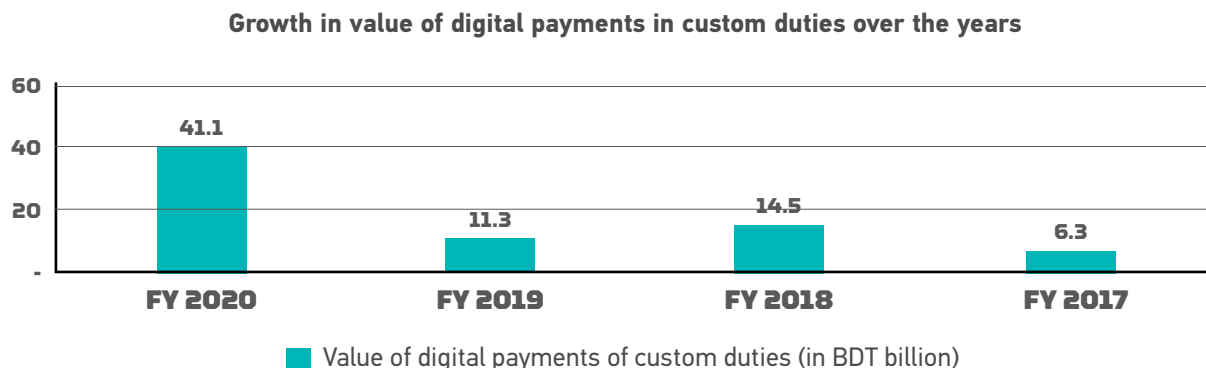
Payment stream	Exists currently (infrastructure)	% Electronic by volume (2016)	% Electronic by volume (2021)
Collection of taxes (P2G, B2G)	Yes	Almost 0% since the channels are yet to be considered viable by payers	<p>Personal income taxes are not paid digitally</p> <p>50.47% of VAT payments are paid digitally by volume</p> <p>11.17% of import duties are paid digitally</p>
Utility bill payments (P2B, B2B)	Yes	8.3% of all utility payments	15.18% of P2B and 17.70% of B2B% utility payments
Collection of school fees	Yes	3.71% of all school fee payments	9.60% of private school fee payments

5.5.1.1 The government has started to lay the foundation for digitizing import and excise duties for companies, with 11.57 percent of the duty payments digitized

The transition to digital tax payments is expected to have a significant impact on internal revenue collection, by making it simple, convenient, and cost-effective. According to the National Board of Revenue (NBR), 7 percent of the duties were paid digitally in the July–March period of FY 2019–20.¹⁵⁸

Figure 23.

Growth in value of digital payments of custom duties over the years



5.5.1.2 Personal and company tax payments in Bangladesh are still paid offline as of March 2021, with the exception of VAT payments and import duties, which are online

There are plans to make all tax payments (e.g., income tax, customs, VAT) digital. VAT payments have been online since July 2020.¹⁵⁹ The NBR launched an automated challan (a-challan) system that allows individuals and businesses to pay taxes and fees through banking and MFS. The digital payment option for taxpayers is in addition to the options of cash, checks, and account debits. Through the a-challan system, taxpayers can pay 196 types of government fees and taxes¹⁶⁰ (such as VAT, land registration, and vehicle registration fees) from any branch of either the Bangladesh Bank or commercial banks.¹⁶¹

5.5.1.3 In 2016, only 8.36 percent of utility payments were paid digitally. However, 17.7 percent of B2B utility bill payments and 15.18 percent of P2B utility bill payments were paid digitally in 2021 through MFS wallets and the ekPay platform

In 2016, utility bill payments via digital channels were driven primarily by the private sector acting as collection agents. The sharp increase in utility payments using MFS accounts also contributed significantly to this. The number of utility bill payments using MFS accounts increased by a massive 125 percent in FY 2020–21 from FY 2019–20.¹⁶² Similarly, the value of utility payments using MFS accounts increased by 68 percent during the same period.¹⁶³

The government's bill payment platform, ekPay, has helped immensely in this digital transition. The platform was created based on the Bangladesh Government's vision of "Digital Bangladesh" to allow users to pay fees for all government services, including utility

bills, through a centralized platform. The platform offers bill payment solutions through ekPay via 50 assisted agents, 50,000 syndicated agents, 15 banks, and 30 service providers.¹⁶⁴ The platform has 18 utility companies, of which 8 are active.¹⁶⁵ Bill payments are made seamlessly from digital instruments such as debit cards, bank accounts, credit cards, and MFS accounts.

Customers receive payment confirmation from both ekPay and the biller. However, customers may still experience issues, which may turn into complaints or grievances. If a transaction fails, the bill amount is reimbursed into the wallet immediately in the case of transactions originating through MFS accounts. Customers can use the helpline to address complaints or concerns.

The sustainability of ekPay depends on their plans for service charge implementation for banks and MFS. A portion of the service charges will go to the platform. The platform imposes no charges on customers. ekPay offers bill payment incentives for agents, but customers are not charged for the services.

Revenue collection through taxes and duties along with utility bill payments has provided a much-needed impetus to digital payments. As is evident in both cases above, digital systems along with an enabling environment can change the behavior of customers and businesses.

5.5.2 Impact of COVID-19 on different payment streams

As the pandemic restricted trade and commerce across the country, a sudden spurt in e-commerce and electronic merchant payment transactions occurred. This is evident from the volume of MFS-based merchant payment transactions, which increased by 72 percent, from 562 million (January to March 2020) to 964 million (April to October 2020).¹⁶⁶

MFS proved to be a great enabler for digital payments during the pandemic. Utility bill payments through MFS increased by 74 percent, from 449 million (January to March) to 782 million (April to October) in 2020.¹⁶⁷ The latest available data from the Bangladesh Bank show that 6.97 billion utility bill payment transactions with a total value of BDT 8.34 billion (US\$98.11 million) were completed in December 2020. This rose to 9.26 billion transactions, with a value of BDT 11.07 billion (US\$130.22 million), in May 2021. The government's ekPay platform now registers 0.2 million transactions per month.

5.5.3 Initiatives and innovations to accelerate the shift to digital

- **Online tax payment system by NBR:** There are 1.5 million taxpayers in Bangladesh.¹⁶⁸ The e-payment initiative aims to

create an online connection among taxpayers in all 649 territorial tax circle offices,¹⁶⁹ including 11 survey circles.¹⁷⁰ The circle offices will share information to ease the process. The system is expected to ensure better revenue distribution, a more efficient collection of revenue, a more user-friendly service, better fraud detection, a higher rate of collection, standard solutions for all tax types in the tax system, integrated solutions for all revenue types, significant decreases in costs, and faster tax collection.

- **Guidelines for a mandatory shift to tax e-payments:**

According to an NBR decision, digital payments for VAT amounting to BDT 10 million (US\$117,641.66) and above in a-challan will likely be mandatory next year. Digital payment of customs duties and taxes above BDT 200,000 (US\$2,352.83)¹⁷¹ will also be made mandatory, with all customs houses and stations implementing the e-payment system. The NBR plans to make a-challan mandatory for individual taxpayers.

- **Easier account opening process for micro-merchants:** The Bangladesh Bank eased accounting for micro-merchants at MFS providers, banks, and other PSPs by demanding only NID and a statement of trade. This simplified account opening for small merchants and facilitated digital payments at merchant outlets.

- **ekPay, bill payment gateway in Bangladesh:** ekPay, an a2i initiative for utility digital bill payments, was launched in October 2019. It is being scaled and developed to offer comprehensive bill payment services for the government and billers. It allows customers to make seamless bill payments from cards, bank accounts, credit cards, and MFS accounts without incurring charges. The government is leveraging the outlets of major MFS providers to popularize the services. The platform clocked 866,201 transactions in 2020, with a total value of BDT 1.92 billion (US\$22.58 million).¹⁷²

- **Bangla QR for merchant payments:** The Bangladesh Bank launched Bangla QR, an interoperable two-dimensional code for safe, contactless, and secure transactions at merchant outlets. It is expected to increase acceptance of payments at merchant outlets and emerge as a cheaper alternative to POS devices. It will ease the process for customers, who can pay through instruments such as bank accounts, debit cards, credit cards, prepaid cards, MFS accounts, and e-wallets. Payment networks such as card providers and fintech firms have formed partnerships with MFS providers and banks to enable customer transactions using Bangla QR.

- **Increased transaction limits and charge waivers:** In March 2020, the Bangladesh Bank issued a directive to waive charges for debit and credit cards for purchase of essential goods and medicines. Near-field communications card transaction limits have increased from BDT 3,000 (US\$35.29) to BDT 5,000 (US\$58.82).¹⁷³

Easy merchants' application from SSLCOMMERZ

SSLCOMMERZ rolled out Easy, an app for merchants, a free mobile application that has a digital credit information tracker and eliminates the creditor's need to maintain physical records. This helps merchants understand the utility of digital tools. A database of customers and suppliers can be generated through the app. The app sends notifications about due dates for payment.

Easy has seen early success. It has a coverage of 20 percent of the merchants associated with SSLCOMMERZ.

5.5.4 Gender perspective on digital payments usage

Women have gradually transitioned toward digital payments. This is evident from the increase in the number of MFS accounts and banking accounts owned by women, leading to greater female ownership of credit and debit cards and their usage for e-commerce and merchant payments.

Women have emerged as key players in the country's small business and f-commerce, a segment which has already adopted digital payments from its inception. MasterCard estimates that women own 80 percent of f-commerce businesses, while a2i says 400,000 women merchants conduct their business through f-commerce in Bangladesh, up from 30,000–40,000 in 2019.

Most of these businesses do not have a formal financial account and lack a trade license, which is needed for opening financial accounts. However, they are likely to open more formal financial accounts due to the new easing of the norms for opening accounts for small and micro-merchants.

Most of these businesses require access to credit but cannot use the formal financial channels. The Government and digital payments providers have tried to give them the resources and help them build capability.

For instance, a leading MFI is building a product based on the financial information, such as earnings and credit information, of women obtained from delivery companies through which they facilitate their trade (f-commerce and e-commerce businesses). This would allow the MFI to provide funds to women without collateral, as the MFI would have sufficient credit information. Delivery companies would help the MFI recover the loans.

5.5.5 Challenges facing the shift to digital transactions

- **Concerns about data protection and security:** With the increase in transactions via digital media and the sharing of financial information at agent outlets, there is risk of personal data leakage and cybersecurity issues. These concerns must be addressed by financial service providers.
- **High cost and lack of trust:** Most transactions through e-commerce platforms are paid for by cash on delivery. This is due to the highly informal nature of the sector despite the presence of national and international e-commerce giants. Although digital payments usage in e-commerce has increased, the cost of compliance and transactions, especially for credit and debit cards, limits acceptance by smaller merchants. The Government plans to introduce an escrow policy to address the trust issues between buyers and sellers on e-commerce platforms.
- **No explicit incentives:** There is a need to incentivize digital payments, especially among small merchants and informal e-commerce players who rely on cash. Incentives will help offset the costs related to cash usage (e.g., handling, transparency).
- **Lack of customer-centric use cases and awareness:** The lack of use cases and digital payments uptake among customers, due to a lack of awareness and the costs of usage, are deterrents to the proliferation of digital payments beyond cash-out.
- **Lack of digitization:** Leading firms are taking initiatives to streamline and digitize their supply chains. New solutions and platforms for dedicated payment processing for B2B transactions have been proposed during stakeholder discussions as part of the primary interviews. For instance, Unilever started a B2B platform, Lever Bazar, through which retail outlets can place direct orders with the nearest distributor. Unilever receives 5 percent of its orders through this application. It aims to increase the adoption of Lever Bazar to 60–70 percent of the total orders in three to four years. It has focused on providing application training to retail outlets. Due to the COVID-19 pandemic, the use of the Lever Bazar platform saw a spike, as more retailers opted for it over the conventional purchase model.¹⁷⁵

5.5.6 Personal payments:

Personal payments rose sharply during and after the COVID-19-imposed lockdown.

5.6 REMITTANCES

5.5.1 Trajectory of shift: Comparison between past and present outlook

Table 9 depicts the key payment streams in this use case and a comparison of the percentages of electronic payments made across these payment streams between 2016 and 2020.

Table 10.

Payment data by payer and payee across the payment value chains in Bangladesh ^{176,177,178,179,180}

Payment stream	Exists currently (infrastructure)	% Electronic by volume (2016)	% Electronic by volume (2021)
Domestic remittances (P2P payments)	Yes	10.79%	19.81%
International remittances	Yes	11.07%	24.20%

The payment use cases, especially domestic and international remittance payment streams, have seen strong growth over the last few years. Domestic person-to-person payments increased sharply, with the volume of P2P payments using MFS growing by 69.3 percent from December 2018–November 2019 to December 2019–November 2020. The volume increased further, by 24 percent, from December 2020 to May 2021.¹⁸¹

5.6.1.1 Digital domestic P2P transfers accounted for 10.79 percent of the volume in 2016, which increased to 19.81 percent by 2021

Even though digital person-to-person payments have been growing at a significant pace in the past few years, the use of cash is still dominant. This transaction mode remains popular due to the entry of multiple service providers and because most P2P transfers are offered free of charge by MFS providers. The onset of the COVID-19 pandemic and a push toward digital transactions gave a further impetus to digitization, which led more people to use MFS.

5.6.1.2 Digital international remittances grew from 11.07 percent in 2016 to 24.20 percent in 2021

International remittances have been growing in value, with a 12 percent increase from FY 2018–19 to 2019–20. The values increased by 13.5 percent, from BDT 1545.23 billion (US\$18.17 billion) in FY 2019–20 to BDT 2101.30 billion (US\$24.72 billion) in FY 2020–21, with a strong fund inflow from the migrant population.

Foreign remittances have been a key contributor to Bangladesh's economy, amid an increase in the number of migrants searching for better opportunities in other countries. Most of the increase in remittances, especially in the last year, is attributable to the increased support extended by migrants to their families in the wake of the pandemic.

Data from the Bangladesh Bank show domestic payment transfer volumes doubled during the first lockdown, from 22.43 million in May 2019 to 40.34 million in May 2020. More people carried out payments using their mobile devices owing to the restrictions on movement. Payment transfers were agent-assisted in many cases because the government limited commercial banking operations during the two-month lockdown. MFS agents, as third-party entities, were allowed to continue their operations. This led to a surge in payments and other transactions through MFS.

Data from the Bangladesh Bank show inward foreign remittances in accounts through agent banking increased by 3.3 times. In total, remittances worth BDT 39.4 billion (US\$463.51 million) were received in May and June 2020, compared with BDT 11.78 billion (US\$138.58 million) in May and June 2019.¹⁸² Seventy percent of the remittances in agent-banking accounts were received in rural areas.

5.6.2 Initiatives and innovations to accelerate the shift to digital

The Government and private sector have implemented multiple initiatives to develop the overall payments ecosystem. Many of these were initiated before and during the onset of COVID-19 to provide better services for person-to-person payments. Some of the initiatives were:

- **Increased transaction limits:** In March 2020, the Bangladesh Bank increased monthly transaction limits on P2P transactions through MFS, from BDT 75,000 (US\$882.31) to BDT 200,000 (US\$2,352.83), to facilitate digital transactions amid the COVID-19 restrictions. The daily limit for internet banking increased from BDT 200,000 (US\$2,352.83) to BDT 500,000 (US\$5,882.08), with the doubling of the ceiling of a single transaction to BDT 100,000 (US\$1,176.41).
- **Cash incentive for inward foreign remittances:** To promote formal financial channels for receipt of foreign remittances, the Bangladesh Bank established a 2 percent cash incentive for inward remittances.

5.6.3 Gender perspective on digital payments usage

Women are at the center of personal payments. A large diaspora of Bangladeshi nationals across the world is engaged in many professions, and people migrate from villages and towns to cities for employment.

The women left back home play a key role in handling household finances. Women are gradually acquiring an equal footing in the formal financial ecosystem, holding 48 percent of MFS accounts and 42 percent of agent-banking accounts.¹⁸³ Ownership of these accounts among rural women has also been increasing.

Women, especially those from the rural areas and smaller towns, are rapidly emerging as small merchants, both offline and f-commerce. According to a2i estimates, 400,000 Bangladeshi women merchants are active in f-commerce. These informal businesses rely heavily on cash-based transactions to pay their suppliers and receive payments from their customers because they lack financial accounts, digital devices, and awareness of digital payments. The Government and private sector have offered sensitization and training programs to address these problems, and the Bangladesh Bank has eased account opening for merchants. However, challenges remain, and change is expected to be gradual as the ecosystem develops through interventions by the Government and digital payments, as well as greater awareness, habituation, and social change.

5.6.4 Challenges facing the shift to digital

Though personal payments, especially domestic and international remittances, have shown a healthy growth over the years, many are still OTC payments. Low awareness and weak incentives are barriers to digitization of remittances:

- **Low awareness:** Many customers still prefer to transact in cash and avoid making high-value payments through MFS channels due to a lack of trust in the system. Although a large section of the population is now financially included, a significant proportion (34 percent) is still unbanked. The unbanked section uses informal channels to make and receive remittances and ends up paying a higher cost.
- **Cost of cash-out:** Customers face high cash-out charges, reaching 1.85 percent¹⁸⁴ of the transaction amount for some leading providers, and therefore avoid high-value MFS transfers.
- **Weak incentives:** The Government announced a cash incentive of 2 percent¹⁸⁵ from financial year 2019–20 on inward foreign remittances through formal financial accounts. Most MFS providers levy no charges for domestic funds transfer. However, the incentives are not lucrative enough, and the communication channels used to popularize them are ineffective.
- **Informal channels for cross-border remittances:** Due to the high charges for cross-border remittances made through formal financial service providers, many such remittances are received through informal channels.

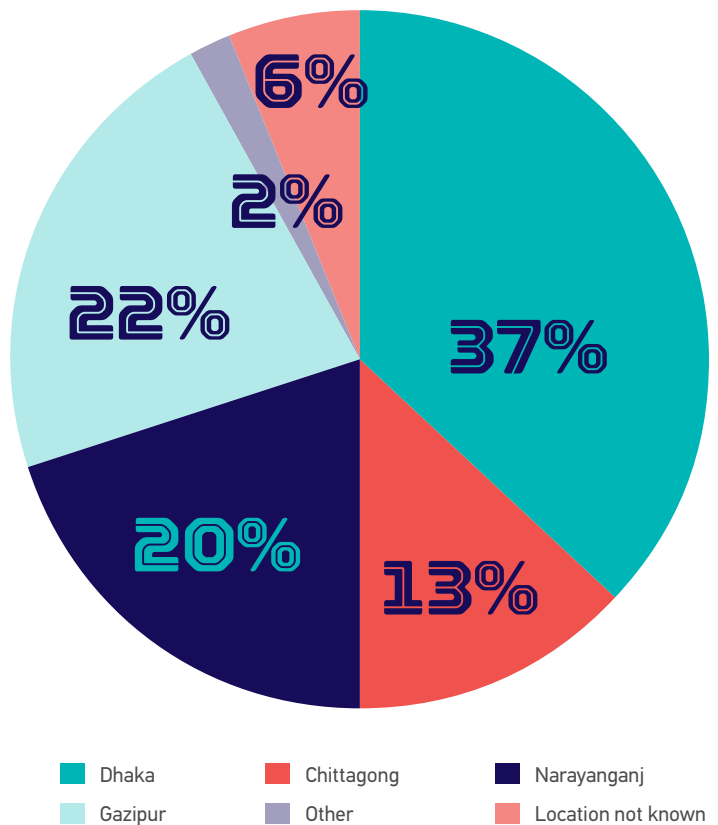
6.1 Ready-made garments

The RMG sector in Bangladesh began in the late 1970s with a minor export base. Over the years, it emerged as a promising driver of economic development.

According to a 2018 CPD-RMG study, there were 6,821 RMG factories in the country. Most (92 percent) of the nation's RMG factories operate in four districts: Dhaka (37 percent), Gazipur (22 percent), Chittagong (13 percent), and Narayanganj (20 percent). A few others are in districts such as Mymensingh, Narsingdi, Tangail, Manikganj, and Munshiganj, with head offices in Dhaka and nearby areas. Dhaka has the most RMG factories (37 percent), followed by Gazipur (22 percent) and Narayanganj (20 percent).¹⁸⁶

Figure 24.

Number of RMG factories



According to a study by the NYU Stern Center for Business and Human Rights in 2020, 3,800 RMG factories in Bangladesh, 55 percent, are indirect factories – that is, subcontracted by Tier 1 factories. A third of these indirect factories are informal and not registered with the authorities.¹⁸⁷

6.1.1 The RMG sector has emerged as a key contributor to Bangladesh's export earnings and provides livelihoods for a vast labor force

The RMG sector in Bangladesh employs 4.1 million people¹⁸⁸ and is globally recognized. It has been growing rapidly, accounting for 83 percent of the country's exports in the year 2019–20, and is ranked second globally. The factors for its success are presented in figure 25:

Figure 25.

Factors in the success of RMG

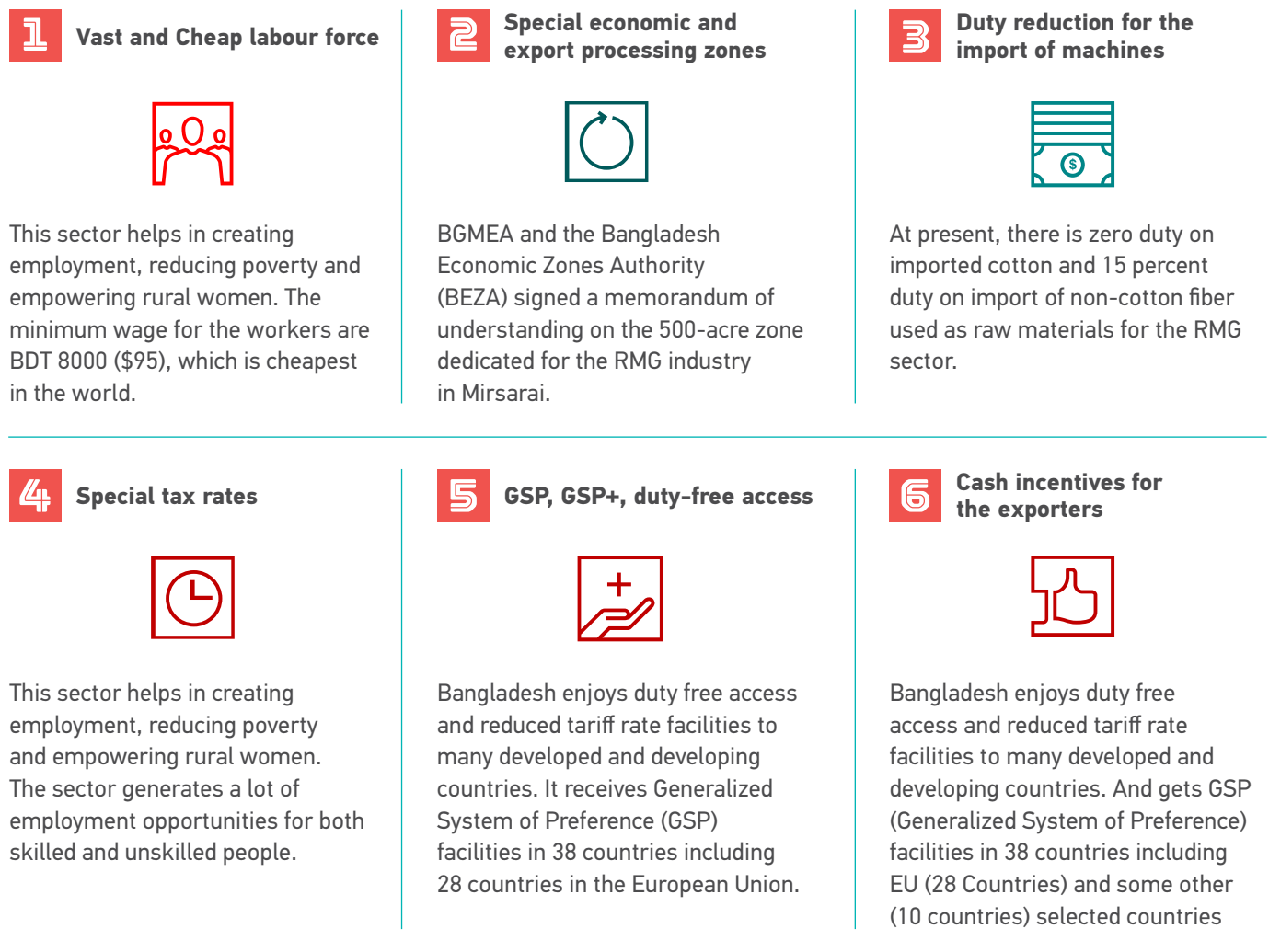
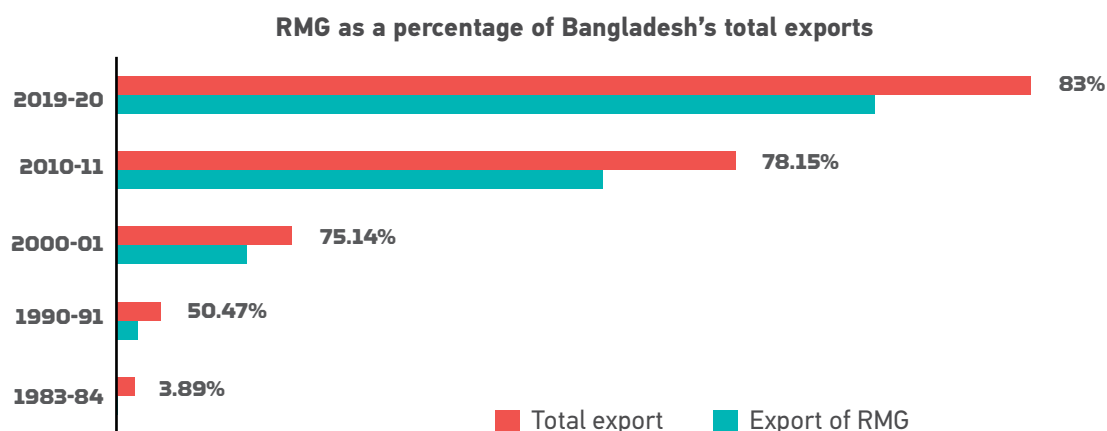


Figure 26 shows the steady growth of the RMG sector's share in exports. It contributes around 10 percent to the GDP of Bangladesh.

Figure 26. **RMG as a percentage of total exports**¹⁸⁹

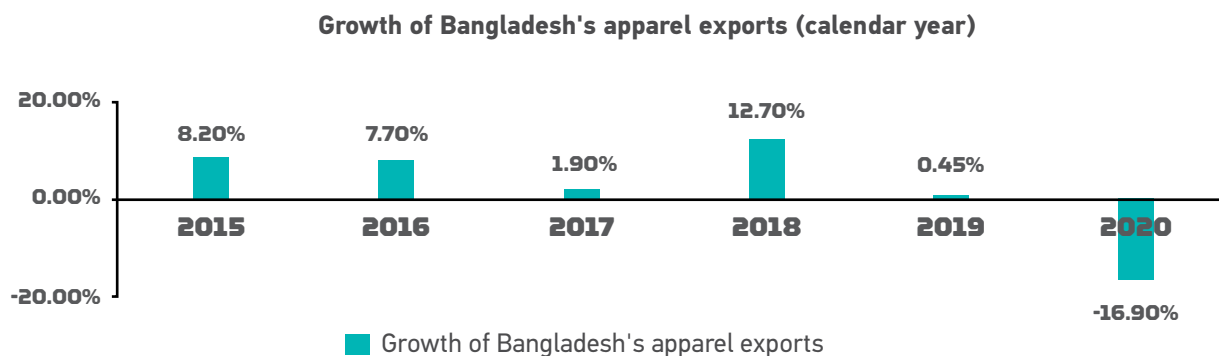


Further data on the sector's export performance in the last couple of years includes:

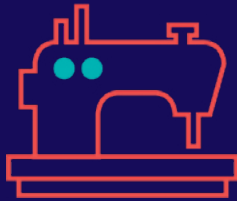
- In FY 2019–20, the RMG sector, reeling under COVID-19, saw its exports decline to US\$27.95 billion, from US\$34.13 billion in FY 2018–19.
- In March 2020, RMG exports fell by 20.14 percent from the March 2019 level.
- Bangladesh RMG exports to the European Union (EU), its largest market, declined by 18.87 percent in FY 2019–20, to US\$17,146.18 million.
- RMG exports to the United States decreased in FY 2019–20 by 16.09 percent, to US\$5,146.53 million.
- RMG exports to the rest of the world (except for the EU, the United States, and Canada) decreased by 15.95 percent in FY 2019–20 from their FY 2018–19 level.¹⁹⁰

Figure 27 presents data on the growth of Bangladesh's apparel exports, which dropped significantly in 2020 due to the pandemic.

Figure 27. **Growth of Bangladesh's apparel exports**¹⁹¹



On September 13, 2018, the Government set BDT 8,000 (US\$94.11) as the minimum monthly wage for workers in the RMG sector. The new wage structure came into effect on December 1, 2018, and workers have been receiving their new salaries since January 2019.¹⁹²



RMG SECTOR

Key Facts

4.1
million
Employed

27.95
billion
US\$ Export

87%
Paid digitally
during COVID-19



3 million RMG workers opened MFS accounts during the pandemic; 1.92 million in the first 15 days of April 2020



BDT 45.9 billion i.e. US\$539.97 million (6.5 million volume) in wages were disbursed through MFS accounts in July 2020, powered by the Government's stimulus package



As the Government's stimulus ended in July 2020, wage disbursements through MFS accounts dropped to BDT 20.2 billion i.e. US\$237.63 million (3.3 million volume) in November 2020



Digital payments in RMG are limited by the cost of usage, lack of digital literacy, mistrust in the services, and operational challenges at the service provider's end



Around 59% of women working in the RMG sector believe that using digital payments will provide them with full control over their funds



MOUSHUMI AKHTAR

“The first time when we received our wages digitally, it was a thrilling experience. I kept on looking at my phone few times every minute!”

Moushumi Akhtar, 29, ready-made garment factory worker, Dhamrai

Moushumi works at a formal export-oriented readymade garment factory in Dhamrai sub-district. She and her husband, who also works in a ready-made garment factory, earn about BDT 26,000/US\$310 per month. Since early 2020, both of them have been receiving wages directly into their mobile financial services (MFS) wallet.

Moushumi goes to the automated teller machine outside her factory premises to cash-out when she needs money. She is a local in the area, owns a house, and does not have the urgency to cash-out at the beginning of every month to pay rent. She is not using the MFS wallet as a savings tool but keeps some funds in it for emergencies and to recharge her mobile phone. She finds it beneficial to not have to share her number with anyone to replenish her mobile balance. This is a common safety concern for women.

For regular savings, she maintains a Deposit Pension Scheme (DPS) account with a bank. She sometimes deposits DPS installments using her MFS wallet. Although she has a smartphone, she prefers using the USSD menu to browse the internet, as using apps consumes mobile data.

In the initial days, representatives from the MFS provider frequently visited the factory to educate the workers on how to use the wallets and answered and resolved any problems with their accounts. Because of this interaction, she and her colleagues feel well-equipped to operate their wallet and can usually detect if any scammer is trying to trick them. Last year, when she received a call from a scammer, she reported it to the factory manager.

She recollects that they were excited and anxious at the same time when they first heard about the transition from cash to digital wage payment. Some of her colleagues called their factory manager for reassurance that everything will be fine and they will be able to access their funds instantly. After having used it, she attests that it was the right decision by the factory management.

Moushumi exemplifies that a woman who owns a valid ID, has basic literacy, and has access to her own device can use financial services with autonomy.

6.1.2 The impact of COVID-19 on the RMG sector includes a decline in raw material import and export, losses in the informal RMG sector, layoffs, and a sudden adoption of digital wage disbursement by factories

The Bangladesh Garment Manufacturers and Exporter Association (BGMEA) had to lock down garment factories due to COVID-19.

- **Supply chain inefficiencies:** The pandemic highlighted the importance of strong relationships. From January to February 2020, supply of raw materials drastically declined due to lockdowns in China. The reliance on Chinese raw materials forced suppliers in Bangladesh into losses. Many orders were cancelled or deferred. The country needs to consider alternatives to raw materials from Chinese suppliers.
- **Sizable losses:** The RMG industry is believed to have suffered a revenue loss of US\$5.6 billion.¹⁹³ According to BGMEA, international buyers either cancelled or suspended US\$3.16 billion worth of shipments, involving 1,142 factories and affecting 2.26 million workers as of April 18, 2020.¹⁹⁴ The sector is expected to return to its normal trajectory soon after economic activity across the globe resumes.
- **Decline in exports:** During April 2020, the country's RMG export growth suffered an unprecedented decline of 84.86 percent (BGMEA, 2020), mainly because of cancelled orders and delayed shipments.¹⁹⁵
- **Layoffs:** According to the Garment Workers Trade Union Centre, at least 30,000 workers were laid off during the first four weeks of the shutdown.¹⁹⁶ Ten million people, including RMG workers, returned to their hometowns from Dhaka as they were unable to support themselves without work.¹⁹⁷
- **Livelihood challenges:** Workers suffered a decline in their living standards because of disruptions in the supply chain. Delayed payments made it difficult for them to pay rent or buy food and other amenities. The wage subsidy covered only 65 percent of wages. Very few workers, especially women, earn enough money to accumulate a financial safety net. A HERproject study found 54 percent of male workers and 40 percent of female workers were cutting down on food expenses.¹⁹⁸
- **Severe effect on informal RMG sector:** COVID-19 showed a lack of trust between employers and workers. Informal RMG factories, which are not members of BGMEA or Bangladesh Knitwear Manufacturers and Exporters Association, received no benefit from the Government's stimulus package. This caused heavy unemployment and highlighted the need for social protection programs for RMG sector workers.

There have been a few positives as well, such as increased digitization of wage disbursement in the sector and support from importing countries.

- **Increased digital wage acceptance:** The Government's stimulus package provided BDT 50 billion (US\$588.20 million) for export-oriented sectors, particularly the RMG sector. Factories had to disburse wages digitally through either mobile money accounts or bank accounts to be eligible for the benefits. This gave an unprecedented boost to MFS accounts. During the peak of the pandemic in July 2020, 87 percent of wage payments were made digitally in the sector.¹⁹⁹
- **Support from importing countries:** The EU provided a EUR 113 million grant for three months' wages to be paid to the 1 million RMG workers laid off during the pandemic.²⁰⁰

6.1.3 The government-initiated tax deferment, sector stimulus packages, and mandated digital wage disbursements to soften the impact of COVID-19 pandemic on the RMG sector

The Government and the Bangladesh Bank introduced several policies and financial measures to help the country face COVID-19. By November 2020, the Government had provided stimulus packages worth BDT 1,213.53 billion (US\$14.27 billion), which is 4.34 percent of the country's GDP.²⁰¹

Interventions to mitigate the effects of COVID-19:

- Deferment of VAT and quarterly Advanced Income Tax payments by factories to June 2020 to provide them with cash liquidity for essential expenses, including wage payments.
- Government packages:
 - BDT 50 billion (US\$588.20 million) for export-oriented industries to pay wages for three months. This was in the form of two-year loans to factory owners at a nominal interest rate of 2 percent.²⁰²
 - BDT 300 (US\$3.52 billion) billion for banks to provide working capital loans to affected industries. Loans under this package had an interest rate of 9 percent, half of which was borne by the borrower and the other half by the Government.²⁰³
 - Under the back-to-back letter of credit arrangement, the Export Development Fund of the Bangladesh Bank increased from US\$3.5 billion to US\$5 billion to facilitate import of raw materials. The interest rate was 2 percent. Prior to this, the interest rate was set in accordance with the London Interbank Offered Rate plus 1.5 percentage points, which came to 4 percent.²⁰⁴

- Wage disbursement:
 - The guideline for the disbursement of the BDT 50 billion (US\$588.20 million) stimulus package stated that salaries would be paid to workers directly through either a bank or an MFS account. Therefore, MFS providers witnessed a surge in the number of customers. They added 7.45 million new mobile money accounts during April to July 2020. This figure grew to 12.7 million by November 2020,²⁰⁵ taking the total number of registered mobile money accounts to 97.8 million.²⁰⁶
 - A large percentage of female workers in the RMG sector are not part of the formal financial system and rely on their spouse or family members for use of mobile phones. COVID-19 worsened their situation. Thus, women were encouraged and enabled to open their own payroll accounts and access their wages – remitted as part of the stimulus program – digitally. It is important to build women’s capability so that they are comfortable using their new accounts and do not hand over control to others. During April–July 2020, 3.2 million women across the country, including RMG workers, opened new mobile money accounts.

6.1.4 Adoption of digital payments in RMG picked up sharply as COVID-19 began (82 percent of workers received wages digitally) but dipped soon after²⁰⁷

Bangladesh’s RMG sector is witnessing a surge in digital payments by workers and factory operators. Although there are 15 licensed MFS providers in Bangladesh, as of 2020, only bKash, Rocket, and Nagad are actively digitizing wages for RMG workers.

Digital wage payments give workers more control over their income and greater access to financial services. They also ensure correct and timely wages and benefits. The Government, global RMG brands in the country, the International Labor Organization, BSR’s HERproject, and Better Work came together for a summit in November 2019 and committed to removing roadblocks and ensuring that 90 percent of RMG workers were paid digitally by 2021.²⁰⁸ The Alliance led the summit in collaboration with BGMEA.

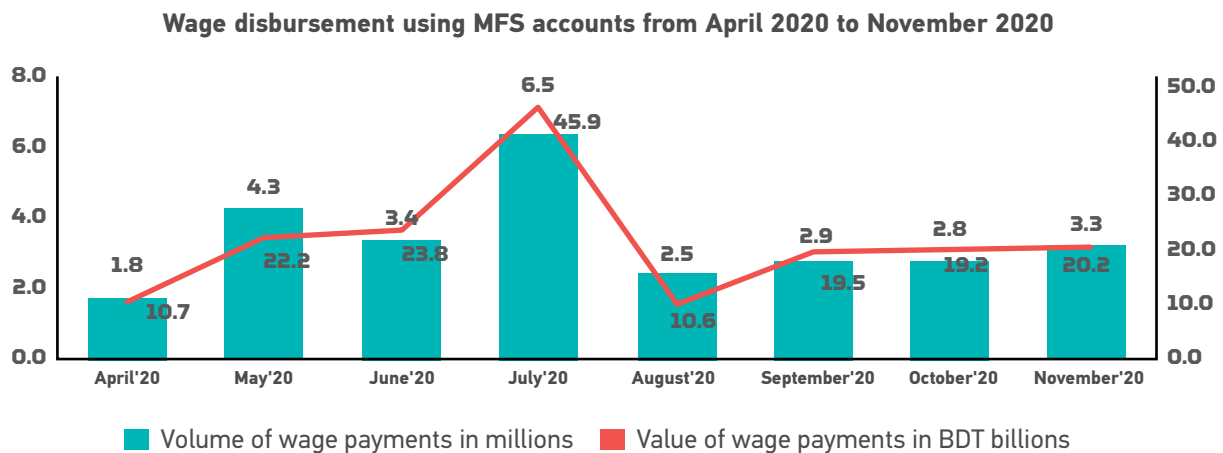
The Government’s stimulus package of BDT 50 billion (US\$588.20 million) to pay workers’ wages in export-oriented sectors during the pandemic, with the condition that wages be paid digitally to ensure transparency, gave this initiative a new life.²⁰⁹ In April 2020 alone, a whopping 1.92 million mobile accounts were opened in Bangladesh.²¹⁰

However, as the Alliance report, “Responsible Digital Wages in RMG Sector of Bangladesh”, shows, just 54 percent of the workers in the sector received wages digitally in November 2020.²¹¹

During the pandemic, 3 million RMG workers opened MFS accounts.¹²¹ In July 2020, salaries disbursed through MFS totaled

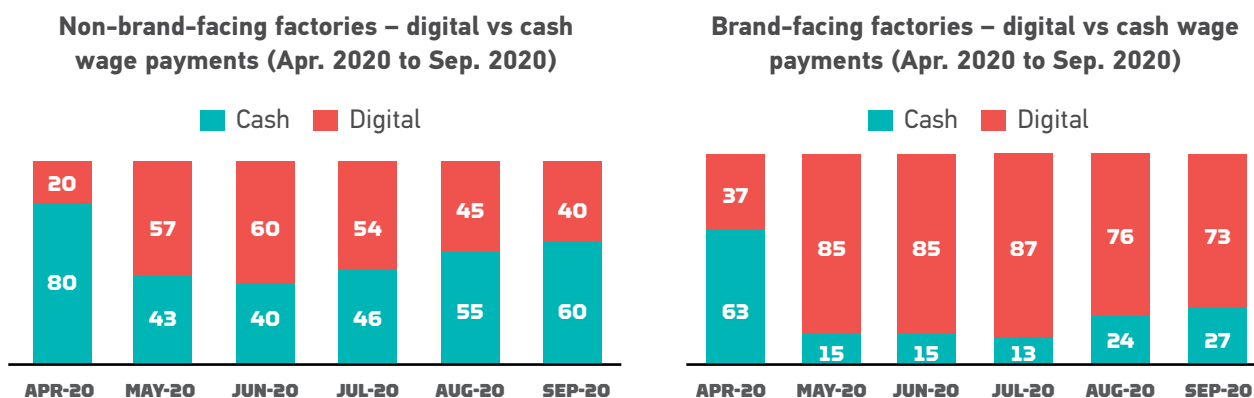
BDT 45.9 billion (US\$539.97 million), which fell to BDT 10.64 billion (US\$125.1 million) in August 2020. When the Government incentive ended in July 2020, there was a steep decline of 61 percent in wage disbursements and a fall of 77 percent in the value of wage disbursements using MFS accounts. The graph below shows the rise and fall of wage payments using MFS accounts during the pandemic. The number of salary disbursements through MFS accounts increased significantly by 250 percent in July 2020 compared with April 2020, while their value grew by 330 percent.²¹³ However, the numbers dipped after the government's initiative ended in August.

Figure 28. **Wage disbursements using MFS accounts from April 2020 to November 2020** ²¹⁴



There was a massive shift toward digital wage payments to workers during the pandemic. Brand-facing factories were pioneers in this. While few brand-facing factories returned to cash-based wage payments after the government's incentive package ended, the majority of non-brand factories did so. Figure 29 compares cash to digital wage payments from April 2020 to September 2020 for non-branded and brand-facing RMG factories.

Figure 29. **Wage payments from April 2020 to September 2020 for non-brand and brand-facing RMG factories** ²¹⁵



Wage digitization can offer immense benefits to all stakeholders, especially in informal RMG factories, most of which pay wages in cash. Digitizing their wages can add BDT 2.5 billion (US\$29.41 million) to Bangladesh's official economy.

6.1.5 Digital payment usage in the RMG sector is limited by cost, lack of digital literacy and financial capability, mistrust in the services, and operational challenges at the service provider's end

Table 11 highlights the key challenges.

Table 11.

Key challenges regarding digital payment usage in the RMG sector

Challenge highlight	Challenge description (source: interactions with key government and private sector stakeholders)
Expansion and usage of digital payments	<ul style="list-style-type: none"> Limited penetration of universal photo ID Lack of enabling use cases: MFS providers need innovative products and services Insufficient digital payments acceptance infrastructure for merchants that is lean and cost-effective
Cost of digital payments services	<ul style="list-style-type: none"> MFS providers have gained a significant market share in digital payments, but high cash-out charges limit their usage, especially for the low-income people. The 15% VAT accentuates the problem.²¹⁶
Limited financial capability	<ul style="list-style-type: none"> Limited financial capability is a major deterrent. If stakeholders do not provide enough support, workers will simply withdraw their entire wages on payday.
Gender-specific challenges	<ul style="list-style-type: none"> Lack of access to mobile phones: A large percentage of women do not own a mobile phone and therefore find digital payments difficult. Lack of time: On average, married women in Bangladesh spend 22 hours per week on care work (cooking, cleaning, washing, childcare). Cash is more convenient for them, as using ATMs and finding agents cuts into whatever time they have on their hands. Lack of control over accounts: Gender role expectations restrict women's ability to take control of their finances. In Bangladesh, women are often expected to hand over part or all of their earnings to a family member and hardly participate in decisions about how their wages are spent.
Fostering fairer and equitable use of digital payments in the sector as defined in the UN Principle for Responsible Digital Payments	<ul style="list-style-type: none"> UN Principle for Responsible Digital Payments – 4: Safeguard Client Data: Users/workers do not trust MFS services fully. They also lack digital literacy, as workers divulge account-sensitive information to others, leading to fraud and losses of funds. UN Principle for Responsible Digital Payments – 2: Ensure Funds Are Protected: There is no separate customer protection policy for MFS, although the MFS guidelines have made MFS providers responsible for managing risks and handling customer grievances.
Operational challenges at the digital payment provider's end	<ul style="list-style-type: none"> Operational challenges: Liquidity crunches at the agents' end and easy accessibility to agent points.

6.1.6 Challenges remain to ensure equitable access to digital payments for women RMG workers

Though data from the Bangladesh Bank show growth in mobile money accounts owned by women, significant gender gaps of 8 percent persist due to lack of official ID and mobile phones. To achieve gender equality, the digital economy must offer tangible value that women can use in their day-to-day lives, and digital payments must become more secure.

Some of the challenges to equitable access to digital payments in the sector are:

- Many women RMG workers either do not have an account in their name or have an account controlled by someone else in the family.
- Women are reluctant to receive payments via digital means, as they do not want to disclose their income to their family members due to gender-specific social constraints. Most female workers do not have phone connections in their own names, meaning family members can access and control their accounts.
- MFS providers are yet to come up with innovative products or services that could make MFS a daily need for women and workers in general.
- The Microfinance Opportunities' Garment Workers Diaries²¹⁸ claim 59 percent of women feel digital wage payments give them more control over their money than cash wage payments do, while 70 percent of men feel that way.



6.2 AGRICULTURE

Agriculture is one of the mainstays of Bangladesh's economy and contributes 13.02 percent to the GDP (FY 2019–20 data). It employs 50 percent of people directly, and 70 percent of the population depend on agriculture for their income indirectly.²¹⁸ Stakeholders transact with each other through well-established modes. Digital payments can accelerate the process by which stakeholders, especially farmers, connect with their buyers, suppliers, and credit providers. Digital payments can provide a faster and more traceable realization of funds and help the Government provide aid transparently to the right people.

6.2.1 Bangladesh's agriculture sector has made steady progress in achieving food security

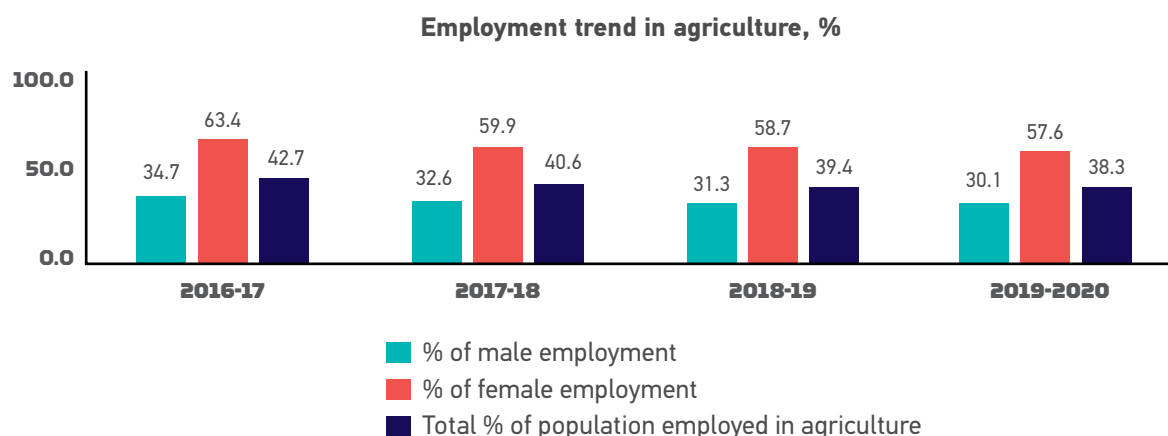
The value of agricultural production increased faster, at 3.54 percent per year in the last two decades (1999–2019),²¹⁹ than in other countries in the region.

The country has made great strides in agricultural productivity and sufficiency owing to Government policy support and the enterprising nature of the farming community. Most of the output comes from crops and horticulture, followed by fisheries and livestock. Fisheries have grown in tandem with the increase in per-capita income.

Agriculture and related activities have supported the livelihoods of a large portion of the population. The sector has also been one of the largest employers of women. However, this has gradually declined due to mechanization and urbanization, increasing literacy rates, and better opportunities in more organized and non-seasonal sectors. Figure 30, based on World Bank Findex data, depicts the employment trend in agriculture.

Figure 30.

Employment trend in the agricultural sector²²⁰





AGRICULTURE

Key Facts

13.02%
of GDP

**Crops
Largest
Contributor**

38%
**Population
Employed**



COVID-19 affected crop production, leading to labor shortages and emergence of new food supply chains



The government supported the agricultural sector with a stimulus package (BDT 50 billion i.e. US\$588.20 million from the Bangladesh Bank) and subsidies (BDT 90 billion i.e. US\$1.05 billion)



Credit disbursements by banks to the agricultural sector are growing; 27% of farmers' small value bank accounts receive subsidies digitally



Several initiatives by the government, private sector, and IDOs to support digital payments, capacity building, and expertise in ICT adoption and modern agricultural practices have been implemented

6.2.2 COVID-19 affected crop production, leading to labor shortages and the emergence of new food supply chains

COVID-19 affected crop production, disrupted the supply chain, decreased credit disbursements, and created labor shortages. Various impacts were evident:

- **Crop production:** The lack of farm workers during COVID-19 impeded the cultivation of staple crops such as rice, pulses, and vegetables. Bulk buying and hoarding by traders and the public increased the prices of essential food items.
- **Agricultural laborers:** The lockdown restricted the movement of farm labor, which led to a scarcity of laborers and a rise in labor costs.
- **Agricultural inputs:** The lockdown impacted farmers' access to quality agricultural inputs and fertilizers, leading to reduced crop yields, loss of crop diversity, and degraded soil quality.
- **Access to credit:** During the peak lockdown period, restricted mobility prevented banks and informal actors from lending money to farmers. This led to distress selling of machinery and livestock by farmers, or made them dip into their savings, eventually resulting in a cash crunch.
- **New service models:** The pandemic impacted food supply chains, especially in the informal and unorganized sectors in the rural areas. As farmers' incomes fell, they became desperate to sell their produce, especially perishables, due to disrupted local food supply chains and limited storage capacity. The Producer Organizations (POs) established 57 virtual call centers (VCCs) in eight high-poverty districts in the country to assist farmers. They established a virtual network connecting farmers with input suppliers and takers. Volunteers operated the VCCs. The POs worked closely with the local authorities to ensure uninterrupted transportation of produce and used mobile transfers through bKash, Rocket, and Nagad to maintain social distancing. They used Facebook and Messenger to share information and transaction records daily with marginalized farmers and used Zoom to organize regular virtual meetings. By the first week of August 2020, the VCCs had helped 30,000 small-scale farmers, 46 percent of whom were women. Using VCCs, farmers sold products worth BDT 34.4 million (US\$404,687.31) to buyers, including private companies like PRAN, Rangpur Dairy, and Bombay Sweets, and to purchase essential agriculture inputs worth BDT 5.9 million (US\$69,408.58).²²¹

6.2.3 The Government supported the agricultural sector through stimulus packages, labor market assistance, and capacity-building measures

Several initiatives were launched by the Government and private sector to shore up productivity, including:

- **Government stimulus packages**

- The Bangladesh Bank introduced a stimulus package of BDT 50 billion (US\$588.20 million) for farmers with a 4 percent interest rate.²²² This package provided financing, finance management, and monitoring. However, the challenge was to identify eligible beneficiaries and ensure that the funds reached the right people. Many small subsistence farmers were unable to access loans for several reasons, such as when funds under a specific loan category dried up.
- The Government also announced a BDT 90 billion (US\$1.05 billion) subsidy for the agriculture sector as part of its efforts to ensure sufficient food supply during COVID-19.²²³ The money was allocated for fertilizer, irrigation, mechanization, product marketing, and other necessities.

- **Capacity building and best practices dissemination**

- The government periodically broadcast messages on COVID-19-related agricultural issues to farmers on “Bangladesh Betar” (“Radio Bangladesh”). The daily “Desh Amar-Mati Amar” program provided information on innovative technologies and best practices.
- The government eased supply chain constraints in agriculture by allowing transportation of agricultural goods during the lockdown and encouraging e-commerce companies to make grocery purchases.



SOFINA KHATUN

“To be able to receive money directly on my mobile during any emergency gives me peace of mind.”

Sofina Khatun, 52, Farmer, Tongi

Sofina is no ordinary woman. She runs her household chicken farm and a small rice mill to earn a livelihood for herself and her family of five, which includes her husband, son, daughter-in-law, and grandchild.

High school educated, Sofina is an occasional mobile financial services (MFS) user. Before having her own MFS account, she used to access MFS through her son's wallet. She felt the need to get her own account in

2020 to receive a one-time government stipend worth US\$30 under the 'Vulnerable Group Feeding' program. She mostly uses it to send money and to recharge her mobile phone. However, she finds the MFS interface challenging and has to seek her son's assistance to operate the account.

Raising awareness and providing coordinated financial training to women under the National Financial Literacy Strategy, can help users like Sofina embrace digital payments. To design better services for women, industry requires a deeper understanding of their wants and needs, based on sex-disaggregated data, which the Roadmap advocates for.

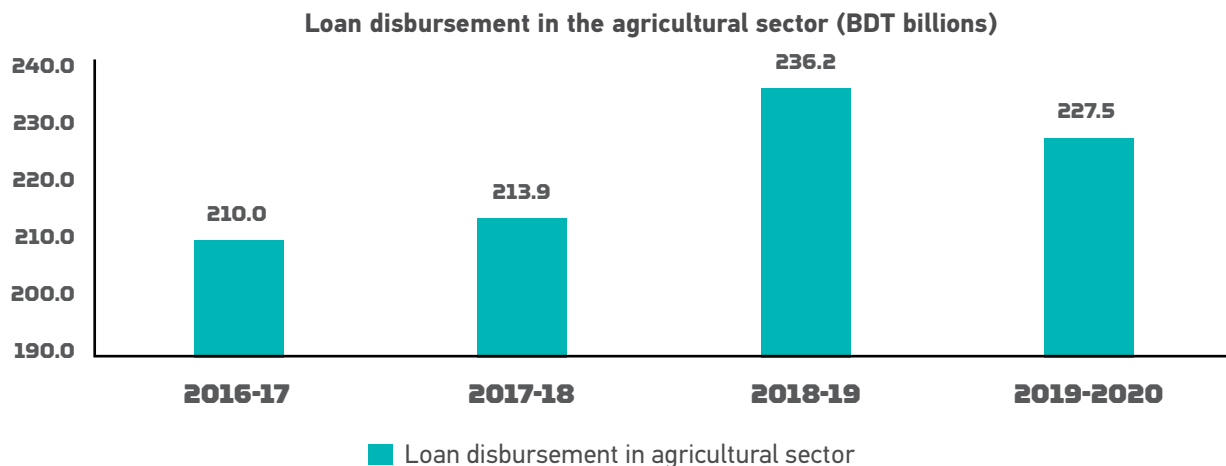
6.2.4 Credit disbursements by banks to the agricultural sector are growing. Twenty-seven percent of farmers' small-value bank accounts receive farmer subsidies digitally²²⁴

Bangladesh's agricultural sector is a credit-based ecosystem. Agricultural credit is disbursed through banks enabled by other financial service providers, such as MFIs. Smallholder farmers have a diverse transaction system of actors, patterns of payment, and transfer mechanisms (e.g., P2P payments, receipt of payments from crop collectors, payment for agricultural inputs, farm loan repayments).

Over the past few years, agricultural credit demand and disbursement has increased owing to growing production and market demand. The disbursement of agricultural credit has grown from BDT 210 billion (US\$2.47 billion) in 2016–17 to BDT 227.5 billion (US\$2.67 billion) in 2019–20.²²⁵

Figure 31 provides data related to consolidated formal financial sector loan disbursements in the agricultural sector.

Figure 31.
Loan disbursement in the agricultural sector²²⁶



Loan disbursement through formal channels (i.e., banks and MFIs) is gradually increasing. However, many short-term needs-based loans are still sourced from informal moneylenders, friends, and family. The trade-offs are interest rates and the time to sanction and disburse loans. A bank takes nearly a month to disburse a loan and charges 9 percent a year as interest. An informal moneylender lends at 120 percent a year but disburses the loan in two to three days.

The 2019–20 data show that out of the 227.5 billion worth of loans disbursed to farmers, over half was disbursed through MFIs, delegated by banks, for crop loans. Eighty-four percent of the loans were disbursed for short-term purposes, and 16 percent for long-term purposes, such as purchase of agri-machinery.²²⁷

Figure 32.

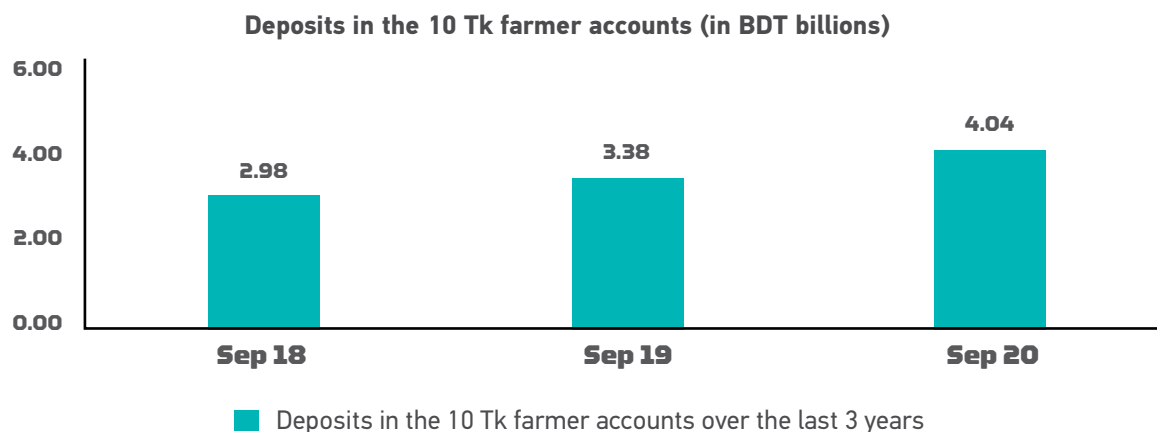
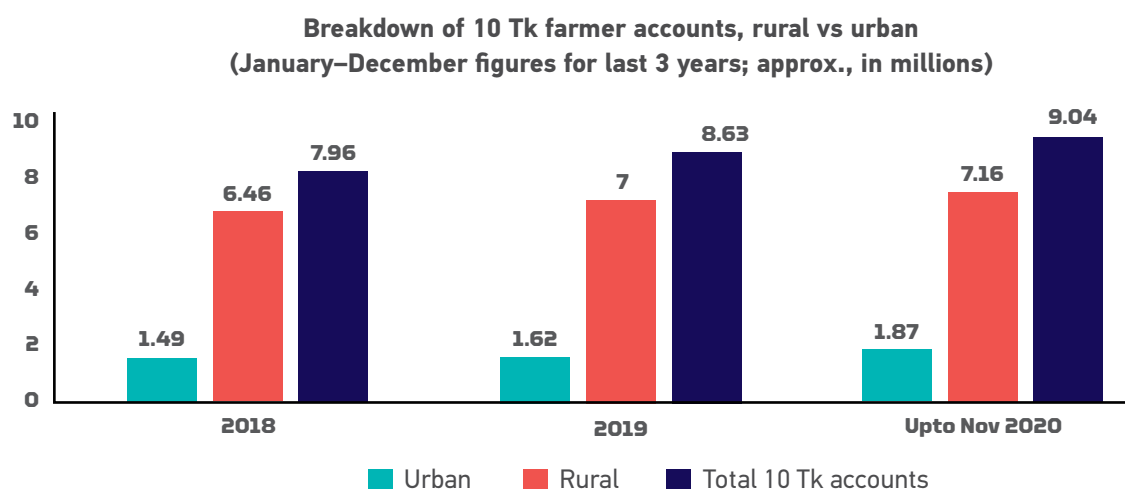
Deposits in farmer accounts²²⁸

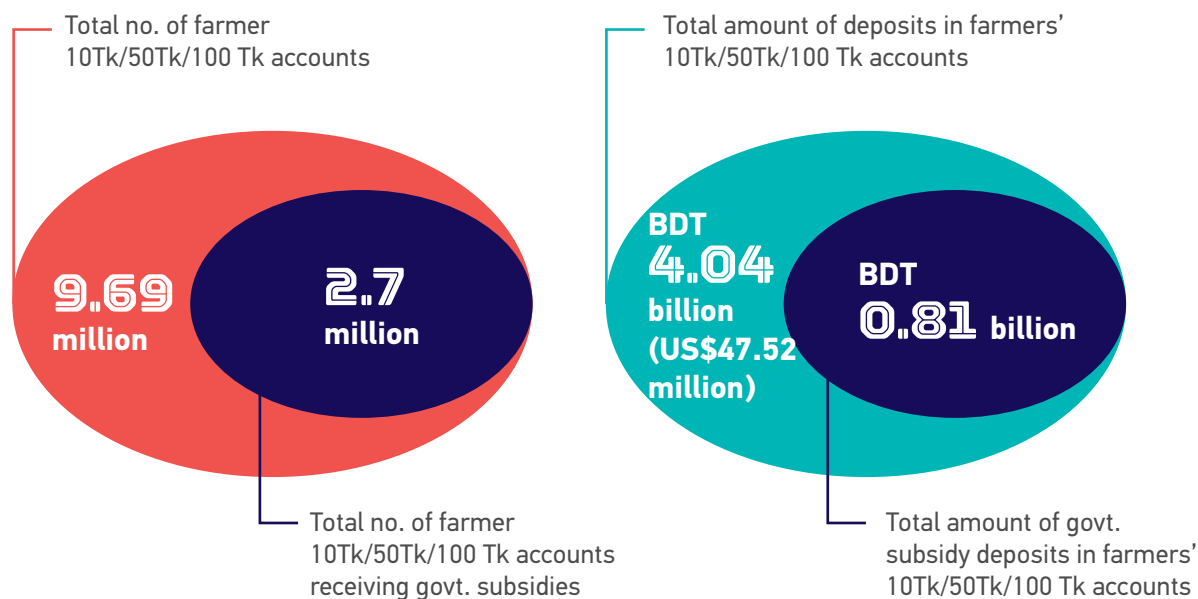
Figure 33.

Breakdown of farmer accounts, rural vs. urban²²⁹

Banks have been at the forefront of providing farmers with 10 BDT accounts for purposes such as to maintain deposits, receive government subsidy payments, and obtain farm loans. The value of deposits and the number of accounts have increased over the years. In September 2010, the Bangladesh Bank instructed public sector banks to open Tk-10 accounts for ultra-poor segments so they could get the benefits of safety net programs. Later, private banks followed suit. The use of such accounts has helped the ultra-poor segments by facilitating their engagement in economic activities. Marginal and landless farmers can use such accounts to obtain loans under a Bangladesh Bank BDT 200 crore (US\$23.52 million) refinance scheme at an interest rate of 9.5 percent. The rural areas have had almost four times the number of such accounts than the urban areas for the last three years. However, these accounts have been growing faster in the urban areas, at 29 percent, than in the rural areas (16 percent) over the last three years.²³⁰

Figure 34.

Quarterly statistics on no-frills accounts²³¹



Even though 10 Tk farmer accounts have been opened, only a quarter of them receive Government subsidies. Most agricultural subsidies still come in cash or through checks. The Government is now moving toward using MFS for payment of agricultural Government scheme benefits. One of the initiatives under which digital payments are to be made to MFS accounts is the National Agricultural Technology Program (NATP), although payments under it are still made through checks.

6.2.5 The Government, private sector, and international development organizations have implemented multiple initiatives to support digital payments usage, capacity building, and expertise in ICT adoption and modern agricultural practices

Bangladesh's agricultural sector has been evolving to accommodate new farming practices and techniques. The evolution has seen greater penetration of formal financing channels, usage of digital finance by agricultural value chain actors, and digital capability building initiatives across the farming value chain. Private institutions, NGOs, financial service providers, and international development organizations (IDOs) have supported these government-led initiatives.

Some of the initiatives and programs are:

- **Krishi Batayon:** An initiative of the a2i program of the Government, Krishi Batayon is a central service portal delivered through a website, mobile application, and a dedicated helpline (#3331), providing uninterrupted and reliable advice to farmers and Department of Agricultural extension workers. The portal has been designed as a one-stop shop for all services, including agriculture extension worker management systems, farmer identification channels, market channels, technology dissemination, subsidy systems, research innovation channels, feedback modules, production channels, and news media channels. The portal also contains agricultural information and other relevant data, such as weather research.

The #3331 helpline is a one-stop helpline farmers can use to pose queries on agricultural production, techniques, and crop rates. Farmer queries are directed to the local agricultural officers for resolution.

- **Farmer ID cards:** The Department of Agriculture Marketing and Department of Agriculture Extension rolled out a digital farmer ID card for transfers of payments and benefits to farmers. The enrolment of farmers for these cards is in progress.
- **Barind Multipurpose Development Authority:** This agricultural organization operates irrigation pumps and their operators are paid on an hourly basis. This money used to be disbursed through checks, which the farmers had difficulty cashing. It added to their travel expenditures due to the distance between local bank outlets. Since 2017, the department has been disbursing these payments through Rocket, and payments can be accessed at ATM booths of Dutch-Bangla Bank.
- **Family Vegetable and Nutrition Garden project:** This project was implemented on a first-stage basis across unions, wherein each household was allotted BDT 2,600 (US\$30.58) for garden cultivation. The amount was disbursed through bKash.

A-Card project (Agricultural Extension Support Activity Project of USAID): The “A-card” model was initiated through a partnership between a private commercial bank, four MFIs, and another USAID project supporting agricultural input retailers in the Feed the Future zone. The commercial bank provides agricultural loans to smallholders at a 10 percent interest rate with a six-month payback period.²³² Many farmers have been enrolled in the pilot. However, the uptake among input retailers is limited. A-Card engages four different stakeholders on one platform: commercial banks, MFIs/NGOs, farmers, and input retailers. The system is fully digitized. Fingerprint-scan technology, text message confirmation, and photos on the card provide additional security.

- **Robi's Krishi Bhai App in collaboration with USAID:** This is a Bangla language app for the agricultural community, featuring a bundled product with a mobile package and app. This app allows farmers to create a community and share information on crops and modern agricultural practices.
- **Basic Unit for Resources and Opportunities (BURO) Small and Marginal Sized Farmers Agricultural Productivity Improvement and Diversification Financing Project:** This project provides loans to the poor in the agricultural sector. BURO provides basic technical assistance through a helpline number for addressing farmers' queries.
- **Bangladesh Institute of ICT in Development (BIID) e-Krishok program:** BIID developed the e-Krishok initiative to bring the benefits of ICT to farmers and empower them through knowledge sharing, adoption of sustainable and climate-resilient practices, capacity building, and innovative and smart solutions.





ASADUL ISLAM

“I am aware that there are scammers out there trying to fool MFS users, and I know how to protect myself from it.”

Asadul Islam, 28, bee farmer, Manikganj

Asadul Islam lives in Manikganj, a district well known for its date-sugar industry. He migrated to Manikganj to make a living by cultivating and selling honey and running a mobile-recharge kiosk. He is the sole breadwinner for his family of five, who live in Satkhira district.

Although he has had a bank account for the past three years, he hardly operates it. He finds communication with the bank to be challenging, and he cannot visit the branch during the banking hours because of his work. He maintains four mobile financial services (MFS) wallets and uses them mainly to send money to his family and to recharge his mobile phone. His family members do not own MFS wallets, so he sends money through over-the-counter transactions assisted by agents.

Although he is aware of other uses of MFS wallet, he is yet to explore anything beyond sending money and mobile recharge. He intends to use MFS for online payments, but he does not have enough trust in the ecommerce businesses to make prepaid transactions.

Asadul learnt from YouTube videos and text messages from MFS providers that there are scammers who trick people, hence he stays vigilant. One of his MFS wallets got blocked when he entered a wrong PIN number. A local agent advised him to recover the account by reaching out to customer service but he could not manage the time. So, he created another account using his grandmother's identity card.

Apart from bee farming and selling his produce, he operates a mobile-recharge kiosk and transacts around BDT 35,000 (US\$440) through MFS. Typically, he bulk purchases internet bandwidth and talk time from a mobile network operator at a wholesale rate and resells them at the standard market rate to his customers, who are mainly his friends and relatives.

MFS has made Asadul's life convenient and has added an extra source of income.

Using digital ID for authentication, a recommendation in the Roadmap, can eliminate the need for personal identification numbers (PINs) or passwords. By using the digital ID, users like Asadul can easily regain access to their MFS wallets.

6.2.6 Challenges to credit access and digital payments adoption

The Government and private sector are implementing initiatives aimed at improving efficiency through digital payments. However, there are challenges in the last mile. Some of the challenges that emerged from discussions with the Government, private sector, and agriculture sector research bodies are below:

Table 12.

Challenges to credit access and digital payments adoption in the agriculture sector

Challenge highlight	Challenge description (Source: interactions with key government and private sector stakeholders)
Lack of bank credit for smallholder farmers (SHFs)	Most major banks tend to focus on large farmers, mostly repeat customers, with a demand for larger loans. The rate of non-performing loans is high among public banks (40% was mentioned in the consultation for the specific branch, and Business Standard Research cites 20% for Sonali Bank).
Low awareness and reluctance to use digital payments	Farmers use digital payments for personal expenses but hesitate to do so for buying agricultural inputs. The A-Card is not readily accepted by input retailers, which try to push lower-grade materials on the farmers.
Credit products not customized to crop cycles	Credit products need to be customized according to the crop seasons/harvest and expected cash flows. It takes three to four months to reach harvest season after receiving a loan and utilizing it for farming purposes, at which point selling the yield can help farmers repay the loans. However, most loans obtained through formal and informal channels have a cycle of fortnightly or monthly repayments, resulting in a cash crunch.
Conventional credit-based agricultural ecosystem	The response to digital platforms promoting agri-commodity trading has been muted. Commodity collectors and wholesalers – who generally work on a rolling credit mechanism – are used to longer credit cycles, wherein they make partial payments on goods delivery and the rest later. Multipurpose trading platforms are increasingly being used to foster inclusion and growth in the agriculture sector for scale and reach.
Lack of a holistic centralized record for SHFs	SHF records are mostly maintained manually at the upazila level. Multiple initiatives have been taken by the Government (e.g., Krishi card) and development agencies to create a unified farmer's ID for record keeping and data collection. These initiatives have taken flight, but adequate coverage is yet to be achieved. It is difficult to identify the SHFs for government projects without centralized and holistic records.
Non-digital distribution of G2P benefits	Many G2P schemes, such as the NATP project providing monthly financial benefits to SHFs, are still partly provided in checks and cash. Farmers find it difficult to use digital money for their day-to-day transactions. They need to cash-out the amount or find merchants who accept money digitally. There is a huge opportunity to on-board small merchants like input retailers and thus make digital transactions easier for farmers.
Lack of awareness among SHFs of government schemes	Many SHFs have little idea of Government incentive programs. Government data collection agencies do come to villages and collect names and other details, but there is often no follow-up or information on whether the process is complete and how it will be used to provide government benefits to farmers.
Lack of credit history among SHFs	Most of the SHFs lack a credit history. Therefore, financial institutions are wary of disbursing credit. Many research bodies, banks, and fintech companies are working on alleviating this issue, but there has been no implementation. BIID is working on an app-based credit scoring model wherein basic details such as farmers' demographics, crops, and social media behavior are combined to create a credit score.

6.3 EDUCATION SECTOR

Bangladesh has made progress on multiple fronts, driven primarily by the urban population's aspiration to become part of the middle-income group. Bangladesh has embraced the **SDGs, including SDG 4 – to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**. Education is poised to play a major role in heralding a new wave of growth in a nation with a predominantly young population, with the aim of achieving full primary and secondary education and development of education facilities.

With the advent of digitization, the education sector is one of the many to undergo constructive changes through digital platforms that can extend educational services remotely and facilitate digitization of payment streams (e.g., scholarships, fees, teacher salaries) and student records. Digitizing government scholarships and benefits, school fee payments, and other processes such as salary payments for both public and private school staff can reduce the cost of processing, data collection, and communication related to administration, resulting in a cohesive digital ecosystem. The following sections show how digital payments and digitization help in development of Bangladesh's education sector.





EDUCATION SECTOR

Key Facts

74.7 %
Literacy

BDT 611
billion (US\$7.18
billion) Budget
Expenditure



The COVID-19 pandemic led to learning loss due to discontinuation of education, but the emergence of multiple distance learning channels and modes helped



Digital payments in the sector have increased, with 100% of primary education stipends and 9.6% of private school fees being paid digitally



55 public sector and private sector banks operating 2,450,564 school banking accounts with deposits of BDT 18.21 billion (US\$214.22 million) operate in both urban and rural areas



BDT 10.34 billion (US\$121.64 million) was disbursed as PESP stipends to 12.11 million students in FY 2019–20 through a digital mode developed by Rupali Bank and its technical service provider, SureCash

6.3.1 Literacy rates in Bangladesh have risen steadily and the education gender gap has narrowed

Literacy rates in Bangladesh have been rising steadily. The overall literacy rate improved from 72.7 percent in 2016 to 74.6 percent in 2019, while the female literacy rate grew from 69.9 percent to 72 percent.²³³ This increase is attributable to the near gender parity in school enrolment and increasing attendance rates in primary and secondary education.

The government proposed a budget of BDT 664 billion (US\$7.81 billion) for the education sector for FY 2020–21, up from BDT 611.1 billion (US\$7.18 billion) for FY 2019–20.²³⁴ Although the absolute budget allocated to the education sector has been growing, Government expenditure on education as a percentage of GDP and of total government expenditure has declined.

The net enrolment ratio (NER), the percentage of enrolments of children within the age group prescribed for their education level, has been almost constant over the years for primary education but has improved for secondary education. The gender gap for both education levels has narrowed. However, the NER decreases significantly as we move from primary to tertiary education, with increasing gender-equal enrolment, especially for females in tertiary education. Figures 35 and 36 provide a comparative view of the NER for primary and secondary education over the years.

Figure 35.

NER for primary education²³⁵

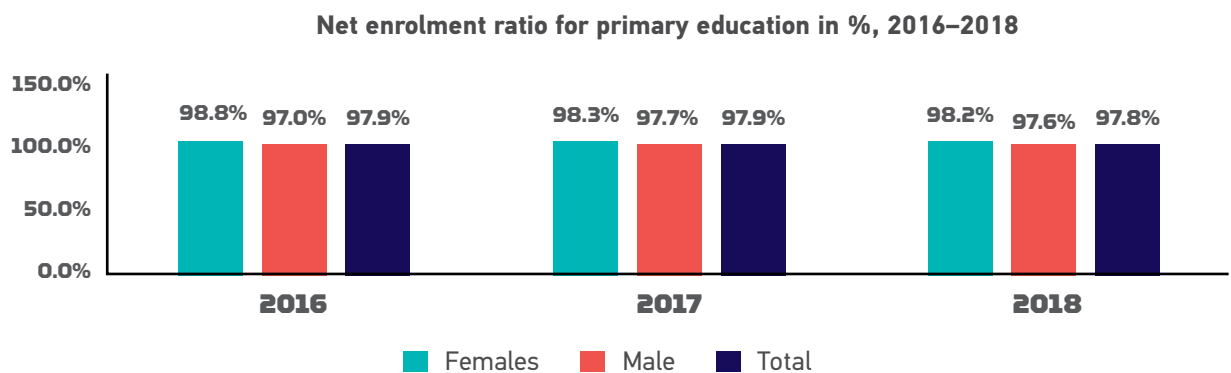
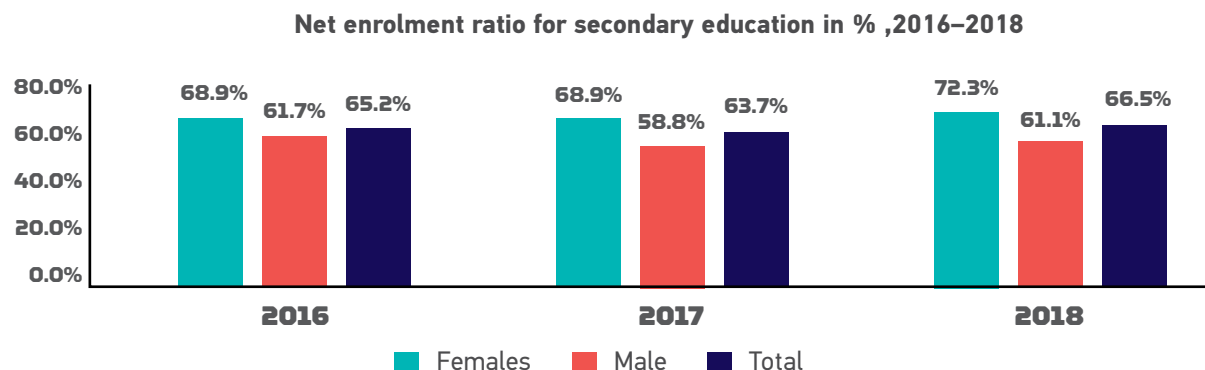


Figure 36.

NER for secondary education²³⁶



6.3.2 COVID-19 led to learning disruptions and the emergence of distance-learning channels and modes

The closure of educational institutions and restrictions on movement due to the pandemic disrupted education across the country, impacting 38 million²³⁷ students between the pre-primary and tertiary levels. However, the pandemic had both positive and negative impacts on the education sector:

- **Multifaceted impact on the education sector:**

Due to school shutdowns, students spent less time studying and more time on household chores. The major impact of the reduced study time was felt by female students. The situation was exacerbated by the limited access to computers and smartphones – essential for online education – especially in the rural areas.

- **Learning loss:**

School shutdowns made it difficult for underprivileged students to continue their education remotely. According to a study by BRAC, a major factor in education discontinuance for both rural and urban areas was the lack of direction given to students by schools. The second major challenge was the lack of support from family members – 22 percent of the students could not continue their education remotely because they lacked sufficient food supply. Only 3.2 percent of the surveyed students stated that a lack of mobile phones or internet facilities prevented them from continuing their education remotely. Further, 70 percent of the students said they could not continue their education at home because of a lack of necessary equipment, such as a TV, mobile phone, internet connectivity, or D2H connection.²³⁸

- **Emergence of technology-based education platforms:**

The Government and private sector undertook supported provision of education through digital media. Amar Ghor Amar Shikha provided digital classrooms via the “Transforming Primary Education Content into Interactive Multimedia Digital Versions” project, through a collaboration between the Bangladesh Government’s ICT division and a2i.

After educational institutions closed due to the pandemic, DSHE offered distance education for secondary students through Sangsad Bangladesh Television (“Amar Ghore Amar School”). Programs for Grades VI to X have been broadcast since March 29, 2020. Students from remote areas can participate in online classes. In addition, educational institutions have run online classes under their own management. These virtual classes avoid monotony and can be re-watched through social media, such as YouTube and Facebook.

- **Increase in youth unemployment:**

The economic impacts of COVID-19 are likely to increase dropout rates among postsecondary students and increase youth unemployment, in the absence of education and skills training to support access to the formal job market.

- **Gendered impact of school closures:**

Girls are more likely to have fallen behind in their schooling than boys, especially in disadvantaged families. They are more likely than boys to be involved in household activities, including taking care of COVID-19-infected relatives, and they are much less likely to have access to mobile phones and other devices. During the early phase of the pandemic (May–June 2020), a survey found that half of the surveyed girls said they were spending less time on education than before the lockdown, with 94 percent reporting increased time spent on household chores or childcare.²³⁹

- Even though **PESP stipends were halted during the pandemic in 2020**, multiple SSN benefits were being provided to families and students.
- The HSP has been implemented in secondary and higher secondary institutions around the country through the Secondary Education Development Program. The Prime Minister’s Education Assistance Trust distributes the stipend to students through a digital payment gateway. A total of 5.2 million students from Grades 6 to 12 received BDT 2.5 billion (US\$29.41 million) through their mobile banking accounts in 2020–21.²⁴⁰

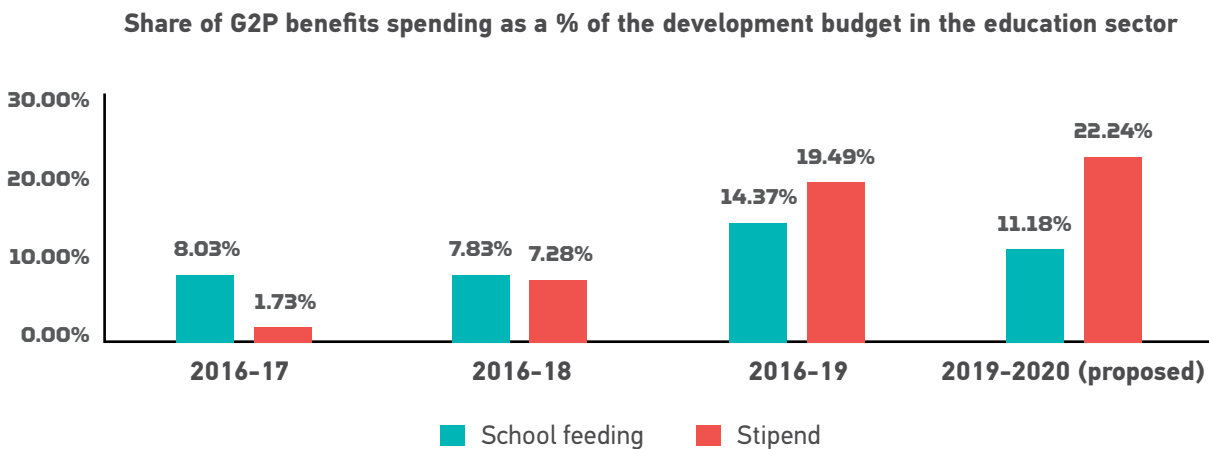
6.3.3 Use of digital payments in the sector increased, with 100 percent of primary education stipends and 9.6 percent of private school fees being paid digitally

Across sectors, the digitization of Government services and payments remained focus area. Digital payments are the key to realizing this goal, especially in the education sector, where payment of stipends to students and collection of school fees are target areas.

The share of stipend as a percentage of the education sector development budget has grown over the years. This is primarily due to the near-complete coverage of eligible students and the Government's push to ensure that eligible students complete their education. Figure 37 shows the share of G2P benefits spending as a percentage of the development budget in the education sector.

Figure 37.

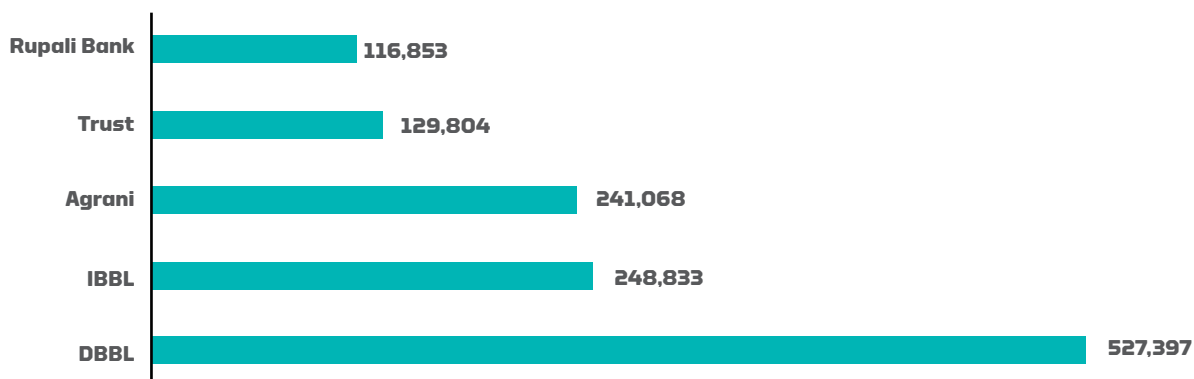
Share of G2P benefits spending²⁴¹



The Bangladesh Bank initiated a school banking program in 2010 to inculcate saving as a behavior in students. As of September 2020, 55 banks were running 2,450,564 school banking accounts with deposits of BDT 18.21 billion (US\$214.22 million). Sixty-one percent of these accounts are based in the urban areas and 39 percent in rural areas. Male students held 56.74 percent and female students held 43.26 percent of the accounts. Figure 38 shows the five banks with the most school banking accounts as of September 2020.²⁴²

Figure 38.

Banks with the most school banking accounts²⁴³



Both the Government and private sector have tried to increase the uptake of digital payments in the sector. Some of the initiatives are listed below:

- **Primary Education Stipend Programme:** One of the most significant schemes is the **PESP**, which launched in 2002 and began operations in 2003. As of 2019, PESP has 14 million beneficiaries.²⁴⁴ Its key objective is to increase educational participation (enrolment, attendance, persistence, and performance) among primary school children from poor families in urban and rural areas.

The PESP program provides a stipend of BDT 1,000 per annum (US\$11.76) (revised in 2020) per child to mothers in need of financial support, conditional on their child's school attendance. The PESP is administered at the upazila level by the Upazila Education Officer and Assistant Upazila Education Officers. The digitization of PESP payments was done by Rupali Bank and its technical service provider, SureCash. SureCash data show BDT 10.34 billion (US\$121.64 million) were disbursed as PESP stipends to 12.11 million students in FY 2019–20.

- The stipend payment method has evolved over the years. Payments are made using the mobile phones of the beneficiaries. The stipend payments were made through the Rupali Bank until 2020. The bank made a list of beneficiaries, including their phone numbers, to make the disbursements. This data resides with the bank.
- **Stipend program for secondary education:** The government launched the Female Secondary School Assistance Project in 1993 in 118 Upazilas, with the aim of reducing the gender disparity in access to secondary education (Grades VI–X) and empowering women. In 1994, the government developed a nationwide Female Secondary Stipend Program. After 2006, the government changed its policy for the Program and introduced a pro-poor assistance program, which is now available to the poorest children.

- The Directorate of Secondary and Higher Education has been implementing four programs to provide stipends at the secondary level under the Secondary and Higher Education Division of the Ministry of Education.
- All leading banks and MFS providers offer an **online school** fee payment option through their agent outlets and digital media. However, the fee collection process is manual in many government schools and institutions because they have not digitized student records.

CHAINA GHOSH

“My agent once saved me from potential scam where someone claimed to have sent me few thousands taka by mistake, requesting me to send it back.”

Chaina Ghosh, 50, primary education stipend beneficiary and micro-merchant, Manikganj

Chaina runs a sweet shop in Jabra Bazaar, Manikganj and has a total turnover of less than US\$200 per month. She maintains an account with a microfinance institution and has a mobile financial services (MFS) wallet too. As one of her two daughters is a primary school student, she is a beneficiary of the government's Primary Education Stipend Programme. Her daughter's school administration had advised her to create an MFS wallet to receive the stipend. She regularly takes assistance from the agents to operate the account.

Primarily, she has two purposes of using the MFS wallet: (1) to receive the stipend for her younger daughter and (2) to send money to her older daughter when she is traveling for examinations into an undergraduate program. Having her own MFS wallets has proved to be perfect for her, as it lets her older daughter access funds without having to visit any agent. Her daughter can operate the MFS wallet on her own through her smartphone.

Chaina did not proactively seek to use digital financial services but ultimately realized its utility.

Our diagnostics offers insights that 80 percent mothers were happy that education subsidies changed from cash to digital; they no longer needed to travel and wait for cash disbursements and could withdraw money securely and at their convenience. Our Roadmap recommends tuition fee payments as a major use case for public and private schools. This could further improve convenience for users.



6.3.4 Challenges to digital payments adoption and digitization initiatives

Some of the challenges that emerged after discussions with the government, digital payments providers, and international development agencies are as follows:

Table 13.

Challenges to digital payments adoption and digitization initiatives in the education sector

Challenge highlight	Challenge description
Need for a centralized student database	Scholarship program databases for students and beneficiaries are scattered across schools, ministries, and other bodies. This causes inclusion and exclusion errors. As part of its PESP, SureCash created its own integrated platform containing details on all students receiving benefits through SureCash under the program.
Process and administrative challenges for new use cases	Multiple and lengthy approvals are required to enable digital fee payments for government schools.
Lower than expected adoption of distance-learning programs	To ensure continuity of learning amid school closures during COVID-19, the Ministry of Education (MoE) and Ministry of Primary and Mass Education (MoPME) implemented distance-learning programs through Sangsad TV and on their online platforms (e-konnect, Facebook, and YouTube). The first TV-based broadcast under this was aired on March 29, 2020. However, a World Bank survey found that though 86% of the students were aware of Sangsad TV, only 48% had access to a television and only 39% to the Sangsad TV channel. ²⁴⁵
Limited access to distance-learning technologies	The uptake of online EdTech applications increased during the lockdown. For example, Robi's 10-minute school mobile app was downloaded by 0.5 million new users during this period. However, the adoption of these online media has mostly been in the urban areas.

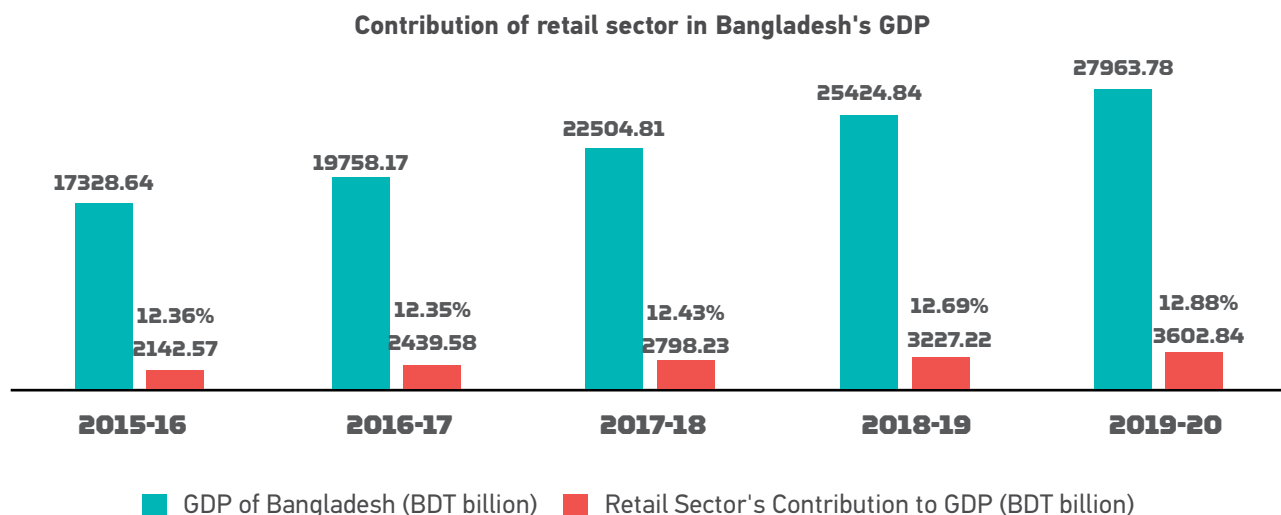
6.4 RETAIL SECTOR

6.4.1 The retail sector's contribution to the country's GDP has been increasing over the years and emerged as a source of livelihood for a large section of the population

Retail is one of the biggest sources of employment (12 percent). Wholesale and retail trading together contribute 13 percent to Bangladesh's GDP. Figure 39 shows the contribution of the retail sector to the country's GDP in the last five years, which has been hovering around 12 to 13 percent.

Figure 39.

Contribution of retail sector to Bangladesh's GDP²⁴⁶



Statistical overview of the sector

- The retail sector is of immense importance to the economy of the country, as it contributed BDT 2798.22 billion (US\$32.91 billion) in 2017–18 at current market prices and employs 8.7 million people, which is almost 14.3 percent of the country's workforce. The sector's contribution increased by 28 percent from 2017–18 to 2019–20, reaching BDT 3,602.84 billion (US\$42.38 billion).²⁴⁷
- Two types of value chain models are used by local retail chains: direct sourcing and indirect sourcing. Direct sourcing has fewer layers and a greater margin between producers and end customers than indirect sourcing.
- The retail sector has contributed an average of 13 percent to Bangladesh's GDP each year since FY 2012–13. This is comparable to the RMG sector, as it has grown at a rate of 12.85 percent annually from 2007 to 2016. Moreover, the retail sector's micro-merchant segment had an annual turnover of US\$18.42 billion in 2018.²⁴⁸
- The organized retail market still has a limited presence, and Mudir Dokans still lead the market by a huge margin. Organized retail (i.e., supermarkets) comprise only 1 percent of the outlets.
- Two million people²⁴⁹ are directly engaged in micro-merchant businesses, and nearly 50,000 new entries take place each year. These merchants act as strong delivery channels for reaching the last-mile population in Bangladesh. However, financial support for this segment is minimal because of their informality, lack of collateral and documents, and overdependence on cash-based transactions.



RETAIL SECTOR

Key Facts

13 %
Of GDP

14%
Population
Employed

12.8%
Annual
Growth



The retail sector has shown resilience in the wake of the COVID 19 pandemic, with a huge uptake in the usage of digital platforms for B2B transactions and digital payment modes



Merchant payments using MFS accounts increased in value by 15 times from April 2020 to May 2021, while the number of merchant transactions increased by 4.5 times



Merchant payments using cards at point-of-sale (POS) terminals increased by 3.6 times from April 2020 to May 2021, while their value also increased at a similar rate



COVID-19 emerged as an opportunity for the e-commerce businesses to expand digital transactions; 20% e-commerce orders are now paid for digitally

- The MSME sector contributes 25 percent to Bangladesh's GDP. Bangladesh has around 10 million SMEs employing 18 million people, representing 25 percent of the labor force. There has been phenomenal growth in the number of micro-merchants in Bangladesh over the last decade. Currently, 1.31 million²⁵⁰ micro-merchants operate in the country.

6.4.2 The retail sector showed resilience in the face of the COVID-19 pandemic, with the usage of digital platforms for B2B transactions and digital payments witnessing a huge uptake at merchant outlets

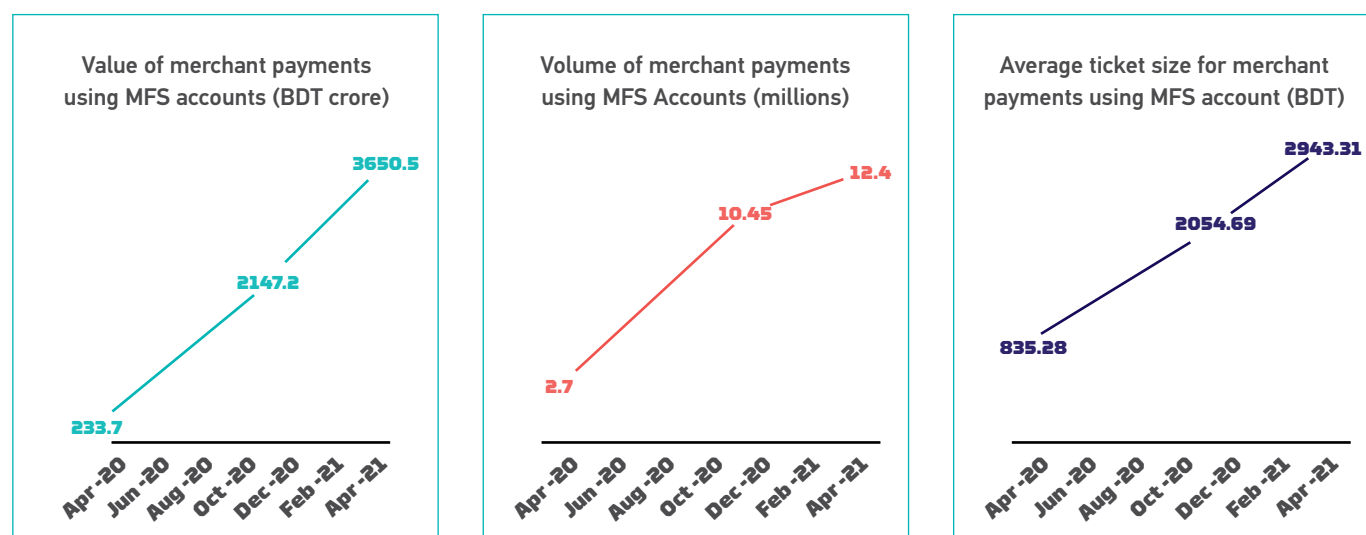
When COVID-19 threatened to halt Bangladesh's economic growth and the RMG sector witnessed bulk cancellations of orders, the retail industry emerged as a savior. During the initial days of the pandemic, it became difficult for retail shops to maintain adequate supply because of lockdowns and restrictions on movement, but the sector remained strong and ensured that the supply of essential goods was not adversely impacted. Many physical shops ventured into e-commerce to ensure people had access to essential goods.

- As per the report by UNCDF, 1.3 million micro-merchants are operating in Bangladesh. Most of them are small and informal, yet micro-merchants had an annual turnover of USD18.42 billion in 2018. The segment is primarily informal given that 43 percent of micro-merchants had a bank account. It is estimated that 68 percent borrowed from microfinance institutions, and 30 percent had MFS accounts.²⁵¹ The segment has a huge potential for adoption of digital payments. It is estimated that 30 percent digitization of informal micro-merchants would lead to an increase in GDP of +26,978 BDT crore (US\$3.17 billion) a year.
- During the pandemic, electronic B2B platforms became popular for financial transactions. Bangladesh has 4.5 million neighborhood mom-and-pop stores, locally known as Mudir Dokans, comprising 98 percent of the retail sector. Contactless transactions from multiple distributors and wholesalers and B2B platforms, such as ShopUp and Lever Bazar, supported small retailers and facilitated procurement. The number of neighborhood shops transacting weekly on the ShopUp platform grew 8.5 times between April and August 2020. Similarly, the adoption of Lever Bazar, a self-ordering mobile application from Unilever Bangladesh for B2B, increased significantly during the COVID-19 pandemic.
- The nationwide lockdown and other restrictions forced micro-merchants to curtail their business hours and incur losses. Since most of them are informal, it was difficult for them to access formal credit for working capital. They had to take recourse to cash advances from informal lenders.

- Merchant payments using MFS accounts increased in value by 15 times from April 2020 to May 2021, while the number of merchant transactions increased by 4.5 times (Figure 40). The highest monthly growth in volume and number occurred in May 2020. The average ticket size for merchant transactions using MFS accounts increased by 3.5 times from April 2020 to May 2021, driven mainly by the shift to contactless transactions.

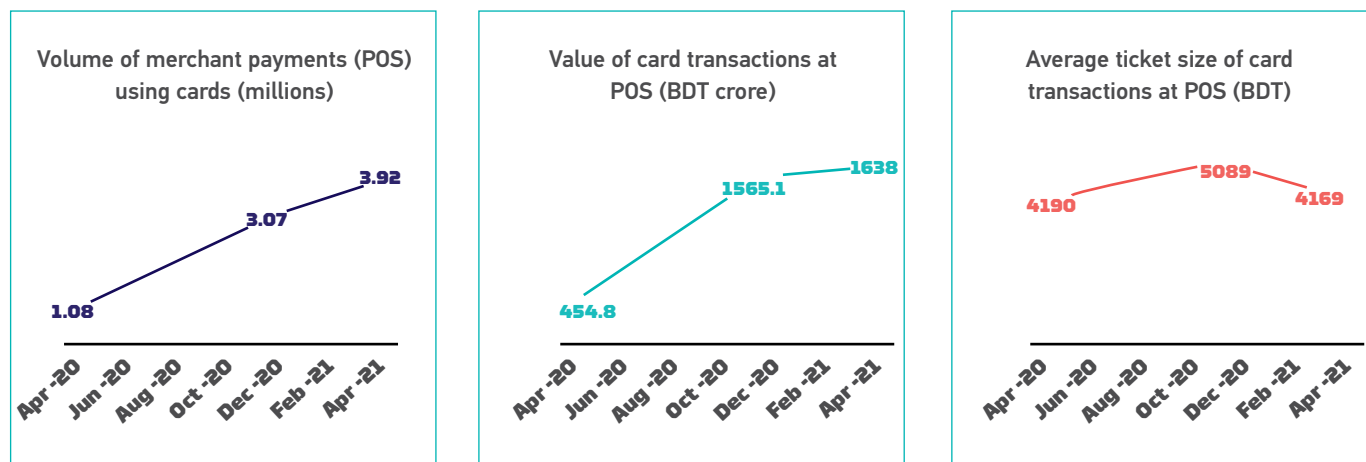
Figure 40.

Transactions using MFS accounts in Bangladesh²⁵³



- Merchant payments using cards at POS terminals increased by 3.6 times from April 2020 to May 2021, while the value also increased by 3.6 times. The average merchant payment ticket size using cards at POS terminals increased by 21 percent and reached BDT 5,089 (US\$59.86) in December 2020, from BDT 4,190 (US\$49.29) in April 2020, before falling to BDT 4,169 (US\$49.04) by May 2021. The decrease may have occurred because the average ticket size for card transactions in e-commerce transactions doubled from April 2020 to May 2021. Moreover, the number of card transactions at POS terminals grew steeply, by 262 percent, between April 2020 and May 2021. Hence, an increasing number of people are now paying for their shopping at POS terminals.

Figure 41.
Transactions at POS in Bangladesh²⁵⁴



- On November 16, 2020, the Bangladesh Bank paved the way for small and micro-merchants to open merchant accounts with banks and MFS providers without a trade license. These merchants now only need an attestation from the local public representative or certification from a local professional body and their NID number.

Government interventions

According to a survey conducted by the International Finance Corporation, only 0.4 percent of the country's MSMEs received financing from banks and financial institutions via the government's COVID-19 aid packages. The survey also found that 24 percent of the MSMEs did not receive any financing through the packages, and 74 percent did not know anything about them. The survey showed 37 percent of the workers in Bangladesh's MSME sector lost their jobs either temporarily or permanently.²⁵⁵

The government implemented many initiatives to support the sector:

- According to the Bangladesh Bank, all scheduled banks and non-banking financial institutions (NBFIs) in the country must devise a yearly (January–December) target of credit disbursements to SMEs. Their performance is evaluated against such targets when licensing decisions are made for the branches of banks and NBFIs.
- The SME and Special Programs department of the Bangladesh Bank convinced all banks and NBFIs to set up a separate department for providing services to SMEs.

- The Bangladesh Bank has managed several refinance funds for entrepreneurs. Fifteen percent of the refinance fund for the SME sector has been allocated to women at an interest rate of less than 4 percent.²⁵⁶
- The Bangladesh Bank provided collateral-free loans of up to BDT 2.5 million (US\$29,410.41) to women entrepreneurs, which require both a personal guarantee and a trade license.²⁵⁷ The bank allowed group-based lending to give micro-level women entrepreneurs greater access to formal financial services.
- The government allocated 27.5 percent of its COVID-19 relief fund to SMEs as working capital for three years. Small and medium enterprises would receive BDT 220 billion (US\$2.58 billion) from commercial banks as loans on a 9 percent designated rate, from which the government will pay 5 percent as subsidy to the banks and the borrower will pay 4 percent. Micro and marginalized businesses are also eligible for refinancing schemes of BDT 30 billion (US\$352.92 million) through MFIs.²⁵⁸

6.4.3 E-commerce sector in Bangladesh - building on the growth of digital payments, communications, and logistics

E-commerce, which started in 2013–14, is a major component of the retail sector in Bangladesh. Eighty-five percent²⁵⁹ of e-commerce transactions occur in big urban areas. E-commerce has been gaining acceptance in Bangladesh over the last four to five years, with an increasing number of customers preferring to buy online. In 2009, the Bangladesh Bank permitted online payment systems in the country. WiMAX Internet was the first company to establish such a business. Currently, Bangladesh has 2,500 e-commerce sites,²⁶⁰ 400,000 women merchants are active in e-commerce in Bangladesh,²⁶¹ and 80 percent of the country's online sales (US\$2.07 billion) occur in Dhaka, Chattogram, and Gazipur. E-commerce is a large source of foreign investment (US\$41 million) and is now the third most-funded sector in Bangladesh.²⁶² The rise of e-commerce in Bangladesh is due largely to the rollout of 3G internet in 2012 and the increasing penetration of smartphones.

Although the sector is in an early stage of evolution, it is transforming rapidly, driven by the following factors:

- The implementation of the National Digital Commerce Policy in 2018 and the growth in internet subscriptions at a rate of 20 percent annually since 2012, reaching 117 million at the end of May 2021. Affordable brands such as Symphony and Infinix brought smartphones and feature phones within the purchasing capacity of many more people.

- Social media as a platform for online shopping and an extensive post office network in the country, with 10,000 post offices, enable last-mile connectivity. Initiatives such as ekShop, which brings markets closer to e-commerce companies, have been successful, driving the growth of e-commerce.
- ShopUp, an online start-up platform, enables MSMEs and small retailers to easily access the business-to-business procurement of goods, last-mile logistics for delivery, digital credit, and business management solutions through the ShopUp f-commerce platform, where customers can also buy products. ShopUp hosts 500,000 micro-, small-, and medium-sized enterprises in the country.

6.4.4 COVID-19 emerged as an opportunity for e-commerce businesses to expand digital transactions; 20 percent of e-commerce orders are now paid digitally²⁶⁴

The following points provide an overview of the impact of COVID-19 on the e-commerce sector:

- During the initial period of the pandemic, the e-commerce sector almost became inoperative and lost US\$78.64 million in revenues.²⁶⁵ This was due to the lockdown, the unavailability of delivery resources, and challenges in procuring material through the supply chain. However, e-commerce and f-commerce started innovating on the back of the widespread and robust digital payments, MFS, and availability in the country, and began to recover rapidly.
- During the peak COVID-19 period, online grocery players struggled to meet the growing customer demand, which helped new players like Pathao, Shohoz, Uber, and Foodpanda to enter the space. Even priyoshop.com, othoba.com, daraz, and ajkerdeal.com, which were lifestyle e-commerce platforms before the pandemic, started to deliver groceries.
- The Government of Bangladesh allowed all foreign-owned e-commerce companies to operate in Bangladesh in June 2020. The Ministry of Commerce made the decision given the growing importance of e-commerce amid the COVID-19 pandemic.

BINDU GOMES

“My inclination to pay digitally has increased dramatically during the pandemic and the consequent lockdowns – especially when I am ordering from an online platform.”

Bindu Gomes, 33, school teacher from Dhaka

Bindu lives in Farmgate, a busy commercial hub in the center of Dhaka with her husband and four-year-old daughter. Five years ago, less than 5 percent of their household expenses were paid digitally. Today, about 40 percent of it is paid digitally, through a mix of cards and mobile financial services (MFS).

Although she has maintained accounts with two banks and has had an MFS wallet for a while now, she started paying digitally for her regular expenditures only during the pandemic. Interestingly, most of her digital payments are for paying for a digital service, like e-commerce, food delivery, or hailing a ride-sharing service. Sometimes drivers on ride-sharing platforms refuse to take passengers who want to pay via MFS. In those cases, she has to pay cash. Her utility bills are included as part of her rent and are paid by her landlord,

so she does not pay her utility bills digitally; however, her landlord insists on receiving the rent payment in cash. Bindu considers trackability, lucrative discounts, and convenient prepayment for online orders as key benefits of digital payments. However, as a measure of caution, she maintains a low balance in her MFS wallet. She also prefers to pay for larger purchases with credit or debit card as it lets her avail equal monthly installment facility.

She once prepaid for products on an e-commerce platform a few months ago but the company – Elavy – was shut down following government orders. In the future, she wants to avoid pre-payments in e-commerce unless there is a concrete solution in place.

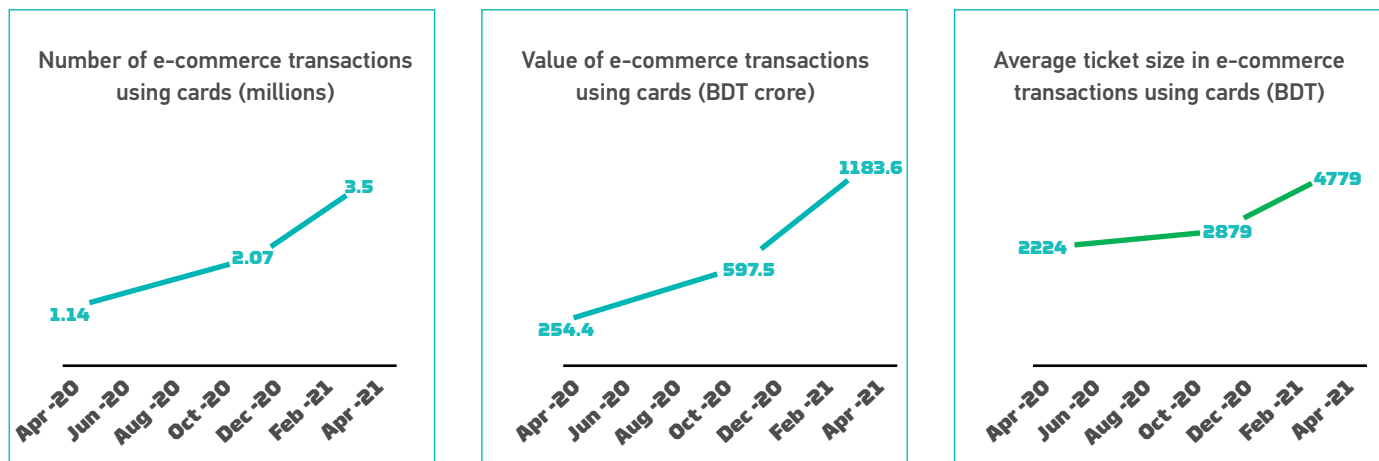
COVID-19 has fueled the use of digital payments in e-commerce — 20 percent of orders are now paid digitally. Buy Now Pay Later scheme is gaining popularity and can help skeptical users like Bindu by eliminating the need for upfront payments and replacing it with no-cost, monthly installments. The Request-to-Pay (R2P) platform suggested in the Roadmap can automate regular payments like rent, utility bills and school fees. It will mean timely payments for the recipients and convenient settlement of bills for the payers.



E-commerce payments using cards doubled from April 2020 to May 2021, while their value increased by 4.5 times. The average e-commerce payment ticket size using cards also increased by 100 percent, reaching BDT 4,779 (US\$56.22) from BDT 2,224 (US\$26.16) during the same period. This increase could be attributed to the shift to online shopping and increasing trust in e-commerce websites. The graphs below show the number and volume of e-commerce transactions in Bangladesh.

Figure 42.

E-commerce transactions in Bangladesh²⁶⁶



The government's digital commerce policy, innovative payment modes, and the encouragement of women entrepreneurs are expected to provide a further push to e-commerce:

- Several government initiatives are promoting e-commerce in the country. The government has implemented sector- and customer-friendly policies in the last decade, from Digital Bangladesh 2009 to the Digital Commerce Policy 2018. The Bangladesh Bank has advised banks, MFS, and PSPs to open retail accounts for micro-merchants. This has enabled digital inclusion at the lowest stratum of trade and is being seen as the first step toward providing financial inclusion for ground-level traders.
- Bangladesh Bank established a national and interoperable QR code standard, known as "Bangla QR," to facilitate retail payments for open-loop-interoperable QR code-based payments. This will enable small merchants to accept payments in digital form easily and quickly.
- A new venture of the Ministry of Child and Women Affairs is trying to identify local female entrepreneurs from the rural areas and market their products through a centralized online marketplace. It also provides training in selling, packaging, making payments, and other processes. Ten thousand women have registered for the program.

- The Bangladesh Bank will provide BDT 600 billion (US\$7.05 billion) in financing to SMEs by 2023 to ensure economic resilience, which will enhance GDP, employment, and inclusive development.²⁶⁷

6.4.5 Adoption of digital payments in retail and the challenges

The increasing adoption of digital services, with 110 million internet users (95 percent on mobile devices) and 40 million on smartphones is a major driver of digital commerce growth in Bangladesh.²⁶⁸ Although the use of digital payments in e-commerce has been increasing, cash is still preferred. This is partly because of a lack of trust in e-commerce companies and a fear of making payments online. Table 14 describes the major challenges to adoption of digital payments in retail.

Table 14.

Key challenges for the adoption of digital payments in retail sector

Challenge highlight	Challenge description (Source: interactions with key government and private sector stakeholders)
Preference for cash on delivery	80% ²⁶⁹ of customers pay by cash on delivery. This presents a risk for the growth of e-commerce. The challenge is to foster customer trust in e-commerce companies and shift their behavior from cash to digital payments.
Limits on MFS transactions	One of the problems with using MFS for e-commerce is the limits on how much money can be spent per day and per transaction, as stipulated by the Bangladesh Bank. There are no such limits for bank accounts. The limits on MFS accounts make them unsuitable for MSMEs.
Interoperability in MFS	MFS providers in Bangladesh are not part of the NPSB and Bangla QR code ecosystem, which makes online payments using MFS accounts on e-commerce websites challenging.
High charges for using cards online	There is a high cost for online payments using debit or credit cards: 3.5% or higher per transaction. ²⁷⁰ This fee is charged either to the customers or the merchants. This causes customers to avoid making online payments using cards.
Enabling trust through an escrow policy	The Bangladesh Bank does not have an escrow policy. However, the bank and the Ministry of Commerce have decided to adopt an escrow-based approach for e-commerce payments. This will enable online shoppers to cancel purchases at any time after ordering a product and enhance their trust.
Logistics problems	Bangladesh has a robust national postal network with 10,000 post offices with a good delivery capacity. ²⁷¹ There is scope for capacity enhancement, including the diversification of services and network digitalization. Last-mile delivery is a challenge for all firms, especially in rural areas, due to poor road infrastructure and a complex address format.



MOHAMMAD RAFIQ

“While I am all in for digital payments and have reduced my reliance on cash, my suppliers and distributors prefer cash.”

Mohammad Rafiq, 58, convenience store owner, Keraniganj, near Dhaka city

Rafiq started his entrepreneurial journey by opening a small kiosk to recharge mobiles. He has now expanded it into one of the biggest retail stores in the neighborhood. Many people frequent his store and he has heard about all types of incidents, including educated people falling for scammers. He has witnessed how digital services have become part of consumers' lives over the years. The success of his mobile-recharge business, bill payments, and digital services earned him the capital required to set up the retail store. He now has both the businesses running side-by-side. The store is mainly managed by him but sometimes his teenage son Tareq assists as well.

Rafiq is enterprising in nature and open to the adoption of new services. But he appears to be misinformed and believes that he can either be an agent or merchant of MFS, but not both together. As a result, he chose to be an agent over merchant, as it is more profitable.

If he has the option to be both, he is keen on being a merchant who accepts digital payments. Interestingly, if a customer prefers to pay via mobile financial services (MFS), he offers them the option to first cash-out at his store and then pay in cash.

He does not prefer keeping excessive cash in the store due to safety concerns but has limited choice because his dealers and distributors prefer to be paid in cash. Even for the MFS distributors, he needs to ensure there is buffer cash at the store.

People like Rafiq have been vital in promoting MFS and digital payments in the country, but they need an ecosystem that makes digital payments more mainstream.

Our digital payments diagnostics revealed that a mere 2.5 percent of transactions from MFS accounts between December 2020 and May 2021 were merchant payments. To encourage merchants like Rafiq to embrace digital payments, the Roadmap suggests use of SoftPOS to receive consumer payments. SoftPOS requires low investment compared to physical POS and can be used with existing devices. Using SoftPOS, Rafiq can build a transaction history, which can be helpful when applying for business credit.

6.5 HEALTHCARE SECTOR

Amid the COVID-19 pandemic, the healthcare sector became a focus area worldwide. In Bangladesh, one of the most densely populated countries in the world, an increase in health sector expenditures and allocations was expected as a response. Against the backdrop of a devastating second wave in 2021, the proposed budget for the health sector comprises 5.4 percent of the total budget for FY 2022 and 0.95 percent of the country's GDP. This is only a slight increase from the allocation of 5.1 percent in the previous fiscal year.²⁷²

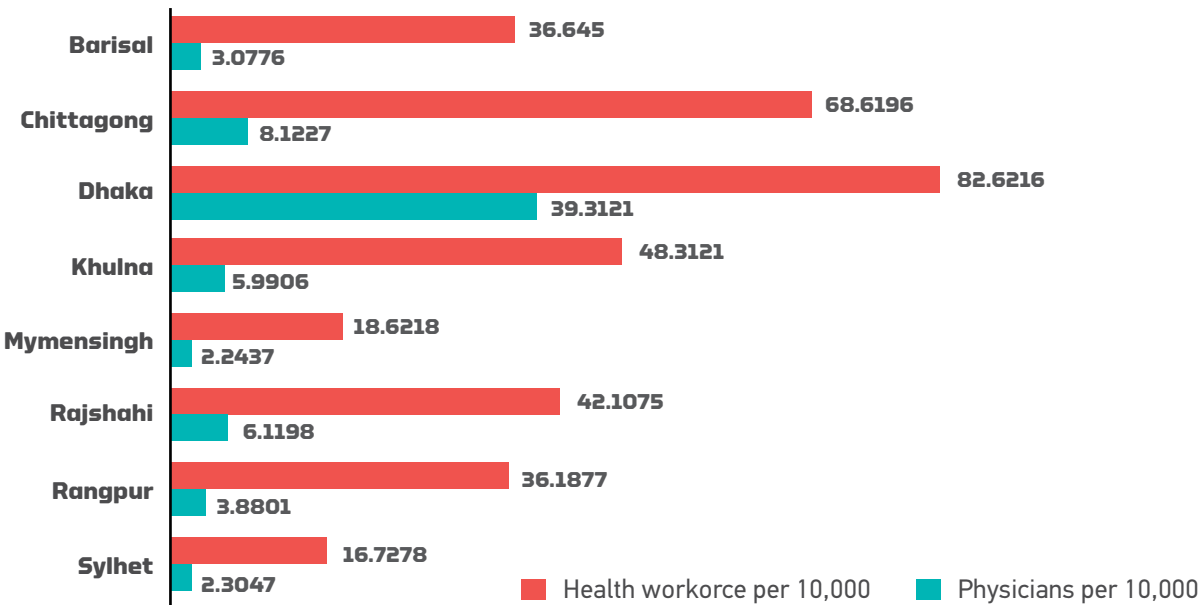
6.5.1 Bangladesh advances toward the SDGs for health indicators

Bangladesh advances toward the SDGs for health indicators, with progress in child-related indicators. Under-five mortality declined from 36 per 1,000 live births in 2015 to 29 per 1,000 in 2018, and the neonatal mortality rate decreased to 16 per 1,000 live births in 2018 from 20 per 1,000 in 2015. These two indicators constitute the SDG targets for 2025. The Minister for Health and Family Welfare recently announced the 4th Health, Population and Nutrition Sector Program, which is the first of the three successive phases in realizing the SDGs and achieving universal health coverage by 2030.²⁷⁴

Health-care workers are a pathway to attaining the health targets for SDG-3, health, and well-being. An adequate, well-distributed, motivated, and supported healthcare workforce is the key to strengthening primary healthcare, progressing toward universal health coverage, detecting, preventing, and managing health emergencies, and promoting the well-being of women, children, and adolescents.

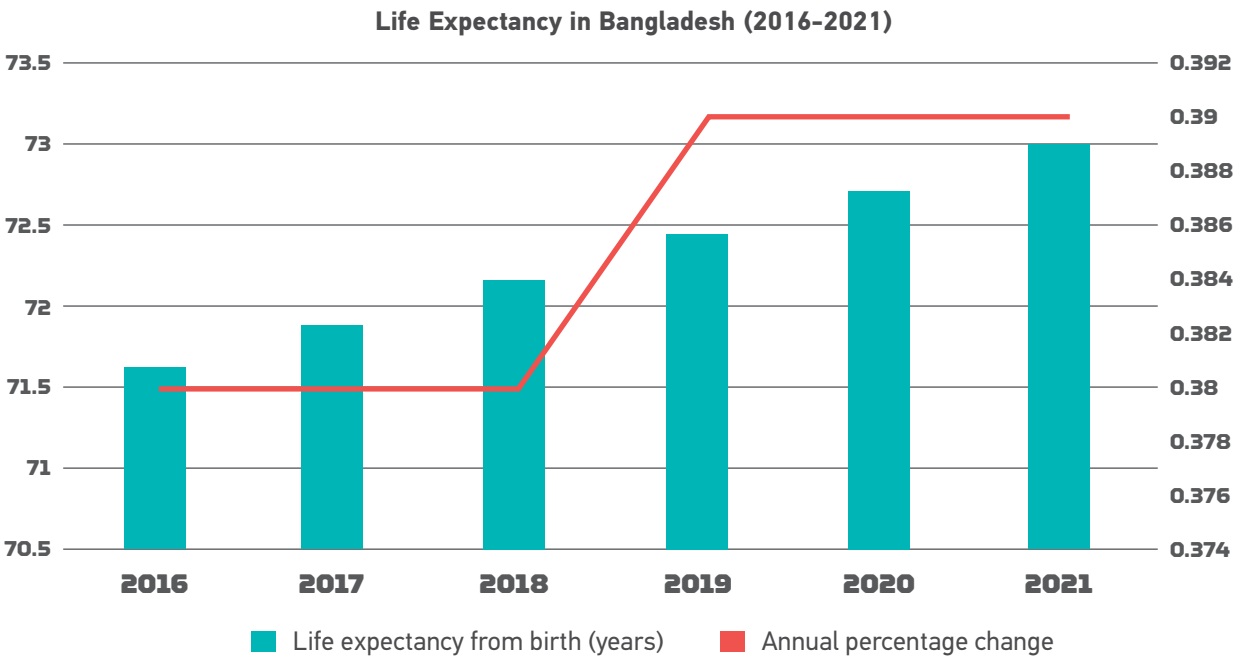


Figure 43.
Number of doctors and healthcare workers (per 10,000 population)²⁷⁵



The overall health SDG is to “Ensure healthy lives and promote wellbeing for all at all ages.” The overarching indicators that might serve to monitor this goal include life expectancy. Such indicators are affected not only by progress toward the health SDG targets but also toward the health-related targets in other SDGs. Thus, they truly reflect the multisectoral nature of health.

Figure 44.
Life expectancy in Bangladesh (2016-2021)²⁷⁶



6.5.2 COVID-19 led the healthcare sector to be innovative in offering services through virtual means

The application of ICT in healthcare is advancing as part of Vision 2021 for Digital Bangladesh. The pandemic has accelerated digitization in many sectors. Hospitals, pharmacies, diagnosticians, and paramedics had to rethink their processes to comply with the restrictions. One of the most important ways of doing this was digitizing processes entirely.

As social distancing became the norm, patients grew apprehensive about visiting hospitals or clinics. Many healthcare service providers began adopting digital payment modes to minimize the risk of the virus. Though most of these changes were driven by the pandemic, they are likely to continue. Faster processing owing to the streamlining of manual processes, digital invoices, and minimized discrepancies are some of the features of digital payments that will drive the transformation of the healthcare industry.

- **Increase in use of technological innovations:** Healthcare start-ups are showing promise in Bangladesh. Online healthcare start-ups have emerged with the aim of providing improved and more accessible health-care services. Sebahgar, a mobile telemedicine app, was launched in April 2020. It allows patients to speak directly to doctors for advice and prescriptions. HelloDoc, a virtual hospital, was also launched in April 2020 to support the growing demand for telemedicine. Patients can consult with 42 senior consultants²⁷⁷ and doctors via video conferencing. Daktarbhai, a telemedicine platform, offers online doctor appointments with facilities for electronic health records. The “Aspire to Innovate” (a2i) program is looking into low-cost devices similar to smart bracelets made by Intel to monitor neonatal health in expecting mothers. The data collected from such devices would be integrated into the digital health-care system.
- **Investment boost in telemedicine and other telehealth apps:** Since launching its services in 2018, Praava healthcare claims to have tripled its growth every year and to have served over 150,000 patients. In 2020, it processed 75,000 COVID-19 tests in-house. The company announced a Series-A Prime round, raising a total of US\$10.6 million. Maya, a Dhaka-based digital health-care start-up that connects users with doctors, mental health counselors, and well-being experts anonymously, has raised US\$2.2 million in seed funding led by Anchorless Bangladesh, a Bangladesh-focused early-stage fund, and The Osiris Group, a private equity firm. Previously, Maya had raised two rounds of investment, an undisclosed round in 2018, and funds from BRAC in 2017.²⁷⁸

- Funding support from the government in newer avenues such as insurance:** The Government of Bangladesh is undertaking a BDT 6 billion (US\$70.58 million) project to ensure faster upgrading and digitalization in the insurance sector.²⁷⁹ The Insurance Development and Regulatory Authority of Bangladesh (IDRA) has introduced a digital e-receipt system, to be effective from October 2021. The IDRA introduced the service to put an end to issuance of handwritten or printed paper receipts by insurance companies against the premium received from policyholders. The IDRA banned using only handwritten or printed receipts for collecting money and insurance premiums, introducing the e-receipt prepared by a Unified Messaging Platform (UMP).
- Transparent ecosystem:** Insurance companies would provide policyholders with paper receipts along with UMP-generated e-receipts (original receipt, renewal receipt, and money receipt) to foster a transparent and accountable insurance sector offering innovative digital services for insurers and policyholders alike. This would substantially reduce the postal and courier costs incurred by insurers while making paper premium receipts available to policyholders to address any disputes, ensure an accurate collection of government tax revenue, stop embezzlement of premiums and benefits, reduce policyholder harassment, enhance policyholder trust, and advance insurance industry digitization.
- Government policy interventions for telemedicine and insurance adoption:** Digital health leaders are learning to better address the health and financing needs of people. However, these companies face many regulatory hurdles. For example, companies providing digital health services fall under the Ministry of Health but may also need authorization from the ICT division and other authorities, depending on licenses obtained, whereas the financial services sector is regulated under the Ministry of Finance. The National Digital Health Strategy, initiated in 2019 and revised in December 2020,²⁸⁰ provides guidelines on digital technology usage to strengthen health systems. As the focus continues to be on digital health, the need for fintech in health partnerships is becoming increasingly urgent. In June 2020, the Bangladesh Society of Medicine initiated a program to facilitate telemedicine services during the COVID-19 pandemic. The initiative is backed by three other doctors' associations: the Bangladesh Medical Association, Swadhinata Chikitsak Parishad (Swachip), and the Bangladesh College of Physicians and Surgeons. The project aims to provide treatment for COVID-19 patients over the phone. Call centers would ensure that people can access medical advice from their homes.

- **Government injects investment into the insurance sector:**

Swiss Re's latest consumer surveys show that the COVID-19 pandemic has been a catalyst for a greater uptake of online insurance. The rise in online purchases is generating large volumes of data, which insurers can process using the latest machine intelligence techniques to strengthen their underwriting capabilities.

6.5.3 Telemedicine and online pharmacies are paving the way for healthcare access through digital means, which is also increasing the usage of digital payment channels. According to reports, e-health has a 67 percent²⁸¹ preference rating among investors

Telemedicine has great potential to overcome geographical distances and provide equal access to health-care services, particularly for people living in remote and rural areas. High-quality telemedicine services are being provided by hospitals all over the country. Since starting in 1999, telemedicine companies and programs such as Sebahgar, Tonic by Grameenphone, Pulse Healthcare, DoktorBhai, e-Hospital Ltd, and the Dhaka University Telemedicine Program have been available in the market as mHealth solutions. The adoption of telemedicine services spiked during the pandemic, when a nationwide lockdown led a greater number of people to use online health-care services. In February 2020, Doctor Dekhao, along with 20 similar telemedicine service donors, received a dispensation from the ICT ministry to supply round-the-clock health-care services. The services include doctor appointments, telemedicine, online medicine, medical tests, home diagnostic tests, home COVID-19 tests, insurance, and health packages. These can be free, depending on the institution providing the service.

The data collected from these services are recorded by the Health Ministry on corona.gov.bd. The Government of Bangladesh introduced a national telehealth service, Shastho Batayon. By dialing a toll-free number (16263), users can receive 24/7 health-care services and consultations from registered government and private health facilities. One indicator of how the Shastho Batayon initiative has created an impact is the number of calls received before the detection of the first case of COVID-19 in Bangladesh in January 2020: 16,820. This drastically increased by August 2020, to a total of 358,792 calls, the majority of which were made for COVID-19-related services. The COVID-19 telehealth center run by the a2i Aspire to Innovate program reported a daily traffic of around 2,000 calls, which had risen to around 20,000 calls during the peak COVID-19 season.²⁸²

Online pharmacies have gained greater adoption, especially amid the surge in online transactions after the onset of the COVID-19 pandemic. Launched in December 2020, Aroga uses a simplified online interface for ordering and payment to fill over 4,400 orders and has reported a 60 percent month-to-month growth rate. Jeeon, another key player in the telemedicine industry, has partnered with Paperfly and entered the market by targeting the delivery of life-saving medicines to remote areas of the country.²⁸³

Maya, a health messaging application, relies on artificial intelligence to connect health-care professionals and physicians with users for consultations on health and mental health. Early funding of the app was led by BRAC, Anchorless Bangladesh, and The Osiris Group, a private equity firm focused on impact investing in Asian markets. Maya was set up in 2011 as a service for Bangladeshi women who lacked access to quality and affordable healthcare. The company is currently working with various monetization models. One is B2B sales, which positions Maya as a software-as-a-service (SaaS) platform that employers can offer to workers as a benefit. Garment manufacturing is one of Bangladesh's biggest export sectors and many of its workers are young women, fitting Maya's user profile. Another B2B route is partnering with insurance providers who offer Maya as a benefit. On the direct-to-consumer side, Maya recently launched premium services, including in-app video consultations and prescription delivery. Demand for the services offered through the application increased sharply during the pandemic, and it now handles one consultation every 10 seconds.

6.5.3.1 Opportunities for MFS services to penetrate the public telemedicine sector

The lack of digital payment guidelines in the telehealth sector is a key gap in the market, which can be mitigated by timely collaborations with MFS players, namely bKash, Nagad, and Rocket. According to the Directorate General of Health Services, although the initial telehealth consultancy is free, doctors who provide telemedicine services in public hospitals may independently charge a fee based on the individual's earning capacity. Such consultation fees are mostly taken through Nagad and bKash.

6.5.4 Health insurance penetration in Bangladesh is minimal, which affects the quality of health-care services, especially amid COVID-19

Bangladesh is developing on multiple fronts. As it develops and life expectancy increases, its elderly population – above 60 years of age – is expected to increase proportionately to 18.1 million, or 10 percent of the population, by 2026 and 44.1 million, or 20.2 percent of the population, by 2051.²⁸⁴

78 insurance companies (32 life and 46 non-life) are operating in Bangladesh.²⁸⁵ However, life insurance penetration stands at only 0.5 percent, well behind the average of 3.3 percent in the emerging Asian market (Indonesia, Malaysia, the Philippines).²⁸⁶ The insurance sector can play a vital role in reducing the burden on healthcare spending and foster holistic financial protection among the public.

Healthcare costs are one of the key areas that impacted users most heavily during COVID-19. People had to use their savings to meet their treatment needs. A study by the Institute of Health Economics at Dhaka University found that most health expenses are borne by people on their own. It is estimated that the government covers only 17 percent of users' health-care expenditures, while 7 percent comes from donor agencies and 74 percent from people's own savings.²⁸⁷ Health insurance is a key instrument that can allay the uncertainty that steep healthcare costs induce. The Government of Bangladesh plans to expand its "Shashtho Shurokkha Karmashuchi" program, a scheme introduced in the remote areas in March 2016. Under this scheme, each enrolled household that was issued a health card is provided coverage of BDT 50,000 (US\$588.20) per year for health-care services against a government-financed premium of BDT 1,000 (US\$11.76). As of April 30, 2021, a total of 20,931 members of 81,619 enlisted families received services under this program. It will gradually be expanded across the country.²⁸⁸ The government and the UNDP-funded a2i program are also in early discussions with stakeholders to provide equitable health insurance for all.

In the private sector, the health insurance sector has relied on face-to-face interactions in selling insurance policies. However, as social distancing has become the norm, customers and insurers are quickly getting used to contactless, digital ways of purchasing and maintaining policies. Insurers need to keep working to identify areas where digitization can enable hassle-free interactions between customers and agents and incorporate value-added services into their offerings, thus leading them to change from being a reimbursement provider to a more holistic partner.

6.5.4.1 Special health insurance for low-income families

A Special Gonoshasthaya Insurance (public health insurance) policy was introduced by Gonoshasthaya Nagar Hospital in June 2021 for rickshaw pullers, van pullers, peddlers, and small vendors and their families for a monthly premium of BDT 200 (US\$2.35). Under this insurance, 15 types of health-care services are offered, including round-the-clock consultancy by physicians and health assistants at Gonoshasthaya Nagar Hospital and admission to Gonoshasthaya Nagar Hospital without charge. The insurance also offers a range of diagnostic tests and medical services at a minimal cost, such as free consultancy at the hospital regarding pediatrics, gynecology, and geriatrics twice a week.

Patients enrolled in the program are expected to pay BDT 200 (US\$2.35) in monthly premiums for the special insurance. If payments are missed, they will be deprived of the amenities of the insurance and regular charges of government facilities will be applicable, which are four times higher.

Over 3,000 families have received the special insurance on a pilot basis. All members of the policyholder's family are covered and given identity cards and an insurance book. Efforts are made to improve the health practices and welfare of the families involved.

6.5.4.2 Digitization in the insurance sector – a shift to e-receipts

The advent of the UMP played an important role in digitizing the insurance sector of the country. In October 2012, insurance companies were mandated to provide UMP-generated e-receipts instead of paper receipts given against premium payments. However, life insurance companies can keep on providing receipts against premium payments received through formal banking channels and MFS until further notice. Insurers have been instructed not to provide handwritten or paper original receipts, renewal receipts, or money receipts provided against payments made through other modes.

The UMP allows information on all policies issued by the 78 insurance companies to be stored in a digital policy repository, which acts as the digital backbone for this sector. Besides being a policy repository, the UMP platform has so far sent 10,714,125 SMS notifications and 322,558 email notifications to 8,408,405 policyholders.²⁸⁹ Additionally, an informative web portal called the "Policy Holder Portal" and a mobile application called "Bima Tottho", available for download on the Google Play Store, have been launched through the UMP portal. These initiatives allow policyholders to view updated information on their policies using the internet or a smartphone.

A total of 1,714,321 policyholders have downloaded 6,111,574 e-receipts through the UMP platform since their inception. A system called the "Online Agent Approval System" will soon be introduced through the UMP platform. It will allow electronic registration and issuance of agent licenses. The UMP platform will also introduce an e-KYC system that will help resolve issues related to identity and age during insurance proposals and claim settlements by verifying data against information stored in the Election Commission database. The in-built Business Intelligence Tools of the UMP will help both IDRA and insurers take crucial decisions based on data by providing them with reports on aspects of the industry. Efforts to introduce a policy tracking system and a data report system for actuary valuation are underway.

6.5.5 Digitization in the healthcare sector is emerging as an enabler for an efficient and widespread expansion of access to healthcare for all sections of society

The reach of the healthcare sector is expanding due to the uptake of e-health services offered by public and private health-care providers in Bangladesh. There has been a significant uptake in mobile phone use for health-care services through telemedicine, telemedicine services in community clinics, telecare, telemedicine in union information centers, and service centers.

Healthcare monitoring and support activities such as complaints/suggestions through SMS, pregnancy care advice through SMS, health statistics monitoring via SMS, hospital automation, Electronic Health Records, the online population health registry, and attendance monitoring at hospitals and healthcare centers are also steering the sector toward digitization.

The MAMA, or Aponjon, launched in December 2012, is an early example of a pilot initiative that helped the digitization wave in the healthcare sector. The program aimed to leverage rapidly expanding mobile phone networks worldwide to connect pregnant women, new mothers, and their families with gestational-age-appropriate health information. The differential pricing model used is based on the socioeconomic status of the client and allows free, discounted, or paid services.

In many ways, the modern digital healthcare experience has been shaped by MFS through cashless and refined user experience, particularly for medical expenditures. In March 2021, patients used discount and special bundled offers through the partner, Square Hospital, by making payments for their health-care packages. Payments are also accepted through digital transactions at United Hospital through Dutch-Bangla Bank Limited. This is just the beginning of fintech for healthcare in Bangladesh. Further conversations between sectors, expanded partnerships, and the continued evolution of payments and health behaviors promise a bright future for MFS.

DH, a social business, began in 2015 as Telenor Health and was acquired by Grameen Telecom Trust in 2019. It has paid out US\$1 million in free health cashbacks and conducted nearly 1 million doctor consultations. Customer care representatives guide customers through monthly and yearly packages. Packages are available to members, such as Ami Gold, Amra Gold, Ami Silver, Amra Silver, Amra Shurokkhito, and Amar Daktar, at prices ranging from BDT 49 (US\$0.57) to BDT 6,999 (US\$82.33).²⁹⁰

6.5.6 Challenges to services digitization and digital payments adoption in the healthcare sector

Table 15 describes the key challenges that emerged after discussions with the stakeholders regarding services digitization and adoption of digital payment.

Table 15:

Challenges to services digitization and digital payments adoption in the healthcare sector

Challenge highlight	Challenge description (Source: interactions with key government and private sector stakeholders)
High turnover rate of doctors	It takes time to train doctors in how to interact with patients and use the customer relationship management (CRM) software. Introducing new doctors into the system is time-consuming. This is an issue for donor-funded telemedicine services.
Database management training and data accuracy	Training doctors in CRM software use and the retention of patient data is important. Data collected in CRM databases are either overreported or underreported. The first few calls for each trainee doctor generate many null values. This can be attributed to a lack of digital literacy and training. Data accuracy is important for depicting the true state of health services in a district.
Risk of fraud and harassment	The sensitive nature of the information makes patients concerned about data confidentiality, and they may worry that they have received an incorrect diagnosis due to the non-physical nature of the proceedings. Doctors, especially female doctors, face harassment from fake callers, making them hesitant to work for toll-free telemedicine helplines.
Centralization of health-care workforce	The centralization of health services has led well-trained professionals to be mostly stationed in big cities, as data in dashboards show significant variance. Database reliability is key to policy making, as dashboards are taken into consideration when policies are formulated.
Lack of digitization in the logistical supply chain	The health-care supply chain comprises several players who need to be considered when the digital ecosystem is designed. Most of the procurement process for medical equipment is still manual. The lack of a digital payment framework in procurement leads to service delays, especially in the remote parts of the country. There is an opportunity for payments through collaboration with FSPs and MFS providers.

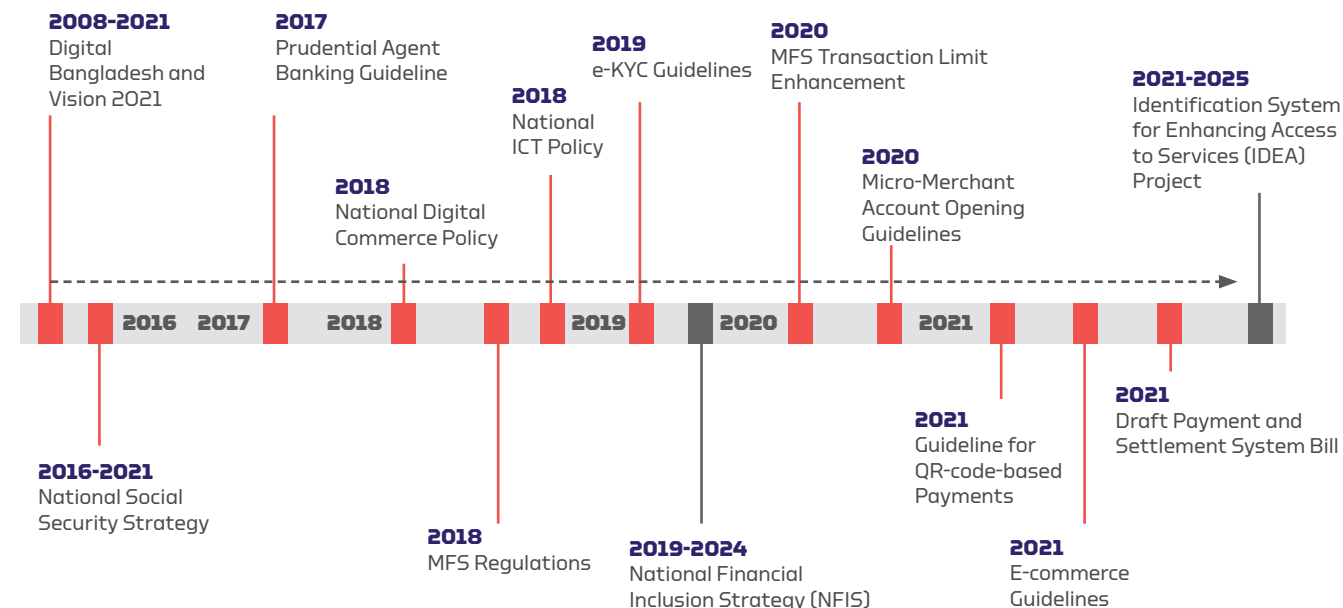
7. ENABLING ENVIRONMENT FOR DIGITAL PAYMENTS IN BANGLADESH

This enabling environment should be competitive and democratized but also safer for users. The growth of digital payments in Bangladesh has been promising, but it can be enhanced through enabling regulations and acts, market developments, and government initiatives and policies. The timeline in Figure 45 depicts the gradual evolution of the major policies, guidelines, and strategies that have fostered the digital payments ecosystem and financial inclusion in Bangladesh over the last five years.



Figure 45.

Digital payments strategy and policy evolution in Bangladesh over the last 5 years



Policies introduced over the last few years have helped shape the digital payments ecosystem, while others have strengthened the overall digital infrastructure to support payments (Table 16). Additionally, government efforts and interventions have made the digital payments ecosystem more stable, reliable, resilient, and safe, with a focus on the development of the digital economy in line with the Digital Bangladesh vision.

Table 16.

Key policies supporting Digital Bangladesh Initiative

Policy	Highlights	Achievements
Digital Bangladesh 2021	Promotes the use of technology in multiple sectors as well as poverty reduction and the SDGs. It is one of the levers for moving Bangladesh toward “developed economy” status. The main objective is to design digital solutions for the population and help bridge the digital divide between the urban and rural and rich and poor.	<ul style="list-style-type: none"> Growth of MFS with total transactions worth BDT 712 billion (US\$8.37 billion) and 98 million MFS accounts in May 2021²⁹¹ Increase of 66% in internet banking customers between May 2019 and May 2021²⁹² There are 175.27 million mobile network subscribers and 117.31 million internet users as of May 2021²⁹³ With the introduction of 4G mobile network services, bandwidth usage in the country increased by 223% from 2016 to 2018²⁹⁴ In 2016, the usage was 300 gigabytes per second (Gbps), which increased to 970 Gbps in 2018²⁹⁵ Establishment of 4,500 Union Digital Centers providing several services²⁹⁶ Introduction of digital hub and e-agriculture in 500 villages²⁹⁷ Expansion of integrated network of government ministries, departments, institutions, and offices

Policy	Highlights	Achievements
National Financial Inclusion Strategy, 2019	The goal of the NFIS-B is to enhance financial inclusion in Bangladesh to empower the marginalized population and increase social cohesion. It lays the foundation for a digital ecosystem by connecting the “first and last mile” by increasing digital G2P payments, setting up Union Digital Centers, and increasing banking access in rural areas.	<ul style="list-style-type: none"> • As of 2021, all bank branches in Bangladesh have become partially or fully online²⁹⁸ • Of the 60 scheduled and five non-scheduled banks, 51 have become interoperable for ATM transactions, 48 for POS devices, and six for IBFT²⁹⁹ • The Bangladesh Bank increased the collection of gender-disaggregated data and its use in policy formulation, leading to policies such as “Women entrepreneur-dedicated desks” • School banking increased by 64%, and special accounts by 41% between 2018 and 2020³⁰⁰ • IDTP has been piloted to establish interoperability among banks, MFS operators, and PSPs • Inclusive finance has been promoted through Confederation of Micro, Small and Medium Enterprises finance and green finance schemes • Guideline from the Bangladesh Bank for implementing interoperable transactions between MFS providers and banks
e-KYC Guidelines, 2020	Guidelines for customer on-boarding wherein a person’s identity is checked using the biometrics on the NID card. e-KYC has been divided into two types based on customers’ risk exposure: (1) Simplified e-KYC and (2) Regular e-KYC. A pilot project involving 18 banks and one non-banking financial institution showed that e-KYC can save on-boarding time from 4–5 days to 5–6 minutes, reduce the cost of customer on-boarding and KYC by 5–10 times, and foster business growth (particularly client base growth) by 25% more than the conventional on-boarding and KYC mechanism.	<ul style="list-style-type: none"> • The usage of e-KYC has increased, and Porichoy portal has played a key role in it • The turnaround time to open a bank account is reduced to 5–6 minutes from 4–5 days³⁰¹ • Paper forms of 12 to 28 pages will gradually be reduced to a one-page digital form,³⁰² which will make customer on-boarding more convenient • The cost of digitization for banks will be offset by the savings in printing costs in the long run • e-KYC has reduced the time required for customer paperwork

Other key policies, strategies, and guidelines

Table 17.

Key policies, strategies, and guidelines

Strategies and guidelines	Highlights
National Digital Commerce Policy, 2018	<ul style="list-style-type: none"> This policy aims to restore users' trust in e-commerce in Bangladesh by making digital transactions more secure. The policy was well-received by the e-commerce community. E-commerce websites came up with revised terms and conditions for enforcing customer rights. Mobile and other digital payment transactions became safer for e-commerce, as banks and MFS providers adopted safer practices. The Central Commerce Cell, under the Ministry of Commerce, handles piracy and hacking issues. Under this policy, foreign e-commerce entities were not allowed to invest and run businesses on their own in the country. They had to form a joint venture with a local player, in which the foreign investor could have a 49% stake and the local company the majority.³⁰³ In June 2020, the Government of Bangladesh approved solo ventures by foreign e-commerce entities.
Digital Commerce Operation Guidelines, 2021	<ul style="list-style-type: none"> The guidelines establish rules to be followed by digital commerce businesses in Bangladesh. These rules include the requirement to list detailed conditions of purchase and return and display the quantity of goods as well as their ingredients, prices, and delivery or other charges. They further require that images and videos of the goods to be sold be provided to enable the buyers to make an informed decision. The guidelines impose restrictions as well. For example, no addictive or prohibited substance can be sold on digital commerce platforms, and online betting and gambling are prohibited. A digital commerce business cannot sell medicines or health-care products without a license from the Directorate General of Drug Administration. One of the most important aspects of the new guidelines concerns the collection and usage of buyer data. Digital commerce businesses are required to obtain prior permission from buyers to collect their personal data, providing the reason why the data are being obtained, where they will be stored, how they will be processed, and the purposes for which they will be used. Alternative payment instruments such as digital wallets, gift cards, or cash vouchers cannot be implemented on the websites without having to take permission from the Bangladesh Bank. Products that have to be delivered within the same city must be delivered in 5 days if payment is made in advance, and within 10 days if the delivery is in a different city. The guidelines have a separate section on complaint and redress mechanisms. Online marketplaces have been instructed to include phone numbers, emails, or other means of communication through which customers can file a complaint. All such complaints must be addressed, and solutions should be provided to the customer within 72 hours. Another important highlight is that all digital commerce businesses must obtain a Unique Business Identification Number. All foreign digital commerce businesses must be registered in Bangladesh and obtain approvals from the authorities.

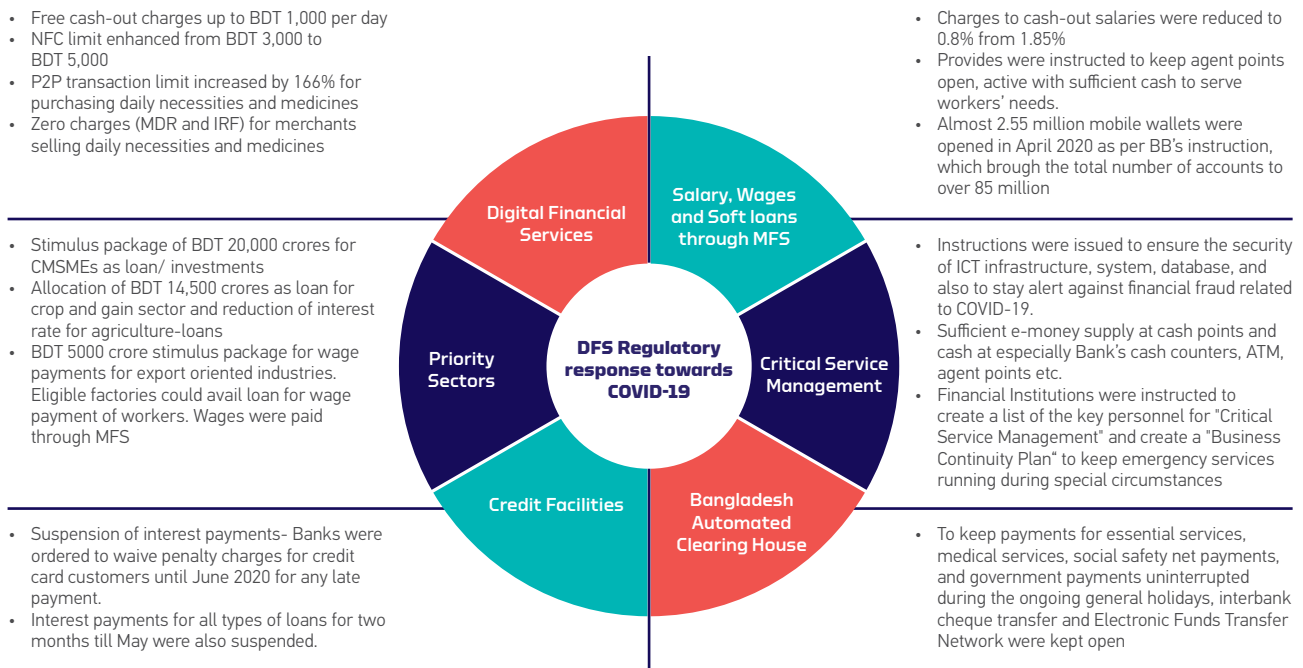
Strategies and guidelines	Highlights
Bangladesh Mobile Financial Services (MFS) Regulations, 2018	<ul style="list-style-type: none"> • MFS providers must be led only by scheduled commercial banks. Banks already running MFS operations before 2018 were allowed to hold on to their existing license or form a subsidiary for the purpose. New applicants had to form a subsidiary • MNOs are outside the list of permitted partners, but allowed to become distributors or super-agents along with NGOs and the postal department • MFS providers are advised to link customers' MFS accounts with their existing or new accounts in banks, thus maximizing customer access to credit, deposits, and other financial services through the MFS accounts
National Social Security Strategy (NSSS), 2015	<ul style="list-style-type: none"> • It seeks to modernize social security by combining tax-funded safety net programs with contributory social insurance and employment regulations to protect workers • It aims to strengthen staffing and institutions by instituting a modern MIS system, gradually replacing food-based transfer payments with cash-based payments using the financial sector-based G2P system, introducing a grievance redress mechanism, and installing a results-based monitoring and evaluation system
Identification System for Enhancing Access to Services (IDEA) Project, 2011	<ul style="list-style-type: none"> • All citizens above 14 years of age will receive smart NID cards. The Election Commission will send teams to the 40 largest host countries of expatriates to enroll them in the voter list and provide them with NID services³⁰⁴ • The major operations of the project include production and personalization of smart cards • The project will be implemented between December 2020 and November 2025 and cost a total of BDT 1,805 crore (US\$212.34 million)
Guideline of QR-code-based Payment, 2021	<ul style="list-style-type: none"> • This aims to promote low-cost technology for all merchants, including small and micro businesses, thus making them a part of the digital payment ecosystem using QR codes instead of the current expensive acquisition process using POS devices • Merchants can accept funds using Bangla QR from various instruments, including bank accounts, debit cards, credit cards, prepaid cards, MFS accounts, and e-wallet accounts • Bangla QR transactions are authorized by the issuer, and a transaction completion notification is sent to the customer and merchant instantly
Merchant Service Fees (MSFs) and Micro-merchant Account Opening Guidelines, 2020	<ul style="list-style-type: none"> • For MFS accounts, retailers are allowed to receive up to BDT 30,000 (US\$352.92) a day and up to BDT 0.5 million (US\$5,882.08) a month • Bank balances must be within BDT 1 million (US\$11,764.16) at any time, and the transaction must be within BDT 1 million (US\$11,764.16) a month • The monthly limit for PSP transactions is BDT 1 million (US\$11,764.16) and the balance in the account must not exceed BDT 0.5 million (US\$5,882.08) at any time³⁰⁵

BANGLADESH MADE POLICY INTERVENTIONS TO ADDRESS THE IMPACT OF COVID-19 AND MAINTAIN THE POSITIVE ECONOMIC GROWTH TREND

The government and Bangladesh Bank have undertaken a range of policy measures to ensure economic recovery and maintain the country's growth trajectory. Some measures are financial and others non-financial. By November 2020, the government and Bangladesh Bank had provided financial support totaling BDT 1.24 trillion (US\$14.58 billion), which is 4.34 percent of the country's GDP.³⁰⁶

Figure 46.

Policy response of Bangladesh Bank to COVID-19



FOUNDATIONAL DIGITAL INFRASTRUCTURE, PLATFORMS, AND TOOLS ARE KEY FOR DEMOCRATIZING AND FOSTERING DIGITAL PAYMENTS IN THE COUNTRY

Multiple digital initiatives and the overall digital agenda over the past few years have been supported by a constantly developing digital infrastructure with the help of the government and private sector. Four key foundational layers contribute to the development and proliferation of digital services and payments.

Figure 47. **Pillars of digital services in Bangladesh**

Digital ID	Digital Payment	Authorization and Consent	Data Exchange
A national and universal digital ID (with biometric or a digital certificate) enables processing and verification of transactions at any time and anywhere, within or outside the country	Apart from the core payments infrastructure, interoperability enables democratization of payments with laser focus on governance, scheme, technical and branding components	Customer and transaction data can be authorized o make it secure and transparent, through models leveraging informed customer and business consent	Transactions shall aim to be transparent, through models leveraging informed customer and business consent. This enables seamless and secure movement of data.

With two out of three people in Bangladesh enrolled in the National Identity program, the ID may prove to be a key enabler for multiple innovative solutions

BANGLADESH HAS THE PAYMENT SYSTEM INFRASTRUCTURE TO EMPOWER THE MARKET WITH PIONEERING SOLUTIONS LIKE BANGLA QR AND IDTP (PAYMENTS INTEROPERABILITY)

Bangladesh's payment system has seen tremendous innovation and agility in recent years. The core payment infrastructure helps build a robust and scalable system and prime the market, customers, and businesses for newer and better technologies and platforms.

- NPSB enables interoperability among participating banks for account and card-based transactions.
- Interoperability has seen significant progress, with the IDTP platform bringing full interoperability across participants. This is currently in the beta testing phase.
- Interoperability among MFS providers will be enabled through the IDTP.
- The interoperable QR code was launched this year for small-value retail payments to propel growth in cost-effective digital payments at merchant locations.
- The Bangladesh Bank carried out a pilot study on interoperability among MFS providers and banks. Twelve banks, two PSPs, and one MFS provider took part in the exercise.

- An inclusive and ecosystem-driven approach needs to be taken for interoperability to ensure that business considerations for MFS providers are addressed. This inclusive approach will facilitate a wider adoption by MFS providers and benefit both users and service providers.
- Interoperability should be quickly enabled for MFS providers so that MFS account holders enjoy the benefits. The charges and interchange fees should be set prudently to benefit users and promote a healthy and competitive payment market.
- The scope and landscape of the NPSB and IDTP have been subject to debate. Regulators need to decide on the matter quickly and present a roadmap for stakeholders so they are prepared once the IDTP goes live.
- If the NPSB is going to stay after the launch of the IDTP, it needs to be promoted among the existing players to ensure strong brand recognition.
- It is imperative to upgrade the transaction processing capabilities, settlement rules, timelines, and grievance redress procedures.
- Bangladesh is one of the few countries in the region to adopt the latest data-rich payments standards (ISO20022 messaging standard for RTGS- BD), though implementation is at an early stage and they apply only to RTGS payments.

The UN Responsible Payment guideline 7 on “Providing User Choice through Interoperability” emphasizes the need for interoperable payment systems for service providers and other digital payments ecosystem participants to build products and services. Common payment standards and an open digital environment will help increase the quality, speed, reliability, and accessibility of digital payment services.

A COMPREHENSIVE LAW FOR DATA PRIVACY AND CUSTOMER AND SERVICE PROVIDER TRUST MAY BE IMPERATIVE IN THE NEAR FUTURE, GIVEN THE GROWING DIGITAL TRANSACTIONS

As financial transactions continue to be digitized in Bangladesh, a critical need to mitigate cybersecurity risks has arisen amid the growing number of “new-to-digital” customers. To safeguard themselves, customers are moving away from passwords and adopting stronger customer authentication standards across their digital devices while making payments. Bangladesh has been moving gradually toward a robust and watertight environment for data privacy and consent, but it lacks a comprehensive privacy law and relies on provisions within a number of laws.

Table 18. **Key acts supporting data privacy and security**

ICT Act, 2006	Digital Security Act, 2018	Digital Security Rules, 2020
This Act was introduced to provide the legal framework for digital signatures and electronic records and the regulation of digital certifying authorities. Since 2006, it has not extended its scope to include provisions dealing with data privacy or data protection.	This Act was enacted to ensure national data security and develop laws regarding data crime identification, prevention, suppression, trial, and other related matters.	These rules require organizations to establish help desks to comply with the Digital Security Act 2018 and deal effectively with the misuse of personal data. Employees can register privacy-related complaints and raise security issues by contacting these help desks.

SEAMLESS EXCHANGE OF DATA HELPS PROVIDE EFFECTIVE SOLUTIONS AND ENSURE BETTER GOVERNMENT PLANNING

The Government of Bangladesh creates and maintains vast amounts of data in different sectors, including health, education, agriculture, tourism, and finance. Allowing users and the private sector to access these data has been demonstrated to have positive results, such as increased public service efficiency, government accountability, and citizen empowerment as per the Open Government Data Strategy, 2016. Open data can support reforms through greater transparency and user participation. Opening these data to the public will help increase their usability, as people will add value to them.

Apart from the layers described above, the underlying infrastructure consists of the components described in Table 19, which empower the foundational digital ecosystem and enhance the digital maturity of the population.

Table 19. **Foundational infrastructure components**

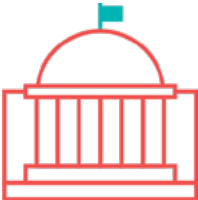

Reach of Electricity	Access to Internet	Smartphone Adoption
Electricity is a key component in facilitating any digital transaction. It elevates standards of living. A connected household can access digital channels. Currently, 92% of the population has access to electricity, and 89% of rural areas covered. ³⁰⁷	Equitable internet access in both rural and urban areas is key to bringing customers into the digital ecosystem. The internet plays an important role in the physical structure of the financial system. Internet access stands at 70% in Bangladesh. ³⁰⁸	Although customers can access the internet on basic phones, they do not offer feature-laden mobile applications and provide a limited browsing experience. Bangladesh should increase its smartphone penetration to 75% by 2025. ³⁰⁹



8. RECOMMENDATIONS AND THE WAY FORWARD

Digital payments in Bangladesh have developed considerably in the past few years. As of 2020, 7.7 percent of the population uses digital payments.³¹⁰ This has been possible through regulatory interventions, guidelines, and mandates from the government. Banks, MFS providers, MFIs, and other financial service providers have been expanding their offerings and customer reach. Many first-time account users have joined the formal financial system. Bangladesh needs the requisite products and services, a digital ecosystem for electronic expenditures, increased awareness of financial account usage, and grievance redress mechanisms. The priority sectors highlighted in this report have built-in value chains, which are now witnessing a transformation in underlying processes, both on the structural and execution fronts. However, challenges remain owing to sector-specific issues highlighted above.

The project execution team interacted with stakeholders as part of the diagnostic initiative. These stakeholders discussed the current state and adoption of digital payments in the country, barriers and challenges to use, and potential solutions and interventions for a holistic and responsible adoption of digital payments. Some of the insights from the stakeholder consultations and interviews are summarized in Table 20.

Table 20. **Inputs from stakeholder discussion**

Stakeholder group	Key inputs
 <p>Government</p>	<ul style="list-style-type: none"> • Government collaboration with market players can increase proliferation of government initiatives • The focus should be on reducing cash-outs • Relevant products should be provided to small merchants, especially women • Requirements for starting a business should be eased for micro-, small-, and medium-sized enterprises • A model for incentivizing digital payments should be evaluated
 <p>Banks</p>	<ul style="list-style-type: none"> • Banks aim to expand the reach and availability of their services by innovating business models • Complex 1-to-1 integration with different entities and platforms is a challenge for banks • Adoption can be increased by facilitating products and services through seamless data sharing • Debit and credit cards incur high transaction costs and have low penetration

Stakeholder group	Key inputs
 <p>Mobile Financial Services</p>	<ul style="list-style-type: none"> • Free cash-outs will give rise to parallel agent-based OTC transactions, impacting MFS revenue • MFS providers depend on agents for their reach and revenue. In addition, the cost of cash-in via the agent network is borne by MFS providers (at around 0.9%). • Only need-based products can change users' digital payments behavior • Democratizing micro-credit should be offered to small retailers • Planned and collaborative inputs for interoperability are envisaged
 <p>Other Companies (e.g., MFIs, telecom network providers, fintech, card networks)</p>	<ul style="list-style-type: none"> • Owing to social and cultural factors, women are hesitant to adopt digital payments • Customers need to have trust in digital payments • Digital payments usage and adoption are direct functions of expanding their reach • Government can prime the market and then play a supervisory role to ensure fair competition • Micro-credit risk assessment in the informal sector is crucial • It is important to build social, digital, and financial awareness through collaboration among all respondents

Based on insights from stakeholders, gaps were categorized into the following themes, for which interventions could be developed:

1. Cost distribution structure: Digital payments cost, especially at cash-out, is a major challenge for all participants, especially low-income users such as women RMG workers. Distribution of this cost by sharing the burden across the value chain can help bring users into the formal financial system while ensuring economic viability. The cost distribution structure can be reworked and aligned with the following possibilities to make it more cost-effective for the users:

- Government subsidy options for direct-to-citizen cash-based payments
- Optimization of costs for retail payments through global or local payment schemes
- Potential public, private and mixed cost incentivization strategies

These solutions will support the reduction in cost-distribution structure, both at the users' level and the service provider level. This solution area will encourage the users to adopt digital payments.

2. New use cases and business models: As the ecosystem evolves with changes in the underlying technological infrastructure, greater proliferation of digital devices, and increase in connectivity and changing customer needs, it is imperative to build partnerships and business models for new use cases to deliver the transformative benefits of digital payments. The potential new use cases that can be explored for adoption of digital payments are:

- Cross-border remittance platform
- Consent-based direct debit payments
- Alternative data and credit scoring for NTC customers
- Agriculture credit scoring solution.

These new use cases will support digital payments in uncharted areas that are currently dominated by cash transactions. They will also help in the evolution of the digital payments' ecosystem.

3. Payment solutions and infrastructure: Development of the requisite digital payment system infrastructure and underlying technological capabilities is pivotal to providing a seamless service. The following can help:

- SME Invoice Discounting platform
- Digital ID based payment solutions
- Offline payment solutions.

These will enhance use of digital payments in areas where users are currently not able to gain much benefit from them.

4. Data protection and trust: Users' data protection and development of trust is one of the most important aspects of getting them to use digital payments regularly and actively. The following measures are required to build trust among digital transaction users.

- Central consent-based framework
- Artificial intelligence/machine learning based fraud detection system.

5. Demand–supply gap: The existing solutions and products do not fully meet the needs of the varied segments of users, such as women and small businesses, who need access to DFS services but are mostly left out due to lack of targeted products. Solutions such as an open banking platform, Buy Now Pay Later, Soft POS, Integration of ekPay with telemedicine and online consultancy websites/applications and SME lending for merchants should be prioritized.

6. Financial and digital capability: Targeted training, awareness, and recourse mechanisms need to be employed for stakeholder groups (e.g., women, SMEs, farmers) to help them understand DFS and the relevant products and services. There is a need for a National Financial Literacy strategy and frequent citizen surveys to identify user challenges and roll out the mitigation strategies.

Considering the gaps identified above, it is imperative to understand the interventions and solutions that can address the challenges. Interventions should be implemented in a phased manner, keeping in mind the need for a mature digital ecosystem, regulatory readiness, and enough awareness among the public and markets. The proposed interventions should ensure successful digital payments adoption and uptake, as supply, demand, and infrastructure form a symbiotic relationship, and services will mature in scale and quality to meet customer demands. It is also imperative to develop a collective reward and incentivization mechanism, business rules and models, and service quality guidelines in the digital payments ecosystem to align with the Digital Bangladesh 2021 vision.

9.1 DIAGNOSTIC APPROACH AND METHODOLOGY

The digital payments diagnostic aims to assess the current state of payment digitization in the priority sectors of Bangladesh's economy, identify priority use cases, and present a clear understanding of the players in the digital payments ecosystem according to the UN's Responsible Payments guidelines. It identifies the evolution and provision of digital payments to relatively excluded segments such as women, small merchants and businesses, and marginal workers. It also highlights the gaps in the digital payments ecosystem to enable the creation of an overall sector digital payment roadmap.

Primary and secondary research was conducted to gather insights into the state of demand, supply channels, infrastructure, and adoption of digital payment instruments by societal groups and priority sector value chains. Through in-country diagnostic surveys with users, informal workers, merchants, and agents with diverse backgrounds, respondents provided insights and perspectives on digital payments usage, their preferred service modes, and challenges and concerns. The key views and insights from the stakeholder group surveys were captured.

Primary research

A market scan was conducted over a few weeks, which involved interviews and discussions with stakeholders in the digital payments ecosystem (e.g., banks, government departments, the central bank, MFIs, MFS providers, IDOs, various industry associations and sector-specific think tanks). On-the-ground surveys were conducted with users, agents, and merchants.

- 60 stakeholders/stakeholder groups were interviewed about aspects and issues relating to cost, gender inclusion, effects of COVID-19, and evolution of the digital payments ecosystem. The theme of the discussion was usually the focus areas and priority sectors pertaining to the stakeholder group.
- 150 respondents participated in the primary research survey, which was conducted with agents, users, and merchants. A representative sample across users, agents, and merchants was used to obtain in-depth information on habits and patterns of digital payments usage and fill gaps in the findings of the secondary research.

Secondary research

Throughout the course of the diagnostic assessment, extensive secondary research supported the responses obtained in the primary research.

- The secondary research included an in-depth assessment of data sources. Multiple data sources such as the Bangladesh Bank, IDOs, and other publicly available information sources were consulted.
- Data were drawn from government documents, academic papers, statistical databases, and historical records such as the Better Than Cash Alliance 2016 Country Diagnostic for Bangladesh, newspaper articles, and publications of the UNCDF, the Alliance, the World Bank, and the Bangladesh Bureau of Statistics.

The information-collection process involved primary research – stakeholder discussions and workshops – and secondary research. This was followed by identification of the required data points and data cleansing, synthesis, and socialization.

Across the report, average currency conversion rate of 2021 as of 30 November 2021 (1 USD = 85.0039 BDT) has been used as the currency conversion rate.³¹¹



9.2 LIST OF ABBREVIATIONS

Acronym

Definition

ATM	Automatic Teller Machine
BACH	Bangladesh Automated Clearing House
BACPS	Bangladesh Automated Cheque Processing System
BB	Bangladesh Bank
BDT	Bangladeshi Taka
BEFTN	Bangladesh Electronic Funds Transfer Network
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BIID	Bangladesh Institute of ICT in Development
BSR	Business for Social Responsibility
BTRC	Bangladesh Telecommunication Regulatory Commission
BURO	Basic Unit for Resources and Opportunities
CAGR	Cumulative Annual Growth Rate
DFS	Digital Financial Services
EFT	Electronic Funds Transfer
EMI	Equated Monthly Installment
EU	European Union
FY	Financial Year
GDP	Gross Domestic Product
GSMA	Global System for Mobile Communications Association
IBAS	Integrated Budget and Accounting System
IBFT	Internet Banking Fund Transfer
ICT	Information and Communication Technology
IDTP	Interoperable Digital Transaction Platform
IFC	International Finance Corporation
ISO	International Organization for Standardization
IT	Information Technology
KYC	Know-Your-Customer
LC	Letter of Credit
MFS	Mobile Financial Services
MICR	Magnetic Ink Character Recognition
MIS	Management Information System
MSME	Micro, Small, and Medium Enterprises
NATP	National Agricultural Technology Program
NER	Net Enrolment Ratio
NFIS	National Financial Inclusion Strategy
NID	National Identity Card
NPSB	National Payment Switch Bangladesh
PESP	Primary Education Stipend Programme
PIN	Personal Identification Number
POS	Point-of-Sale
QR	Quick Response
RMG	Ready-Made Garment
RTGS	Real-Time Gross Settlement
SDG	Sustainable Development Goals
SHF	Smallholder Farmer
SME	Small and Medium Enterprise
SMS	Short Message Service

SSN	Social Safety Net
UN	United Nations
UNCDF	United Nations Capital Development Fund
UNCHR	United Nations High Commissioner for Refugees
US	United States
USA	United States of America
USAID	United States Agency for International Development
USD	United States Dollar
VAT	Value-Added Tax
WFP	World Food Programme

9.3 GLOSSARY

Key terms	Definition
Agent	An external agency or a person acting as a correspondent of a bank, e-money issuer, or any other financial institute and acting as an interface between the customers and the institute.
Agent outlet	An agent can have more than one service point, which is referred to as an “outlet.”
Aggregator	A payment aggregator is a technology service provider that allows merchants to accept credit cards, debit cards, or e-money for payments for services or products.
Application Programing Interface (API)	These are programs and software tools that enable two different systems, applications, and platforms to communicate with each other and transfer data and information in a controlled and consent-based mechanism.
Architecture	This refers to the overall design of a computing system and the logical and physical interrelationships between its components. It involves the processes of acquiring, building, modifying, and interfacing IT resources throughout the enterprise.
Authentication	The process of proving that a person is who they claim to be. In digital authentication, a person generally electronically presents one or more “factors” or “authenticators” to “assert” their identity.
Automated Clearing House (ACH)	An ACH is a computer-based electronic network for processing transactions, usually domestic low-value payments, between participating financial institutions. It may support both credit transfers and direct debits.
Biometric	The physical or behavioral attributes of an individual, including fingerprints, irises, facial images, signatures, and keystrokes.
Cash-in/ Cash-out	The activity of depositing cash (cash-in) and withdrawing cash (cash-out) at financial services touchpoints such as Electronic Money Establishment (EME) agents, bank agent/ branches, and SFD branches.
Connectivity	The ability of individuals to access telecom services (such as calling, SMS, internet).
Contactless payments	This is a secure payment method using a debit or credit card, smartcard, or another payment device with RFID technology and near-field communication. To use the system, a customer taps the payment card near a point-of-sale terminal equipped with the technology to complete the transaction.

Key terms	Definition
Consent	An informed and unambiguous indication that signifies that the individual agrees with the processing of personal data relating to them.
Cryptocurrency	A digital or virtual currency that is secured through cryptography, which makes it impossible to counterfeit or double-spend. Many cryptocurrencies are decentralized networks based on blockchain technology.
Currency	A medium of exchange for goods and services. It is money, in the form of paper or coins, usually issued by a government and generally accepted at its face value as a method of payment.
Digital Financial Services	A broad range of financial services accessed and delivered through digital channels, including payments, credit, savings, remittances, and insurance.
Digital identity	A set of electronically captured and stored attributes and/or credentials that uniquely identify a person.
Digital identification system	An identification system that uses digital technology throughout the identity lifecycle, including for data capture, validation, storage, and transfer; credential management; and identity verification and authentication.
Digital payments	Sometimes called “electronic payments”, these are value transfers from one payment account to another using a digital device such as a mobile phone, POS or computer, or a digital communication channel. This includes payments made with bank transfers, mobile money, and payment cards, including credit, debit, and prepaid cards.
Digital signature	An electronic signature used to verify the identity of the sender/signer of a message and to ensure the correctness and validity of information in electronic transactions.
Electronic KYC (e-KYC)	An online, paperless, real-time verification of KYC norms of a person against an authoritative source of truth stored digitally.
Electronic money (e-money)	This is the inventory of money stored and issued in digital form by an EME, SFD, or banking institution. It is accepted and can be transmitted over digital mediums for the settlement of payments in monetary value.
Fast money transfer	Also called OTC money transfer services, these are offered by non-banking institutions over their proprietary networks.
Fintech	Firms using innovative technologies and solutions in the financial sector. These either collaborate with financial service providers or roll out solutions independently to bridge gaps in financial solutions and services.
Know-your-customer (KYC)	Due diligence measures taken by various financial institutions to identify their customers through address and identity proofs. These are used as a preventive measure against money laundering and the financing of terrorist activities.
Mudir doka	The term used in Bangladesh for neighborhood mom-and-pop shops.
Master agent	Companies that specialize in agent network management and manage the distribution channel of EMEs with multiple agents under them. They manage the liquidity of the agents on behalf of the EMEs.
Mobile banking	A delivery channel that uses mobile phones as the platform for financial transactions, such as payment transfers, bill payments, and balance enquiries. It may be used through USSD, banking websites accessed on mobile phones, or banking applications accessed on mobile phones.

Point-of-sale (POS)	A merchant location where a payment for goods or services is made in the form of cash or electronically. Electronic payment at the POS is made using the POS machine issued by a financial institution through modes such as cards.
Sub-agent	Fast money transfer agents that sign contracts with financial institutions for provision of money transfer services.
Sustainable Development Goals (SDGs)	These are 17 interlinked global goals designed to be a “blueprint to achieve a better and more sustainable future for all.” The SDGs were set in 2015 by the United Nations General Assembly and are intended to be achieved by 2030.
Value-added services	Services other than the core services offered by a financial institution (e.g., bill payment services provided by an EME).
Wallet	Also known as an “e-wallet,” this is an electronic device, online service, or software program that allows one party to conduct electronic transactions with another by bartering digital currency units for goods and services.

9.4 BIBLIOGRAPHY

1. Markus Massi, Godfrey Sullivan, Michael Strauß, and Mohammad Khan, How Cashless Payments Help Economies Grow, Boston Consulting Group, 2019, Available from: <https://www.bcg.com/publications/2019/cashless-payments-help-economies-grow>
2. Data analysis
3. SDG Cell, Bangladesh Bureau of Statistics, Available from: <https://www.sdg.gov.bd/public/page/indicator-wise/1/141/2/0>
4. Bangladesh Bureau of Statistics, Gross Domestic Product (GDP), Available from: [http://www.bbs.gov.bd/site/page/dc2bc6ce-7080-48b3-9a04-73cec782d0df/Gross-Domestic-Product-\(GDP\)](http://www.bbs.gov.bd/site/page/dc2bc6ce-7080-48b3-9a04-73cec782d0df/Gross-Domestic-Product-(GDP))
5. Better Than Cash Alliance, Responsible Digital Wages in the RMG Sector, January 2021
6. Bangladesh Bank (2021), Economic data, e-Banking and e-Commerce Statistics Unit, Available from: <https://www.bb.org.bd/econdata/index.php>
7. Bangladesh Bank, Quarterly Report on No-Frill Accounts (January–March 2021)
8. Discussion with Shahzada Redwan, SSL Commerz Ltd, 28 June 2021
9. Bangladesh Bank (2021), Economic data, e-Banking and e-Commerce Statistics Unit, Available from: <https://www.bb.org.bd/econdata/index.php>
10. Bangladesh Bank (2021), Economic data, e-Banking and e-Commerce Statistics Unit, Available from: <https://www.bb.org.bd/econdata/index.php>
11. Data analysis based on registered MFS clients and total population of Bangladesh
12. International Monetary Fund (IMF), Financial Access Survey 2020, Access to macroeconomic and financial data, Available from: <https://data.imf.org/?sk=E5DCAB7E-A5CA-4892-A6EA-598B5463A34C&slid=1390030341854>
13. Bangladesh Bank (2021), Economic data, e-Banking and e-Commerce Statistics Unit, Available from: <https://www.bb.org.bd/econdata/index.php>
14. Bangladesh Bank (2021), Economic data, e-Banking and e-Commerce Statistics Unit, Available from: <https://www.bb.org.bd/econdata/index.php>
15. Bangladesh Bureau of Statistics, Bangladesh Statistics Report (2019), Available from: <https://bbs.portal.gov.bd/site/page/02e10d71-a07c-4384-9934-cd62d9e88b3b/->
16. GSMA, Connected Women - The Mobile Gender Gap Report 2020
17. Department of Social Services, Social Safety Net, Available from: <http://www.dss.gov.bd/>
18. Guy Stuart, Factory Wage Digitization Trends, Garment Worker Diaries, MFO, 2020
19. Discussion with Sami Al Karim, Tarreq Hasan, a2i, March 14, 2021

20. The Business Standard, Ctg customs posts positive growth in revenue collection, Available from: <https://www.tbsnews.net/economy/ctg-customs-posts-positive-growth-revenue-collection-133462>
21. The Dhaka Tribune, MFS subscribers using the platform more and more, Available from: <https://www.dhakatribune.com/business/banks/2020/12/11/mfs-subscribers-using-the-platform-more-and-more>
22. Bangladesh Bank (2021), Economic data, e-Banking and e-Commerce Statistics Unit, Available from: <https://www.bb.org.bd/econdata/index.php>
23. Bangladesh Bank (2021), Economic data, e-Banking and e-Commerce Statistics Unit, Available from: <https://www.bb.org.bd/econdata/index.php>
24. Better Than Cash Alliance, Responsible Digital Wages in the RMG Sector, January 2021, Available From: <https://www.slideshare.net/betterthancashalliance/responsible-digital-wages-in-rmg-sector-of-bangladesh#>
25. Better Than Cash Alliance, Responsible Digital Wages in the RMG Sector, January 2021, Available From: <https://www.slideshare.net/betterthancashalliance/responsible-digital-wages-in-rmg-sector-of-bangladesh#>
26. Better Than Cash Alliance, Responsible Digital Wages in the RMG Sector, January 2021, Available From: <https://www.slideshare.net/betterthancashalliance/responsible-digital-wages-in-rmg-sector-of-bangladesh#>
27. World Bank, Employment in agriculture (% of total employment) (modeled ILO estimate) - Bangladesh
28. Bangladesh Bank, Quarterly Report on No-Frill Accounts (January – March 2021), Available from: https://bb.org.bd/pub/quarterly/financial_inclusion_report/jan_mar2021.pdf
29. Discussion with Shahzada Redwan, SSL Commerz Ltd, June 28, 2021
30. Prime Minister's Education Assistance Trust, Publication, Available from: <https://pmeat.portal.gov.bd/>
31. The Daily Star, Govt to expand health insurance for people below poverty line, June 2021, Available from: <https://www.thedailystar.net/budget-2021-22/news/govt-expand-health-insurance-people-below-poverty-line-2104209>
32. The Daily Star, Aroga raises investment for pharma, healthcare app, Available from: <https://www.thedailystar.net/online/news/arogga-raises-investment-pharma-healthcare-app-2027149>
33. Sunera Saba khan, The Financial Express, E-commerce in Bangladesh: Where are we headed?, January 10, 2020, Available from: <https://thefinancialexpress.com.bd/views/views/e-commerce-in-bangladesh-where-are-we-headed-1578666791>
34. MicroSave Consulting, A boon for online commerce: How is COVID-19 transforming the industry in Bangladesh?, Available from: <https://www.microsave.net/2020/12/08/a-boon-for-online-commerce-how-covid-19-is-transforming-the-industry-in-bangladesh/>
35. Discussion with Shomi Kaiser, eCAB, March 20, 2021
36. Better Than Cash Alliance; Compendium, 2020; Igniting SDG Progress Through Digital Financial Inclusion
37. FIS Global. 2020. Flavours of Fast -2020. [Online]. Available from: https://empower1.fisglobal.com/rs/650-KGE-239/images/Flavors-of-Fast-Report_2020.pdf.
38. Better Than Cash Alliance. 2021. UN Principles for Responsible Digital Payments [Online]. Available from: <https://responsiblepayments.org/pdfs/UN-ResponsiblePayments.pdf>, [Accessed October 2021]
39. Khan, S. 2020. Bringing unbanked poor under financial services.
40. Data analysis.
41. Massi, M., et al. 2019. How Cashless Payments Help Economies Grow.
42. Uddin, Z. 2019. Cash use costs Bangladesh Tk 9,000cr every year. The Daily Star, 16 May [Online]. Available from: <https://www.thedailystar.net/business/banking/cash-use-costs-bangladesh-tk-9000cr-every-year-1744354> [Accessed July 2021].
43. Haven, B., Beyer, R.C., Dihel, N., Arshad, S. & Shahriar, S. 2021. Bangladesh Development Update, April 2021: Moving Forward - Connectivity and Logistics to Strengthen Competitiveness, Open Knowledge Repository. Available from: <https://openknowledge.worldbank.org/handle/1098/35965>.
44. Export Performance. 2021. BGMEA-2021. Available from:, https://www.bgmea.com.bd/page/Export_Performance.
45. Bangladesh Bureau of Statistics. Gross Domestic Product (GDP).
46. Bangladesh Bureau of Statistics. Gross Domestic Product (GDP).

47. Bangladesh Bank. Wage earner's remittance inflow. [Online]. Available from: <https://www.bb.org.bd/econdata/wagermidtl.php>
48. Hasan, S. 2021. Cash incentives & remittances in Bangladesh. The Financial Express, 16 July [Online]. Available from: <https://thefinancialexpress.com.bd/views/views/cash-incentives-remittances-in-bangladesh-1626446765> [Accessed July 2021].
49. United Nations Development Program. Sustainable Development Goals. UNDP. Available from: <https://www.bd.undp.org/content/bangladesh/en/home/sustainable-development-goals.html>.
50. UNSGSA. 2018. Igniting SDG Progress Through Digital Financial Inclusion. [Online]. Available from: https://www.unsgsa.org/sites/default/files/resources-files/2020-09/SDG_Compendium_Digital_Financial_Inclusion_September_2018.pdf.
51. TechObserver. 2021. Bangladesh PM's cash assistance to be available in MFS, 2021. [Online]. Available from: <https://techobserver.in/2021/07/19/252242/>.
52. Robinson, A. & Avi, R. 2020. A Digital Lifeline in a Public Health Crisis. [Online]. Available from: https://ssir.org/articles/entry/a_digital_lifeline_in_a_public_health_crisis#.
53. The Business Standard. 2020. PM to launch disbursement of cash aid to 50 lakh families tomorrow. [Online]. Available from: <https://www.tbsnews.net/coronavirus-chronicle/covid-19-bangladesh/pm-launch-disbursement-cash-aid-50-lakh-families-tomorrow>.
54. Matheson, R. 2016. Mobile-money services lift Kenyans out of poverty. [Online]. Available from <https://news.mit.edu/2016/mobile-money-kenyans-out-poverty-1208>.
55. Better than Cash Alliance. Why Digital Payments. [Online]. Available at: <https://www.betterthancash.org/why-digital-payments>.
56. Imran, K. Mobile Money Improves CHW Incentive Schemes, [Online]. Available from <https://chwcentral.org/mobile-money-improves-chw-incentive-schemes/>.
57. Data received from Secondary and Higher Education Division, Ministry of Education, 10 October 2021.
58. Gelb, A., et al. 2019. Primary Education Stipends in Bangladesh: Do Mothers Prefer Digital Payments over Cash? [Online]. Available from: <https://www.cgdev.org/publication/primary-education-stipends-bangladesh-do-mothers-prefer-digital-payments-over-cash>.
59. Better Than Cash Alliance. Why Digital Payments.
60. Ashraf, N., Karlan, D. & Yin, W. 2016. Female Empowerment: Impact of a Commitment Savings Product in the Philippines. [Online]. Available from: http://www.econ.yale.edu/growth_pdf/cdp949.pdf.
61. Better than Cash Alliance. Why Digital Payments.
62. Better than Cash Alliance. 2019. In Bangladesh, key public and private sector actors commit to scaling digital wages across garment sector. [Online]. Available from: <https://www.betterthancash.org/news/key-public-and-private-sector-actors-commit-to-scaling-digital-wages-across-garment-sector>
63. Better than Cash Alliance. 2018. More Good Jobs and Economic Growth through Digital Financial Inclusion [Online]. Available from: https://btca-production-site.s3.amazonaws.com/documents/354/english_attachments/BTC_SDG_8.pdf?1537627479.
64. Better than Cash Alliance. 2017. Digitizing Wage Payments in Bangladesh's Garment Production Sector, [Online]. Available from: https://btca-production-site.s3.amazonaws.com/documents/282/english_attachments/BangladeshGarmentFactoryCaselet_March_2017.pdf?1488943735.
65. Better than Cash Alliance. Why Digital Payments.
66. Xpress Money. 2019. What the Bangladesh Government's 2% Cash Incentive Means For Expats. [Online]. Available from: <https://www.xpressmoney.com/blog/whats-new/cash-incentive-for-bangladesh-expats/>.
67. Hernandez & Quiros, 2016
68. Bangladesh Bank. Bangladesh Automated Cheque Processing Systems (BACPS). Available from: <https://www.bb.org.bd/fnansys/paymentsys/autochq.php>.
69. Bangladesh Bank. Payment and Settlement Systems National Payment Switch Bangladesh (NPSB). Available from <https://www.bb.org.bd/fnansys/paymentsys/natpayswitch.php>
70. Bangladesh Bank. Payment and Settlement Systems National Payment Switch Bangladesh (NPSB).
71. Hossain, R. 2020. Why multiple payment service licensings yet to bring the desired result? [Online]. Available from: <https://www.tbsnews.net/thoughts/why-multiple-payment-service-licensings-yet-bring-desired-result-176524>

72. Bangladesh Bank. Bangladesh Bank Open Data Initiative, e-Banking and e-Commerce Statistics Unit. Available from: <https://www.bb.org.bd/econdata/index.php>
73. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
74. Bangladesh Bank. Financial Systems. Available from: <https://www.bb.org.bd/fnansys/bankfi.php>
75. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
76. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
77. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
78. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
79. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
80. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
81. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
82. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
83. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
84. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
85. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
86. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
87. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
88. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
89. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
90. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
91. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
92. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
93. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
94. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
95. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
96. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
97. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
98. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
99. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
100. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
101. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
102. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
103. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
104. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
105. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
106. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
107. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
108. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
109. Khan, S. 2020. Bringing Unbanked Poor Under Financial Services.
110. Kabir, H. 2020. Covid triggers rise in mobile financial services. The Financial Express, 14 November [Online]. Available from: <https://thefinancialexpress.com.bd/trade/covid-triggers-rise-in-mobile-financial-services-1605325877>
111. Data analysis on registered MFS clients and total population of Bangladesh.
112. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
113. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
114. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
115. KPMG. 2020. Bangladesh Government and institution measures in response to COVID-19, [Online]. Available from: <https://home.kpmg/xx/en/home/insights/2020/04/bangladesh-government-and-institution-measures-in-response-to-covid.html>
116. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
117. Bangladesh Bank. Bangladesh Bank Open Data Initiative.

118. World Bank. Literacy rate, adult female (% of females ages 15 and above) – Bangladesh. Available from: <https://data.worldbank.org/indicator/SE.ADT.LITR.FE.ZS?end=2019&locations=BD&start=2011>
119. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
120. International Organization for Migration (IOM). Migration, Family Remittances, Assets and Skills Categories in Bangladesh/ [Online]. Available from: https://bangladesh.iom.int/sites/bangladesh/files/publication/Migration%2C%20Family%20Remittances%2C%20Assets%20and%20Skills%20Categories%20in%20Bangladesh%20Study%20Report_Nov%202020.pdf
121. Bangladesh Bureau of Statistics. Bangladesh Statistics 2019 report.
122. Lydia Hopton, Shwapna Bhowmick, and Mizanur Rahman – Discussion with Marks & Spencer’s Bangladesh Team on March 1, 2021.
123. International Finance Corporation (IFC). 2018. Closing the Gender Gap: Opportunities for the Women’s Mobile Financial Services Market in Bangladesh, 2018.
124. Stakeholder workshop with key government and private sector stakeholders: ICT Division, Government of Bangladesh, A leading MFI and a leading MFS provider in Bangladesh.
125. <https://www.betterthancash.org/alliance-reports/reaching-financial-equality-for-women>
126. <https://datatopics.worldbank.org/financialinclusion/country/bangladesh>
127. UN Principles for Responsible Digital Payments. Available from: <https://responsiblepayments.org/pdfs/UN-ResponsiblePayments.pdf#page=37>
128. This analysis from data2x provides information on gender data gaps: <https://data2x.org/wp-content/uploads/2021/06/BtG-Country-Profile-Bangladesh.pdf>
129. <https://data2x.org/resource-center/catalyzing-inclusive-financial-systems-chiles-commitment-to-womens-data/>
130. Ministry of Finance. 2021. PwC Analysis based on: Finance Division, Monthly Report on Fiscal Position, March. Available from: https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/d9daf6f5_96d9_411b_bb44_42d6681075c4/MFR_MARCH_2021b.pdf.
131. PwC Analysis based on: Voluntary National Reviews (VNRs). 2020. Accelerated action and transformative pathways: realizing the decade of action and delivery for sustainable development.
132. PwC Analysis based on: Ministry of Finance, Finance Division, Social Protection Programs, Fiscal year 2021–22. Available from: https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/672e3d4d_09bb_4205_9afd_843de55481d1/Social%20Protection%20Programs_2021-22_English.pdf.
133. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
134. PwC Analysis based on: Voluntary National Reviews (VNRs) 2020.
135. PwC Analysis based on: Finance Division, March 2021.
136. Ministry of Finance, Finance Division, Social Protection Programs, Fiscal year 2021–22. Available from: https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/672e3d4d_09bb_4205_9afd_843de55481d1/Social%20Protection%20Programs_2021-22_English.pdf.
137. PwC Analysis based on: Finance Division, March 2021.
138. Ministry of Finance, Finance Division, Social Protection Programs, Fiscal year 2021–22.
139. Discussion with Mr. Al Amin, a2i, May 2021.
140. PwC Analysis based on: Pension to go fully online from 2021, The Business Standard, August 21, 2020.
141. PwC Analysis based on: ILO, Bangladesh BD: Unemployment: Modeled ILO Estimate: % of Total Labour Force, Available from: <https://www.ceicdata.com/en/bangladesh/employment-and-unemployment/bd-unemployment-modeled-ilo-estimate--of-total-labour-force>.
142. PwC Analysis based on: Trading Economics, Bangladesh Average Monthly Income. Available from: <https://tradingeconomics.com/bangladesh/wages#:~:text=Wages%20in%20Bangladesh%20is%20expected,according%20to%20our%20econometric%20models>
143. PwC Analysis based on: Bangladesh Bank, Open Data Initiative. Available from: <https://www.bb.org.bd/en/index.php/econdata/index>.
144. PwC Analysis based on: Ministry of Finance, Monthly Fiscal Report, March 2021.
145. PwC Analysis based on: Ministry of Finance, Finance Division, Social Protection Programs, Fiscal year 2021–22.
146. Department of Social Services, Social Safety Net. Available from: <http://www.dss.gov.bd/>.
147. Bangladesh Bank. Bangladesh Bank Open Data Initiative.

148. [no author]. 2020. Bangladesh to give Tk 2,500 to each of 5m households amid coronavirus crisis. BDNews24. [Online]. Available from: <https://bdnews24.com/bangladesh/2020/05/13/bangladesh-to-give-tk-2500-to-each-of-5m-households-amid-coronavirus-crisis>.
149. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
150. PwC Analysis based on: [no author]. 2021. Bangladesh's tax revenue posts 17pc growth. The Financial Express, 5 July.
151. PwC Analysis based on: Number of taxpayers rose by 30 lakh in a decade. The Business Standard. Available from: <https://www.tbsnews.net/interviews/decade-ago-number-taxpayers-was-14-lakhs-now-number-has-surpassed-44-lakhs>.
152. PwC Analysis based on: [no author]. 2019. Taxpayers' number static as 22 lakh file returns. The Newage, 3 December. Available from: <https://www.newagebd.net/article/92465/taxpayers-number-static-as-22-lakh-file-returns>.
153. PwC Analysis based on: Bangladesh's tax revenue posts 17pc growth.
154. PwC Analysis based on: [no author]. 2021. Corporate tax: How does Bangladesh compare with peers? The Business Standard, 9 March. Available from: <https://www.tbsnews.net/feature/panorama/corporate-tax-how-does-bangladesh-compare-peers-213292>.
155. PwC Analysis based on: Mala, D.A. 2021. NBR to make e-payment of tax mandatory. The Financial Express, 27 July. Available from: <https://thefinancialexpress.com.bd/trade/nbr-to-make-e-payment-of-tax-mandatory-1627363551>.
156. PwC Analysis based on: Ministry of Finance, Monthly Fiscal Report, March 2021.
157. PwC Analysis based on: BPDB Annual Report, 2018-19. Available from: https://www.bpdb.gov.bd/bpdb_new/index.php/site/annual_reports.
158. [no author]. 2020. NBR to make e-payment of customs duty mandatory from April 2021, The Daily Star, 12 September. Available from: <https://www.thedailystar.net/country/news/nbr-make-e-payment-customs-duty-mandatory-april-2021-1960117>.
159. UNB. 2020. e-Payment of VAT set to be introduced Thursday, July 14, 2020. Available from: <https://unb.com.bd/category/Special/e-payment-of-vat-set-to-be-introduced-thursday/54634>.
160. NBR to make e-payment of tax mandatory, The Financial Express.
161. Mala, D.A. 2021. NBR to make e-payment of tax mandatory. The Financial Express, 27 July. [Online]. Available from: <https://thefinancialexpress.com.bd/trade/nbr-to-make-e-payment-of-tax-mandatory-1627363551>
162. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
163. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
164. Ekpay and Synesis IT, Available From: https://synesisit.com.bd/project_details?id=51
165. Ekpay and Synesis IT, Available From: https://synesisit.com.bd/project_details?id=51
166. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
167. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
168. [no author]. 2018. Focus on raising number of taxpayers, tax-GDP ratio. The Financial Express. December 01, 2018. Available from: <https://thefinancialexpress.com.bd/public/index.php/trade/focus-on-raising-number-of-taxpayers-tax-gdp-ratio-1543641168>.
169. UNB. 2019. NBR plans 32 more tax zones across Bangladesh. 14 February. Available from: <https://unb.com.bd/category/Special/nbr-plans-32-more-tax-zones-across-bangladesh/12632>.
170. Central Taxes Survey Zone. Available from: <http://taxsurvey.gov.bd/>.
171. [no author]. 2020. NBR to make e-payment of customs duty mandatory from April 2021. The Daily Star.
172. Data received from UNCDF on ekPay, July 14, 2021.
173. [no author]. 2020. BB announces special waivers to tackle coronavirus. The Independent, 21 March. Available from: <https://m.theindependentbd.com/printversion/details/241749>.
174. Discussion with Mr. Zahidul Islam, Unilever, March 10, 2021.
175. Discussion with Mr. Zahidul Islam, Unilever, March 10, 2021.
176. [no author]. 2020. MFS subscribers using the platform more and more. The Dhaka Tribune, December 11. Available from: <https://www.dhakatribune.com/business/banks/2020/12/11/mfs-subscribers-using-the-platform-more-and-more>

177. PwC Analysis based on: [no author]. 2010. Informal remittances on the decline. The Daily Star, 15 October. Available from: <https://www.thedailystar.net/news-detail-158469>
178. PwC Analysis based on: Aneja, A. & Islam, S.T. 2020. Bangladesh faces a crisis in remittances amid COVID-19. The World Economic Forum, June 16, 2020. Available from: <https://www.weforum.org/agenda/2020/06/bangladesh-faces-a-remittances-crisis-amid-covid-19/>
179. PwC Analysis based on: IOM. Migration, Family Remittances, Assets and Skills Categories in Bangladesh. Available from: <https://publications.iom.int/books/migration-family-remittances-assets-and-skills-categories-bangladesh>
180. PwC Analysis based on: Open Data Initiative. Bangladesh Bank.
181. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
182. Bangladesh Bank. Agent Banking Statistics: Part-2, e-Banking and e-Commerce Statistics Unit, Bangladesh Bank. Available from: <https://www.bb.org.bd/openpdf.php>
183. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
184. BB exploring bringing down cash-out charge for MFS, The Dhaka Tribune.
185. ADB, July 2021. Available from: <https://www.adb.org/sites/default/files/publication/714036/harnessing-digitization-remittances-asia-pacific.pdf>
186. Moazzem, K. & Radia M. 2018. 'Data Universe' of Bangladesh's Rmg Enterprises Key Features and Limitations, CPD RMG.
187. Labowitz, S. & Baumann-Pauly D. 2015. Beyond the Tip of the Iceberg: Bangladesh's Forgotten Apparel Workers. NYU Stern Center for Business and Human Rights.
188. BGMEA Sustainability Report, 2020. Available from: <http://download.bgmea.com.bd/BGMEA%20Sustainability%20Report%202020.pdf>
189. BGMEA. 2020. RMG Export Performance. Available from: https://www.bgmea.com.bd/page/Export_Performance
190. BGMEA. 2020. RMG Export Performance.
191. BGMEA. 2020. RMG Export Performance.
192. BGMEA. 2020. RMG Export Performance.
193. McKinsey & Company. 2021. What's next for Bangladesh's garment industry, after a decade of growth? Available from: <https://www.mckinsey.com/industries/retail/our-insights/whats-next-for-bangladeshs-garment-industry-after-a-decade-of-growth>
194. ADB. COVID-19 Active Response and Expenditure Support (CARES) Program [Online]. Available from: <https://www.adb.org/sites/default/files/linked-documents/54180-001-sd-04.pdf>
195. [no author]. 2020. RMG export in April declines nearly 85 per cent. The Financial Express. [Online]. Available from: <https://www.thefinancialexpress.com.bd/economy/bangladesh/rmg-export-in-april-declines-nearly-85-per-cent-1588562602>
196. Moazzem, K., Ahmed, T., Shibly A. & Taznur T. 2020. COVID-19 — exposing vulnerabilities in RMG sector. The Financial Express, 3 November. [Online]. Available from: <https://www.thefinancialexpress.com.bd/views/covid-19-exposing-vulnerabilities-in-rmg-sector-1604415823>
197. Kabir, H., Maple, M. & Usher K. 2021. The impact of COVID-19 on Bangladeshi readymade garment (RMG) workers. J Public Health (Oxf).
198. BSR I HERProject. 2020. 'I can hardly sustain my family', Understanding the human cost of the COVID-19 pandemic for workers in the supply chain, [Online]. Available from: <https://www.bsr.org/reports/BSR-HERproject-Human-Cost-Pandemic-Report.pdf>
199. Better Than Cash Alliance. 2021. Responsible Digital Wages in the RMG Sector, January 2021.
200. Roberts-Islam, B. 2020. Why Does the Fashion Industry Care Less About Garment Workers In Other Countries? Forbes. [Online]. Available from: <https://www.forbes.com/sites/brookerobertsislam/2020/07/30/why-does-the-fashion-industry-care-less-about-garment-workers-in-other-countries/?sh=64a564e42c0d>
201. Bangladesh Bank. 2021. Economic and Financial Stability Implications of COVID-19: Bangladesh Bank and Government's Policy Responses [Online]. Available from: https://www.bb.org.bd/pub/special/covid19_28032021.pdf

202. KPMG. 2020. Bangladesh Government and institution measures in response to COVID-19. [Online]. Available from: <https://home.kpmg/xx/en/home/insights/2020/04/bangladesh-government-and-institution-measures-in-response-to-covid.html>
203. [no author]. 2020. Working capital loan fund under Covid-19 stimulus package raised to Tk 400b. The Financial Express, 29 October. [Online]. Available from: <https://www.thefinancialexpress.com.bd/economy/bangladesh/working-capital-loan-fund-under-covid-19-stimulus-package-raised-to-tk-400b-1603979524>
204. KPMG. 2020. Bangladesh Government and institution measures in response to COVID-19.
205. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
206. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
207. Better Than Cash Alliance. 2021. Responsible Digital Wages in the RMG Sector, January 2021.
208. Poutiainen, T. & Rees, D. 2021. How digital payment systems can boost Bangladesh's push to meet the SDGs. World Economic Forum. Available from: <https://www.weforum.org/agenda/2021/05/bangladesh-ready-made-garments-digital-payment/>
209. KPMG, 2020. Bangladesh Government and institution measures in response to COVID-19.
210. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
211. Better Than Cash Alliance. Responsible Digital Wages in the RMG Sector. January 2021.
212. Ovi, I.H. 2020. Wage disbursement: RMG owners turn their backs on digital payment. Dhaka Tribune, 19 October. [Online]. Available from: <https://www.dhakatribune.com/business/2020/10/19/wage-disbursement-rmg-owners-turn-their-backs-on-digital-payment>
213. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
214. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
215. Stuart, G. 2020. Factory Wage Digitization Trends, Garment Worker Diaries, Microfinance Opportunities.
216. [no author]. 2020. Experts suggests single-digit MFS cash-out charge. The Financial Express, 17 October. [Online]. Available from: <https://thefinancialexpress.com.bd/economy/bangladesh/experts-suggests-single-digit-mfs-cash-out-charge-1602941652>
217. Poutiainen, T. & Rees, D. 2021. How digital payment systems can boost Bangladesh's push to meet the SDGs.
218. [no author]. 2021. Revitalising Bangladesh's agriculture sector. The Daily Star, February. [Online]. Available from: <https://www.thedailystar.net/supplements/30th-anniversary-supplements/news/revitalising-bangladeshs-agriculture-sector-2042629>
219. The World Bank. Available from: <https://www.worldbank.org/en/country/bangladesh/overview#3>
220. World Bank. Employment in agriculture (% of total employment) (modeled ILO estimate) – Bangladesh.
221. Mostafa, I. 2020. Digital technology ensures food supply in rural Bangladesh during COVID-19. [Online]. Available from: <https://blogs.worldbank.org/endpovertyinsouthasia/digital-technology-ensures-food-supply-rural-bangladesh-during-covid-19>
222. Abdin, M. 2020. Stimulus packages to recover corona-hit economy. [Online]. Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3594023
223. [no author]. 2020. Bangladesh announces Tk 90bn subsidy for farm sector to cushion coronavirus impact. BDNews24, 16 April. [Online]. Available from: <https://bdnews24.com/agriculture/2020/04/16/bangladesh-announces-tk-90bn-subsidy-for-farm-sector-to-cushion-coronavirus-impact>
224. Bangladesh Bank. Quarterly Report on No-Frill Accounts (January – March 2021).
225. Bangladesh Bank. Monthly Report on Agricultural and Rural Financing, [Online]. Available from: <https://www.bb.org.bd/pub/publicn.php#>
226. Bangladesh Bank. Monthly Report on Agricultural and Rural Financing.
227. Bangladesh Bank. Monthly Report on Agricultural and Rural Financing.
228. Bangladesh Bank. 2020. Quarterly Report on No-Frill Accounts. Available from: <https://www.bb.org.bd/en/index.php/publication/publicn/2/62>.
229. Bangladesh Bank. 2020. Quarterly Report on No-Frills Accounts.
230. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
231. Bangladesh Bank. 2020. Quarterly Report on No-Frills Accounts.
232. USAID Agricultural Extension Support Activity. 2016. A-CARD Smallholders' Access to Finance through Banks. [Online]. Available from: https://agrilinks.org/sites/default/files/resource/files/6-A-CARD_Concpet%20Paper%20for%20USAID%209%20Nov%202016-FINAL.pdf

233. World Bank. Literacy rate, adult female (% of females ages 15 and above) – Bangladesh, Available from: <https://data.worldbank.org/indicator/SE.ADT.LITR.FE.ZS?end=2019&locations=BD&start=2011>
234. [no author]. 2020. Bangladesh leaves education budget almost unchanged despite calls for more. BDNews24, 11 June. [Online]. Available from: <https://bdnews24.com/education/2020/06/11/bangladesh-allocates-tk-664bn-for-education-in-new-budget>
235. Bangladesh Bureau of Educational Information and Statistics (BANBEIS). Bangladesh Education Statistics. Available from: <http://lib.banbeis.gov.bd/query2.php>
236. World Bank. School enrollment, secondary (% net) – Bangladesh. [Online]. Available from: <https://data.worldbank.org/indicator/SE.SEC.NENR?locations=BD>
237. World Bank. 2021. Keeping Bangladesh's Students Learning During the COVID-19 Pandemic. [Online]. Available from: <https://www.worldbank.org/en/results/2021/04/18/keeping-bangladesh-s-students-learning-during-the-covid-19-pandemic>
238. BRAC. 2020. A rapid assessment Impact of COVID-19 on Education in Bangladesh. [Online]. Available from: <http://www.brac.net/program/wp-content/uploads/2020/07/Rapid-assessment-impact-of-COVID-19-education-in-Bangladesh.pdf>
239. Baird, S., Bunker, S., Sabarwal, S. & Seager J. 2020. Investing in girls' education in the time of COVID-19. World Bank. [Online]. Available from: <https://blogs.worldbank.org/opendata/investing-girls-education-time-covid-19>
240. Discussion with Shahzada Redwan, SSL Commerz Ltd, 28 June 2021.
241. Ministry of Education. 2020. Education Sector Plan (ESP) for Bangladesh. Viewed July 2021.
242. Bangladesh Bank. Quarterly Report on No-Frill Accounts, July – September 2020 (Pg.17). Available from: https://www.bb.org.bd/pub/quaterly/financial_inclusion_report/sep2020.pdf
243. Bangladesh Bank. 2020. Quarterly Report on No-Frills Accounts.
244. socialprotection.org. 2021. Primary Education Stipend Programme, PESP. [Online]. Available from: <https://socialprotection.org/discover/programmes/primary-education-stipend-programme-pesp>
245. World Bank. 2020. TV-Based Learning in Bangladesh: Is it Reaching Students? [Online]. Available from: <https://openknowledge.worldbank.org/bitstream/handle/10986/34138/TV-Based-Learning-in-Bangladesh-Is-it-Reaching-Students.pdf>
246. Bangladesh Bank. 2021. Monthly Economic Trend – May 2021. Statistics Department Bangladesh Bank (Sheet IXA). Available from: <https://www.bb.org.bd/pub/monthly/econtrds/may21/econtrds.php>
247. Bangladesh Bank. 2021. Monthly Economic Trend – May 2021.
248. United Nations Capital Development Fund. 2019. Micro-Merchant Research Into Action Series: Landscape Assessment of Retail Micro-Merchants in Bangladesh. UNCDF. Available from: <https://www.uncdf.org/article/3986/micro-merchant-research-into-action-series-landscape-assessment-of-retail-micro-merchants-in-bangladesh>
249. United Nations Capital Development Fund. 2019. Micro-Merchant Research Into Action Series: Landscape Assessment of Retail Micro-Merchants in Bangladesh.
250. United Nations Capital Development Fund. 2019. Micro-Merchant Research Into Action Series: Landscape Assessment of Retail Micro-Merchants in Bangladesh.
251. United Nations Capital Development Fund. 2020. Policy note on improving the micro-merchant segment in Bangladesh's dynamic industry. UNCDF. December 22, 2020. Available from: <https://www.uncdf.org/article/6395/policy-note-on-improving-the-micro-merchant-segment-in-bangladeshs-dynamic-industry>
252. [no author]. 2020. ShopUp raises \$22.5mn funding to digitalize mom-and-pop shops. Dhaka Tribune, 20 October. [Online]. Available from: <https://www.dhakatribune.com/business/2020/10/20/shopup-raises-22-5mn-series-a-financing-round>
253. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
254. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
255. International Finance Corporation (IFC). Business Pulse Survey: Impact of COVID-19 on MSMEs in Bangladesh Report.
256. Bangladesh Bank. Small and Medium Enterprise (SME) Credit Policies & Programmes. [Online]. Available from: <https://www.bb.org.bd/sme/smepolicye.pdf>

257. Begum, F. 2019. Collateral-free loan for women entrepreneurs: Making the process smooth. The Financial Express. [Online]. Available from: <https://thefinancialexpress.com.bd/views/reviews/collateral-free-loan-for-women-entrepreneurs-making-the-process-smooth-1567347858>.
258. Lightcastle Partners. 2020. The Stimulus Package: Can it help our SMEs tackle the unprecedented crisis? [Online]. Available from: <https://www.lightcastlebd.com/insights/2020/05/the-stimulus-package-can-it-help-our-smes-tackle-the-unprecedented-crisis>.
259. Discussion with Mr. Rezwanul. Haque, a2i, March 3, 2021.
260. Khan, S.S. 2020. E-commerce in Bangladesh: Where are we headed?
261. Discussion with Mr. Rezwanul. Haque, a2i, March 3, 2021.
262. Khan, M. 2020. Present challenges and future steps for e-commerce in Bangladesh. The Daily Star, 20 October. [Online]. Available from: <https://www.thedailystar.net/opinion/news/present-challenges-and-future-steps-e-commerce-bangladesh-1980905>.
263. Bangladesh Telecommunication Regulatory Commission (BTRC). License and Statistics. Available from: <http://www.btrc.gov.bd/content/internet-subscribers-bangladesh-may-2021>.
264. MicroSave Consulting. 2020. A boon for online commerce: How is COVID-19 transforming the industry in Bangladesh? Available from: <https://www.microsave.net/2020/12/08/a-boon-for-online-commerce-how-covid-19-is-transforming-the-industry-in-bangladesh/>.
265. MicroSave Consulting. 2020. A boon for online commerce: How is COVID-19 transforming the industry in Bangladesh? <https://nextbillion.net/online-commerce-covid19-industry-bangladesh/>
266. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
267. [no author]. 2021. Central bank to support SMEs build resilience. The Financial Express. [Online]. Available from: <https://thefinancialexpress.com.bd/economy/central-bank-to-support-smes-build-resilience-1617382162>.
268. GSMA. 2021. Achieving mobile-enabled digital inclusion in Bangladesh. [Online]. Available from: <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021/03/Achieving-mobile-enabled-digital-inclusion-in-Bangladesh.pdf>.
269. Discussion with Muhammad Abdul Wahed Tomal, eCAB, March 20, 2021.
270. Discussion with Mr. Rezwanul Haque, a2i, 3 March 2021.
271. Bold, C. 2011. Innovation in Branchless Banking at the Bangladesh Post Office. [Online]. Available from: <https://www.cgap.org/blog/innovation-branchless-banking-bangladesh-post-office>.
272. [no author]. 2021. Health sector must focus more on budget implementation. The Financial Express, 8 July. [Online]. Available from: <https://thefinancialexpress.com.bd/views/health-sector-must-focus-more-on-budget-implementation-1625755694>
273. World Bank. Available from: <https://data.worldbank.org/country/bangladesh>.
274. World Health Organization. 2020. Bangladesh makes consistent progress achieving SDGs health indicators. [Online]. Available from: <https://www.who.int/bangladesh/news/detail/05-03-2020-bangladesh-makes-consistent-progress-achieving-sdgs-health-indicators>.
275. Directorate General of Health Services (DGHS), Bangladesh. [Online]. Available from: <http://103.247.238.92/webportal/pages/>
276. Bangladesh Life Expectancy 1950–2021. Available from: <https://www.macrotrends.net/countries/BGD/bangladesh/life-expectancy>
277. Hasan, M. 2020. High demand for telemedicine in pandemic. The Dhaka Tribune, 29 August. [Online]. Available from: <https://www.dhakatribune.com/bangladesh/2020/08/29/high-demand-for-telemedicine-in-pandemic>.
278. Future Startup. 2021. Digital healthcare Platform Maya Raises \$2.2 million in new Funding, Maya's Business. [Online]. Available from: <https://futurestartup.com/2021/02/09/maya-raises-us2-million-funding-telehealth/>.
279. [no author]. 2021. Bangladesh: Govt in multimillion-dollar project to digitise insurance sector. Asia Insurance Review, 15 January. [Online]. Available from: <https://www.asiainsurancereview.com/News/View-NewsLetter-Article/id/75302/type/eDaily/Bangladesh-Govt-in-multimillion-dollar-project-to-digitise-insurance-sector>.

280. Access Health International. Mobile Financial Services in Bangladesh: Emerging through the Pandemic. [Online]. Available from: <https://fintechforhealth.sg/mobile-financial-services-in-bangladesh-emerging-through-the-pandemic/>.
281. LightCastle Partners. 2020. Telemedicine for Bangladesh: Bridging the Doctor-Patient Gap. [Online]. Available from: <https://www.lightcastlebd.com/insights/2020/07/telemedicine-for-bangladesh-bridging-the-doctor-patient-gap>.
282. Turjoy, S. 2021. Telemedicine: A change for the better. The Financial Express, 31 July. [Online]. Available from: <https://thefinancialexpress.com.bd/views/reviews/telemedicine-a-change-for-the-better-1627714612>.
283. [no author]. 2021. Aroga raises investment for pharma, healthcare app. The Daily Star, 13 January. [Online]. Available from: <https://www.thedailystar.net/online/news/aroga-raises-investment-pharma-healthcare-app-2027149>.
284. Dulal, G.M. 2017. Income Security for Older Persons in South Asia Bangladesh Perspective. United Nations Economic and Social Commission for Asia and the Pacific. Available from: https://www.unescap.org/sites/default/files/Bangladesh%20Perspective_Dulal.pdf.
285. Ovi, I. 2019. Insurance coverage in Bangladesh lowest in emerging Asia. Dhaka Tribune, 16 September. [Online]. Available from: <https://www.dhakatribune.com/business/2019/09/16/insurance-coverage-in-bangladesh-lowest-in-emerging-asia>.
286. Metlife. Why buying insurance through banks makes sense. Available from: <https://www.metlife.com.bd/blog/insurance/why-buying-insurance-through-banks-makes-sense/>.
287. Sakib, S.M. 2021. Bangladeshis' woes deepen amid lack of health coverage. AA [Online]. Available from: <https://www.aa.com.tr/en/asia-pacific/bangladeshis-woes-deepen-amid-lack-of-health-coverage/2225330>.
288. [no author]. 2021. Govt to expand health insurance for people below poverty line. The Daily Star, 3 June. [Online]. Available from: <https://www.thedailystar.net/budget-2021-22/news/govt-expand-health-insurance-people-below-poverty-line-2104209>.
289. Chowdhury, R.M. 2021. IDRA bans issuance of handwritten or printed paper receipts. The Financial Express, 28 April. [Online]. Available from: <https://thefinancialexpress.com.bd/stock/bangladesh/idra-bans-issuance-of-handwritten-or-printed-paper-receipts-1619583086>.
290. [no author]. 2021. A mission to digitise your affordable healthcare journey. The Business Standard, 11 April. [Online]. Available from: <https://www.tbsnews.net/feature/panorama/mission-digitise-your-affordable-healthcare-journey-229975>.
291. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
292. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
293. BTRC. Mobile & Internet Subscribers Statistics. Available from: <http://www.btrc.gov.bd/telco/internet>.
294. Islam, M. 2019. Bandwidth usage goes up 94pc. [Online]. The Daily Star, 15 January. Available from: <https://www.thedailystar.net/business/news/bandwidth-usage-goes-94pc-1687738>.
295. [no author]. 2020. How digital is Bangladesh after eleven years? Dhaka Tribune, 13 December.
296. Bakshi, R. & Rahman, T. 2016. Expansion of Selected Services Through Union Digital Centers. [Online]. Available from: https://www.copenhagenconsensus.com/sites/default/files/bakshi_udcs.pdf
297. Irani, B. 2020. How digital is Bangladesh after eleven years? [Online]. Available from: <https://www.dhakatribune.com/business/2020/12/13/how-digital-is-bangladesh-after-eleven-years>.
298. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
299. Bangladesh Bank. Overview of Financial system of Bangladesh. [Online]. Available from: <https://www.bb.org.bd/fnansys/index.php>
300. Bangladesh Bank. Bangladesh Bank Open Data Initiative.
301. Bangladesh Bank. 2019. Guidelines on Electronic Know Your Customer (e-KYC). Bangladesh Financial Intelligence Unit, December 2019. Available from: <https://www.bb.org.bd/mediaroom/circulars/aml/jan082020bfu25.pdf>
302. Uddin, Z. 2019. e-KYC finally from December. The Daily Star, 9 August. [Online]. Available from: <https://www.thedailystar.net/business/news/e-kyc-finally-december-1783942>
303. Kashem, A. 2020. Foreign e-commerce entities now can invest alone [Online]. Available from: <https://www.tbsnews.net/economy/industry/foreign-e-commerce-entities-now-can-invest-alone-97231>

304. [no author]. 2020. Bangladesh to provide smart NIDs to all above 14. Dhaka Tribune, 24 November. [Online]. Available from: <https://www.dhakatribune.com/bangladesh/development/2020/11/24/bangladesh-to-give-smart-nids-to-all-citizens-above-14>.
305. [no author]. 2020. Bangladesh Bank invites micro traders to formal banking channel. Dhaka Tribune, 16 November. [Online]. Available from: <https://www.dhakatribune.com/business/banks/2020/11/16/bb-invites-micro-traders-to-formal-banking-channel>.
306. Ministry of Finance, Bangladesh. 2020. Socio-Economic Development in Bangladesh & Stimulus Packages to combat COVID-19. [Online]. Available from: <https://mof.portal.gov.bd/site/page/7a55fd35-6380-4c97-9419-5408afdfa87e/Socio-Economic-Development-in-Bangladesh-&Stimulus-Packages-to-Combat-COVID-19>.
307. World Bank. Access to electricity (% of population) – Bangladesh. [Online]. Available from: <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=BD>.
308. BTRC. Mobile & Internet Subscribers Statistics. Available from: <http://www.btrc.gov.bd/telco/internet>
309. GSMA. Country overview: Bangladesh. Mobile industry driving growth and enabling digital inclusion. GSMA, p.34. [Online]. Available from: <https://data.gsmainelligence.com/api-web/v2/research-file-download?id=30933394&file=Country%20overview%20Bangladesh.pdf>.
310. LightCastle Partners. 2020. Digital Payments in Bangladesh: A Road to Growth and Stability, [Online]. Available from: <https://www.lightcastlebd.com/insights/2020/12/digital-payments-in-bangladesh-a-road-to-growth-and-stability>.
311. Exchange Rates.Org Web Portal. Accessed on 30 November 2021, [Online]. Available from: <https://www.exchangerates.org.uk/USD-BDT-spot-exchange-rates-history-2021.html>.

ACKNOWLEDGMENTS

The Project Team would like to extend its gratitude to these organizations for their support and insights towards the development of the publication:

Payment Systems Department & Financial Inclusion Department, Bangladesh Bank	Grameenphone
Bangladesh Election Commission	GAP
Ministry of Labor and Employment	M&S
Department of Social Services	H&M
Financial Inclusion Division, Ministry of Finance	Fakir Fashion
National Board of Revenue (NBR)	Standard Group
Aspire To Innovate (a2i) Program	Azim Group
Ministry of Agriculture	Ha-Meem Group
Ministry of Social Welfare	Inditex
Bangladesh Bureau of Statistics	Panam group
Department of Primary and Mass Education	SMC Enterprise
ICT Division	Insight Metrics
Ministry of Education	Pran RFL Group
Bangladesh Telecommunication Regulatory Commission (BTRC)	Square Toiletries Limited
Department of Agriculture Extension (DAE)	Unilever Bangladesh
Brac Bank Ltd	Nestlé Bangladesh
Islamic Bank Ltd	SDG Cell, Prime Minister's Office
Dutch-Bangla Bank Limited	Bangladesh Institute of ICT in Development (BIID)
Bank Asia	BURO Bangladesh
bKash	BRAC
Nagad	Asian Development Bank (ADB)
SSLCommerce	The World Bank
Dmoney	Bill & Melinda Gates Foundation (BMGF)

SureCash	International Finance Corporation (IFC)
e-Cab	International Labor Organization (ILO)
Rocket	US Agency for International Development (USAID)
Grameenphone	Department for International Development, (DFID)UK
Robi	BSR
Visa	United Nations Development Program (UNDP)
MasterCard	World Food Program (WFP)
Bangladesh Garment Manufacturers and Exporters Association (BGMEA)	International Office of Migration (IOM)
Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA)	Microfinance Opportunities (MFO)
Federation of Bangladesh Chambers of Commerce and Industries (FBCCI)	Development Alternatives, Inc (DAI)
Bangladesh Edible Oil Limited (BEOL)	Chaldal
ACI Limited	Grameenphone

The team is grateful to the members of the Government Advisory Committee formed during the development of the Roadmap and Abdullah Al-Amin from a2i, for administrative support throughout the process.

Special thanks to Karol Karpinski and T.M Asaduzzaman from The World Bank; Ella Moffat and Smita Nimilita from BSR; Sakshi Chadha from UNCDF; and Masing Newar from WFP for reviewing the reports during the development process.

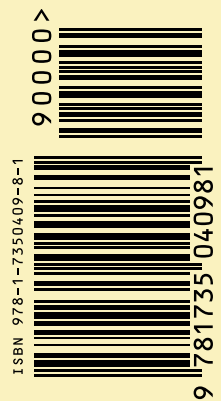
About The Better Than Cash Alliance

Based at the United Nations, the Better Than Cash Alliance is a partnership of governments, companies, and international organizations that accelerates the transition from cash to responsible digital payments to help achieve the Sustainable Development Goals. Based at the United Nations, the Alliance has over 80 members, works closely with other global organizations, and is an implementing partner for the G20 Global Partnership for Financial Inclusion.

www.BetterThanCash.org

Resource Partners

BILL & MELINDA
GATES foundation



BETTER THAN CASH
ALLIANCE



Cabinet
Division
Government of the People's
Republic of Bangladesh



FUTURE IS HERE

